

THE SOPWITH "CAMEL."

130 H.P. CLERGET MOTOR.

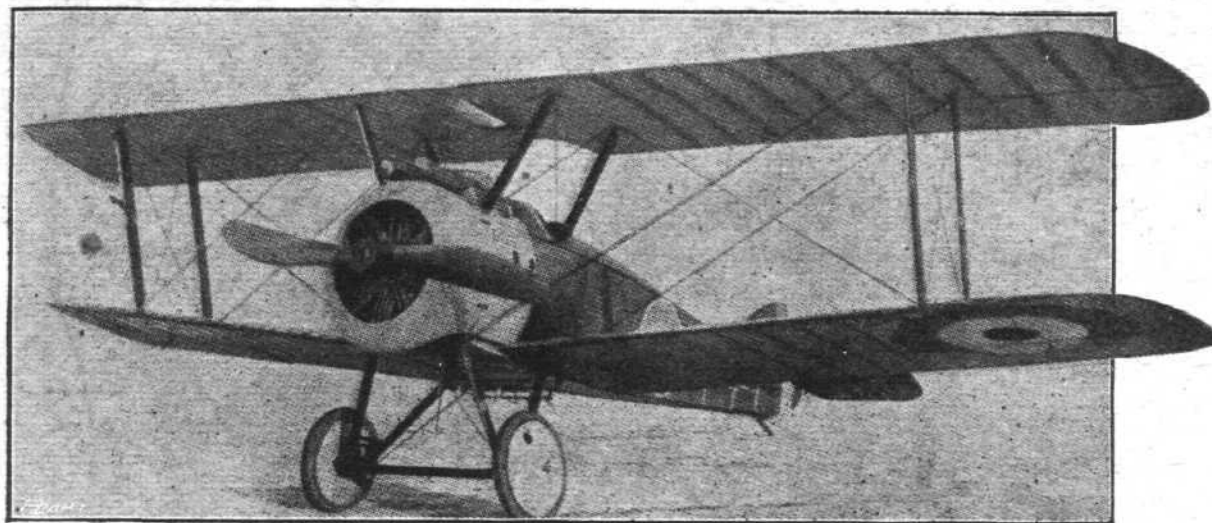
[The following illustrated description of the Sopwith "Camel" has been translated from a German contemporary.—ED.]

THIS machine, built by the Sopwith Aviation Co., Ltd., of Kingston-on-Thames, carries the designation F.1 B. 6290. It is a single-strutter machine and is a development of the Sopwith "Pup," from which, however, it differs in many details, apart from the greater power of its engine.

As in the older type the wings and tail plane with elevator are of trapezoidal plan form, but the greatest span occurs at the trailing edge. The top plane centre-section has a span of 2.17 m., while the strut attachments are only 1.48 m. apart. As the petrol pressure tank and gravity tank are

lift wires and landing wires, of which the former are in duplicate, are in the form of stream-line wires.

Non-balanced ailerons are fitted to the rear spars of both planes. The wing fabric, which is sewn on to the ribs, is cream coloured underneath, and the top surface, as well as the body fabric, is painted a redish brown. The body, which is of the usual girder type with four longerons, has a rounded top. The undercarriage is of the usual Sopwith type. A divided aluminium axle rests in a stream-line covering of wood. The axle hinges are braced from the fuselage.



Three-quarter front view of the Sopwith "Camel."

placed rather far aft, the pilot's seat is placed immediately behind the motor, underneath the top plane centre-section. In order to provide a better view, a rectangular opening is cut in the centre section. The longitudinal edges of this opening are provided with three-ply plates projecting beyond the wing profile so as to reduce the amount of air flowing over the edges. To facilitate getting into and out of the machine the trailing edge of the centre-section has been cut away. Upper and lower planes have an equal span of 8.57 m., and an equal chord of 1.37 m. The aspect ratio is therefore 6.25 against the aspect ratio of 5.15 of the older type.

The wing spars, which are made of spruce, are spindled out to an I section, with the exception of the bottom rear spar, which is left solid. The gap between the planes is 1.31 m. at the tips and 1.52 m. near the body. (In the older single-seater the gaps were 1 m., and 0.86 m. respectively.) The

The tail plane, which is deeply cambered on both sides, is rigidly attached to the upper body longerons, with an angle of incidence of 1.5 deg. The tail plane trimming gear hitherto fitted to all Sopwith machines has been abandoned, in spite of the fact that the petrol tanks are placed behind the pilot's seat. The fin and rudder are of the usual characteristic Sopwith form.

The 130 h.p. Clerget motor, which is built by Gwynnes, Ltd., develops about 134 h.p. at 1,200 r.p.m. According to a plate in the pilot's cockpit the revolutions of the engine are not to exceed 1,250 r.p.m.

The petrol pressure tank has a capacity of 138 litres and the gravity tank holds 32 litres. This gives sufficient fuel for a flight of about 3½ hours' duration. An oil tank with a capacity of 30 litres is placed behind the engine. In some machines the tanks are of welded sheet aluminium, in others



Three-quarter rear view of the Sopwith "Camel."

upper plane is staggered forward 0.45 m. There is no sweep-back. The dihedral angle of the top plane is 178 deg. and of the bottom plane 170 deg. The angle of incidence of the top plane is 2 deg. at the centre-section, 3 deg. at the tip. The bottom plane has a uniform angle of incidence of 3 deg.

The inter-plane struts, which are of solid spruce of stream-line section, are, as in all Sopwith machines, placed with their ends in steel shoes welded to the fittings on the wing spars, and are provided with no further attachment. The

they are made of lead-coated, riveted sheet iron. The weight of the tanks is 12.5 kg. and 20 kg. respectively, giving a percentage weight of $\frac{12.5}{146} = 0.0832$ and $\frac{20}{146} = 0.133$ respectively.

In the pilot's cockpit are the following instruments, &c. :—

In the centre on the instrument board : Manometer, with safety valve, clock, pressure gauge, altimeter, compass, two switches, revolutions indicator, and pulsometer. On the right : The hand-pump (air). On the left : Control levers for