

### THE ATLANTIC FLIGHT.

THE honour of the first direct trans-Atlantic flight, for which the *Daily Mail* offered a prize of 10,000*l.*, has fallen to two English aviators on a British machine. The Vickers "Vimy" bomber has made the crossing, with Capt. J. Alcock as pilot, and Lt. Whitten Brown as navigator. Newfoundland was left at 4.25 p.m., G.M.T., on June 14, and a landing made at Clifden, Galway, at 8.40 a.m., G.M.T., on June 15. The machine is a standard bombing aeroplane, slightly modified for the present flight, and has a span of 67 ft. It carries two Rolls-Royce engines of 375 h.p. each, and the gross load is about 12,500 lb. The passage was made in 16 hours 15 min., giving an average speed of nearly 120 miles per hour. The wind was favourable, but the weather very bad, according to the report of the aviators. Clouds were met at all altitudes, and it was generally impossible to see either ocean or sky. At the higher altitudes the machine became covered with ice, and at one time the air-speed indicator became clogged, thus robbing the pilot of his best guide as to the attitude in which he was flying. The sense of horizontality was for the time lost, and the machine executed various evolutions until it had fallen so low that the sea became visible, and Capt. Alcock was able to recover a normal attitude.

Only four observations of position were taken during the flight, these being made with reference to the sun, the moon, the Pole star, and Vega respectively. Under these adverse conditions the precision with which the correct course was kept is very remarkable. All ships were warned that the flight was taking place, and asked to wireless their positions, but the aviators received no messages to guide them, and were entirely dependent on their own scanty observations.

Owing to the favourable wind, only two-thirds of the petrol was used during the flight, and the time of crossing was but two hours more than the minimum that had previously been calculated for the most favourable conditions possible in the North Atlantic. The average altitude was about 4000 ft., but attempts were made to find better atmospheric conditions at various altitudes up to 11,000 ft. without success.

The flight may well be regarded as one of the most wonderful feats of recent times, and the two brave aviators are to be heartily congratulated on their great achievement in the face of such enormous difficulties. It is probable that an early start was made, in spite of bad weather reports, owing to the fact that the Handley-Page machine was almost ready for flight. The circumstances of Hawker's attempt were thus repeated, but this time no engine trouble was experienced, and the passage was successfully completed in worse weather than that with which Hawker had to contend. The primary importance of engine trustworthiness has often been commented upon, and the history of the Atlantic attempt has strikingly demonstrated it.

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It is of interest to note that both Messrs. Vickers and Handley Page are believers in methods of design based upon model experiments, and that both firms possess their own wind-tunnel equipment by means of which such experimental data can be obtained.

It is only ten years since the first flight across the Channel was made, and now the Atlantic has been flown under extremely adverse conditions. Such a record of rapid progress surely leaves room for the most optimistic views of the future possibilities of aviation as a rapid means of communication between distant parts of the world.

#### *Weather Conditions.*

On Friday night, June 13, the Air Ministry reported "Conditions are favourable from west to east. A belt of high pressure extends across the Atlantic, just south of the course. . . ."

The wireless reports of weather issued by the Meteorological Office show that the winds during the flight all had a large amount of westing in their direction, and on the eastern side of the Atlantic the weather was cloudy, with some rain. The telegraph s.s. *Faraday*, at about 20° W. long., in close proximity to the aeroplane, at 1 a.m. June 15, had a moderate south-westerly gale with rain. Much of the excess speed throughout the flight is doubtless due to the brisk following wind, and to have achieved the journey in sixteen hours from coast to coast is an accomplishment not to be easily beaten.

At this time of year the disturbances moving generally north-eastwards across the Atlantic are usually at their most northern limit, and the strongest winds experienced on the track of steamships or aircraft have a large amount of westing. Fog, however, is at its worst in the summer season, whilst on the western side of the Atlantic sleet and snow would probably have to be encountered at the height of 2000ft. or more, at times, at any season of the year.

#### BRITISH PETROLEUM.

SO long ago as 1896 the late Sir Boverton Redwood examined a sample of oil from Ashwick Court, near Shepton Mallet, and reported that it was straw-coloured, transparent, and free from fluorescence. The odour was reminiscent of refined petroleum, the specific gravity was 0.816, and the flash point (Abel) 175° F. In 1906 he wrote: "A considerable number of other districts where petroleum similarly occurs are known, and, although it has been suggested that some at least of the deposits may have been produced by a natural process of distillation from coal or bituminous shales, there is no reason to doubt that most of them are true petroleum, and are quite distinct from the oils which are obtained by known processes of distillation from either coal or shale." Later, in 1911, Sir Boverton examined and reported on an oil from a well at Kelham, and stated that the material should be regarded as a "true normal petroleum," and in 1914 he advocated that the bore hole should be deepened, believing that "more productive strata might be found at greater depth." It is a strange coincidence, not untouched by the irony of fate, that the last piece of work carried out before he died was the analysis of the Hardstoft oil.