

TRANS-OCEANIC AIRWAYS

Ambitious Heavier-than-Air Scheme.

It has come to be accepted almost without question that for long-distance routes, at any rate over the sea, the only practicable type of aircraft is the airship, and it may almost be said that in modern times when one speaks of airships, one invariably means the rigid type of airship. Now, there is an old saying to the effect that anything which has been said three times comes to be accepted as a truth. Something of the sort may possibly be happening in the matter of airships in general, and also on the question rigid or non-rigid. There are still those who believe that for a start, at any rate, the non-rigid or semi-rigid has by no means reached the limits of its development, and that, before jumping into five-million cubic-foot sizes of rigids, the possibilities of the smaller type might with advantage be explored. That there are even those who are not altogether convinced that the airship of any type is necessarily the only solution to long-distance routes was brought to our notice recently when a scheme was placed before us which does not propose to use airships at all, even for trans-oceanic air routes. The scheme is, frankly, an ambitious one, and we personally are not pre-

As the basis of the whole scheme is the use of station ships, a few notes dealing with these may be of interest. Mr. Gaynor has had the idea of station supply ships in mind for many years, and, in fact, during the War, when there was difficulty in transporting the aeroplanes built by the United States across to the fighting front, he suggested the use of such ships. At that time the scheme was probably premature, at any rate, it was not taken up, and Mr. Gaynor now considers that sufficient progress has been made with the development of aircraft and aero engines to make the technical side of the problem capable of solution.

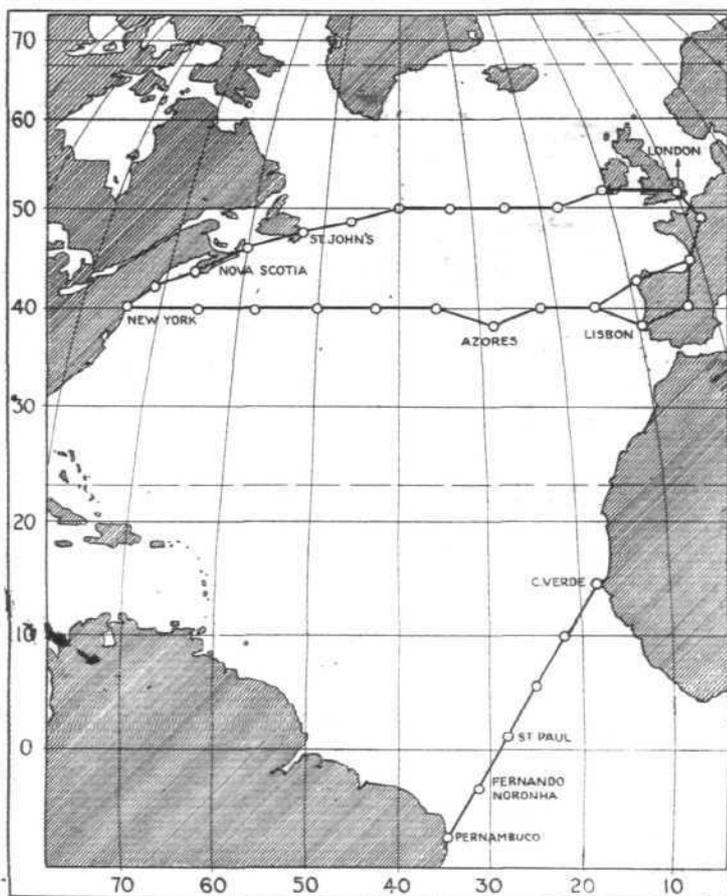
The special supply ships, designs for which have been patented by Mr. Gaynor, provide for a long flat deck or platform, unobstructed for a sufficient distance to allow, if necessary, a machine to take off, and having derricks or cranes for hoisting machines out of the sea or dropping them on to the sea. Below the flying-off deck accommodation is provided for the storing of several machines, for workshops capable of undertaking repairs and overhauls, for accommodation for crews and passengers, and with complete wireless installation, searchlights, etc. It is not intended that machines should always necessarily take off from the decks of these ships, as it is intended that machines of the seaplane or flying-boat type should be used, which in normal weather should be able to take off from the sea, and the hoisting on board of a machine should be the exception rather than the rule. At the same time, the inventions of Mr. Gaynor provide for letting seaplanes take off from the deck, which is in the form of a series of rollers running transversely across the ship, and it is thought that twin-float seaplanes at any rate should be able to take off in this fashion. In the case of flying-boats it might be rather more difficult to arrange, but it would seem that some form of detachable undercarriages, serving to steady the machine during its run, could be designed.

If found necessary, Mr. Gaynor considers it possible to anchor these ships, but he believes that a better plan would be to let them cruise around slowly, not only because they would ride easier in a seaway, but they would also then be able to steam to the aid of any machine that might be in difficulties between two ships. Normally, as we have said, it is not suggested that it should be necessary to take the machines on board. They would alight as close as possible to the supply ship, and petrol would be transferred by means of flexible piping or hose.

In the accompanying sketch-map is indicated how it is suggested the station ships should be located for a trans-Atlantic route, and both a northern and a southern route is shown, as well as one connecting the west coast of Africa with South America.

The placing of the station ships would naturally be dependent upon the climatic conditions and the fuel capacity of the aircraft employed, it being desired on the one hand to keep the number of station ships down to a minimum, and, on the other, to make the stages short enough to give the aircraft a sufficiently large carrying capacity, apart from fuel, to enable them to earn the largest possible revenue. As shown on the map, the station ships are placed roughly 340-400 miles apart, and it is considered that this distance would form a good compromise, especially as it is desired that, should weather reports from one ship be unfavourable, a machine could fly around that locality and proceed to the next ship. Mr. Gaynor states that storms in the Atlantic rarely cover an area of more than 700 to 1,000 miles across, so that by making use of the weather reports sent out by wireless from the station ships machines would, he considers, be able to avoid really bad weather.

The scheme would, in Mr. Gaynor's opinion, be primarily one to be undertaken by the shipping industry of the nations who interested themselves in the undertaking, and the aircraft industry would, although benefiting in the matter of orders and experience, occupy a position equivalent to the shipbuilder rather than the shipowner. Mr. Gaynor points out that at the present time there is a *bagatelle* of four million tons of shipping lying idle in the United States, and something like 500,000 tons in Great Britain, with possibly six million tons idle in the world. He believes that anything likely to give shipping a new lease of life would be welcomed by shipping interests, and suggests that from the various nations which might be expected to benefit from the speeding-up which such a route would bring about there would be no difficulty in obtaining at very low prices ships which could be converted for use as station ships, while the scheme was



Sketch-map showing the suggested ship stations for proposed seaplane routes across the Atlantic.

pared to express a definite opinion as to its feasibility. It is, however, always refreshing to study an old subject from a new angle, and it is for this reason, among others, that we have thought a few notes dealing briefly with the new scheme of sufficient interest. Many difficulties still remain to be overcome, quite apart from the magnitude of the undertaking from a financial point of view, but these are not, or at least do not appear to be, insuperable provided the necessary capital is available to carry out the development work.

Put very briefly, the scheme consists in the suggested operation of trans-oceanic air services with seaplane or flying boats, using specially-designed station ships placed at suitable intervals as refuelling and repair bases. For the purpose of initiating the movement, a syndicate is, we understand, about to be formed, to be known as the Oceanic Airways Company (Development and Equipment), with offices at 17, Green Street, Leicester Square, London, W.C.2. Interested in the scheme are Mr. T. F. Gaynor, who has designed the special station ships, and Mr. J. G. Navarro, who will be remembered as a designer and constructor of aircraft during the War.