

ments. The result is that, although in point of years the gyroplane is already old, its development, technically speaking, is just about to begin in earnest. Only by concerted action can the process of development be speeded-up, and the steps taken by the American Government should help materially. The question is, what is our own Air Ministry going to do about it?

Speed with Safety

RECENT developments appear to show that we may be approaching a period of renewed activity in helicopter experiments. The Focke-Achgelis F.61 twin-rotor machine, so ably demonstrated by Fräulein Hannah Reitsch last year, served to focus attention on the helicopter. Dr. Focke concentrated on showing that controllability—the most difficult of the helicopter problems—could be attained. It is scarcely to be believed, however, that he regards the F.61 as anything but a stepping-stone towards something better, something more advanced and with a better aircraft performance.

Speed is not easily obtained with two rotors. No matter how one arranges the rotor-carrying outriggers, they are bound to offer a considerable amount of undesirable drag. Other designers, among them Mr. Raoul Hafner, whose account of his recent participation in the First Rotating-wing Meeting in America is published this week, believe that sufficient controllability can be obtained with a single high-speed rotor. Should that be the case, and there is good reason for thinking that it is the case, then the prospects of a helicopter with a top speed comparable with that of the equivalent fixed-wing aeroplane are much better.

The speed range of such a helicopter will, of course, be very much greater than that of the best fixed-wing aeroplane in that the minimum speed is zero. And with a single rotor the possibility exists of avoiding excres-

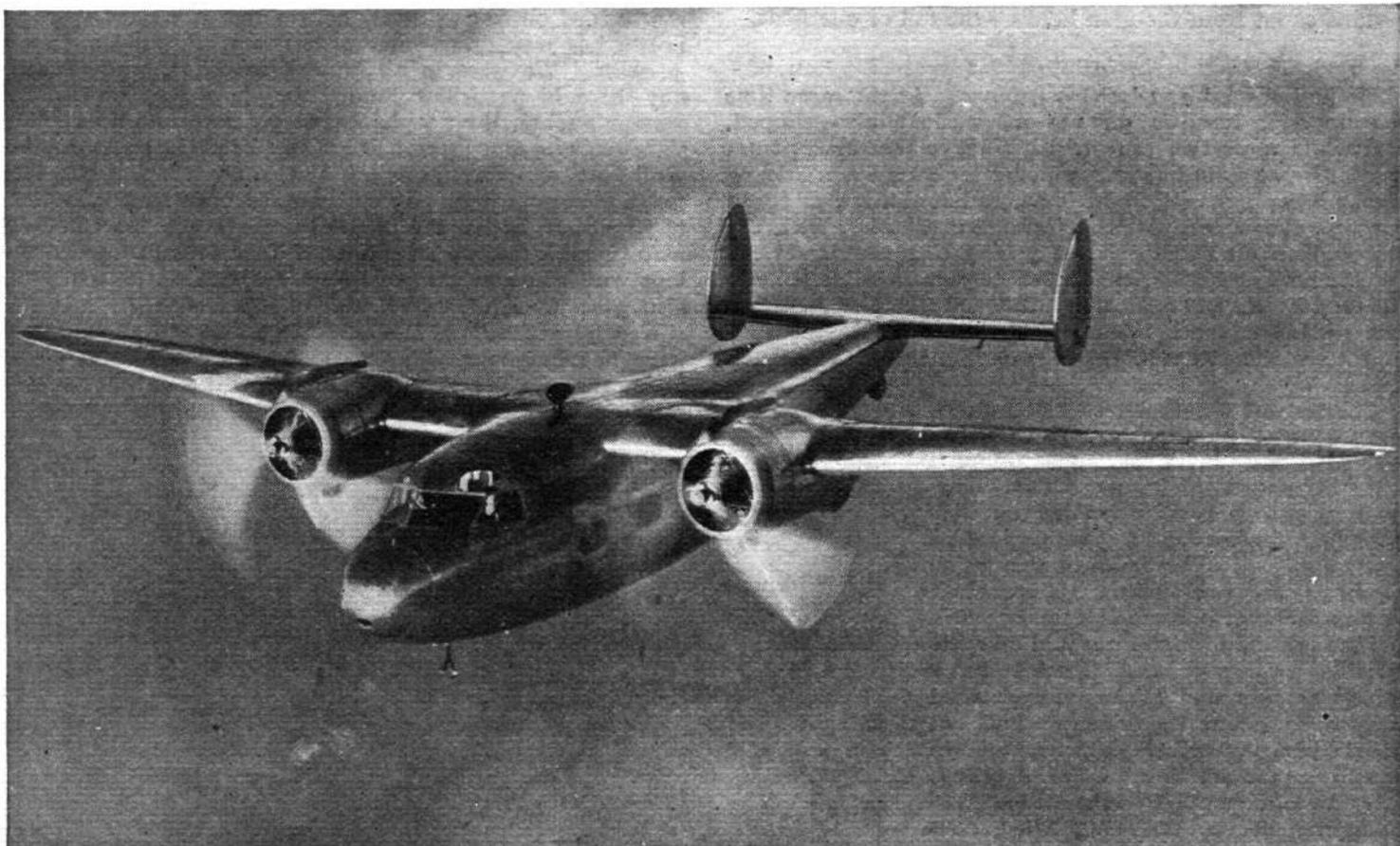
cences which would otherwise tend to spoil the performance. Mr. Hafner has ideas about countering rotor torque reaction, and others have sought different ways of achieving the same object. So altogether it looks likely that 1939 will be a helicopter year.

The Lisbon Service

THE London-Lisbon air mail service, which was to have started last Monday, has been temporarily postponed. This change of plan is semi-officially explained as being the result of difficulties over the final arrangements with the Portuguese authorities. Disregarding these (whatever they may be), it is certainly a fact that no D/F facilities have so far been available at Cintra aerodrome, Lisbon, and it seems, on the face of it, to be somewhat optimistic to be making an attempt to run a regular service without them.

The only possible method of reaching Lisbon in such circumstances and in bad weather is to dead-reckon over the clouds until it is quite certain that the Lockheed 14 is over the Atlantic and then to come down to look at the sea before flying on an easterly course to find the mouth of the Tagus and follow low ground to the aerodrome. This, in any case, is much too small, and only one really good bad-weather approach seems to be available. Recently, too, floods have added to the general discomfiture of all concerned.

Remembering that even a mail service should, as nearly as possible, be 100 per cent. reliable, it is, perhaps, just as well that the regular service has been postponed. Possibly the reason for this is, in fact, that the navigational facilities over the last part of the route are more than inadequate. With present-day types it is suicidal to run a service without really complete terminal facilities—and, at the most optimistic estimate, Lisbon is certainly poorly equipped by modern standards for serious air arrivals.



"Flight" photograph.

FLAMINGO FLEDGED : Seen here on one of its early test-flights, the De Havilland Flamingo presents a picture of beauty that belies its somewhat ungraceful name. Other ground and air photographs appear on pages 15 and 16.