The Martinsyde Transatlantic Challenger Monoplane

An English Machine Designed to Compete for the Northcliffe Prize

By Major H. Bannerman-Phillips

THE late Mr. Gustav Hamel hoped to attempt a flight across the Atlantic Ocean this summer in an aeroplane built by Martin & Handasyde.

It was intended that the flight should be made from Newfoundland to Ireland, and the machine was to be ready for trial by the end of June or the beginning of July. Unfortunately, Mr. Hamel's untimely end has led to the abandonment of the entire scheme. The interest in transatlantic flying is such that a description of the machine should be placed on record. The machine was to be of the type, generally speaking, known as the Martinsyde monoplane, and was being constructed in duplicate at Brooklands at the cost of Mr. Mackay Edgar, the owner of the well-known motor-boat "Maple Leaf."

Mr. Hamel was to have been accompanied by an experienced navigator in the person of some officer of the merchant service who had made many transatlantic voyages, and under whose guidance Mr. Hamel proposed to fly in the track of the liners which are crossing regularly between Europe and North America, on the supposition that by following such a course he would seldom be out of sight of a ship. At a height of 1,000 to 1,500 feet any vessel within a radius of 30 miles should be visible in clear weather, and the height to which the machine could ascend was to carry it clear of the fogs on the Newfoundland Banks, which would otherwise have been troublesome at the start.

The estimated speed of the machine in calm weather was to have been 80 to 85 miles per hour, and fuel for 25 hours was to have been carried in a very large gasoline tank of 330 gallons capacity. This, with the wings and a watertight compartment, which in itself was to have a flotation capacity of nearly twice the full load

of the machine, was calculated to be capable of sustaining the monoplane on the surface of the sea in case it should have had to come down in mid-Atlantic. There was no intention of descending, however, between start and finish unless necessity or accident compelled such a course. The machine was not a seaplane, and had no floats which would enable it to travel on the surface of the water. Even the wheeled chassis with which it was fitted to enable it to run along the ground in order to gather speed for its first leap into the air, was to be so constructed that the pilot, by pulling a lever, could cause it to drop clean off the fuselage, and thus reduce the useful load of the monoplane when once clear of the land. There would then remain for landing purposes a large central skid and two lower king-posts and skids, sufficient for the purpose, since the machine would be much lighter at the end of the journey than at the beginning, on account of the consumption of fuel, and therefore able to make a slow landing.

The accompanying illustrations may be considered to give a fairly correct idea of the monoplane as it would have appeared in mid-air over the Atlantic after the chassis had been dropped, but some items were still under consideration at the time of Hamel's disappearance. The span of the planes was 66 feet over all, of 14 feet 6 inches chord at the roots of the wings, tapering to 10 feet 6 inches at the tips, with a total surface of about 770 square feet, and the trailing edge was 3 feet longer than the leading edge. The plane section was peculiar in that the top of the wing between the spars, instead of following a continuous curve, was quite flat. The engine was to be a 12-cylinder Sunbeam of 215 horse-power nominal, which would

drive a 4-bladed propeller of 12 feet diameter through a reduction gear. Covered in by a stream-line cowl, carried to the rear of the passengers' seats, the motor was to be fixed in the front of the fuselage. Behind this was a water-tight bulkhead or partition and a second similar bulkhead was fitted about 14 feet further back. Aft of this the construction of the fuselage was of the usual type, with the ordinary struts and braces, but exceptionally strong.

The seats for pilot and navigator were placed side by side, level with the trailing edge of the wings and at the after end of the 14-foot water-tight compartment formed by the two bulkheads. Near the forward end of this compartment the front spars of the wings cross the upper longerons of the fuselage and about midway the rear spars enter the latter beneath the longerons, the ends of the spars meeting on the center-line. From the points of entrance of the spars into the fuselage a couple of inverted struts started, which met on the central skid. These were to carry the main bracing wires of the wings. The gasoline tank was strung from the spar butts by means of a pair of longerons attached to them.

The system of wing-bracing was so designed as to make of the wings, together with both the upright and inverted struts, bracing-posts and bracing-wires a complete box-girder, with tension applied below as well as above the wings. This should have given a unit of great strength for the support of the main item of weight to be carried, namely, the huge gasoline tank with its contents. Compared with this the weight of the engine and the human freight was of minor importance. The total weight of the monoplane, fully

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The eighty-mile-an-hour monoplane which the late Gustav Hamel was to have used this summer in an attempt to fly across the Atlantic Ocean from North America to Europe.

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The Martinsyde Transatlantic Challenger Monoplane

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loaded, which was to have been sustained and impelled by the aerodynamic reaction of the planes and motive power against the air, and the force of gravity should have been close on to 5,000 pounds.

The tail was at the after end of the fuselage, and was of semi-circular form in plan, with a span of 21 feet. It had divided and balanced elevator flaps, and a balanced rudder of ample proportions.

It has already been mentioned that the machine was being constructed in duplicate, and it may be added that this duplication applied to the engine, since two separate, but identical engines had been put in hand, and both were to be sent to the starting point in Newfoundland, together with a very full supply of spare parts of the machine. Both engines were to be tuned up for the journey and one was to have been placed in the monoplane and the other kept in reserve as a measure of precaution, in the same manner as the duplicate wings and fuselage, etc.

Since the distance between Belle Isle Straits and the coast of Galway in Ireland is about sixteen hundred miles, and the aeroplane was expected to travel at 80 to 85 miles per hour, it was thought that the journey could be done in 20 hours during calm weather. A following wind would have materially increased the speed and shortened the time of the journey.

Eliminating a City's Filth and Flies

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Knowing that he had no police authority, and that his only weapon was his power of persuasion, the junior sanitary policemen resorted to the use of polite notes, which were written or printed on a printing outfit that belonged to the neighborhood:

My Dear Mr. _____,

We are trying to make our school district flyless. Will you help us? Flies breed in fermenting lawn clippings, open garbage, and stable manure, if it is not removed at least once a week. We are writing this note to you because we are sure that you will help us.

Very truly yours,

Junior Sanitary Police.

The girls also appealed to the merchants through notes in the same way:

My Dear Mr. _____,

Many people in our school district are refusing to buy food over which flies have crawled. Can we help you to keep a flyless store this summer?

Very sincerely yours,

Sanitary Aide.

Children took naturally to the work of cleaning their school district, for even boys and girls like to feel that their work is important. When conditions were met with which they could not cope, a plea for help written in a childish hand-writing and sent to the Street Cleaning Department was sure to bring assistance, whenever it was possible. Before the close of the school year streets were cleaned, alleys and vacant lots ceased to be dumping grounds for filth, and the rubbish from back yards gave way to gardens of flowers and vegetables.

New Aeronautic Records

THE French military dirigible balloon "Adjutant Vincenot," piloted by Georges Joux and carrying eight passengers, has made a new world's record for continuous navigation by dirigibles. It remained in the air for 35 hours and 20 minutes.

The German dirigible "Zeppelin L-3" established the previous record of 34 hours and 59 minutes in May in a flight from Friedrichshafen to Berlin. The "L-3" measures more than 25,000 cubic meters; the "Adjutant Vincenot" 9,000 cubic meters.

The Germans still maintain the lead in aviation, particularly from the standpoint of duration. On the 28th ultimo Herr Landmann, with a 75 horse-power Albatross biplane, remained aloft, circling the Johannisthal aerodrome, for 21 hours and 49 minutes, thus adding well over three hours to the best previous record. He finally descended because of fatigue, and not from lack of fuel.

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