

Wing roots permanently secured to the fuselage pass underneath the main fuselage structure, and a top centre-section is carried on struts. The attachment of end pieces to roots and centre-section is by horizontal unions parallel to, and on the centre line of, the spars.

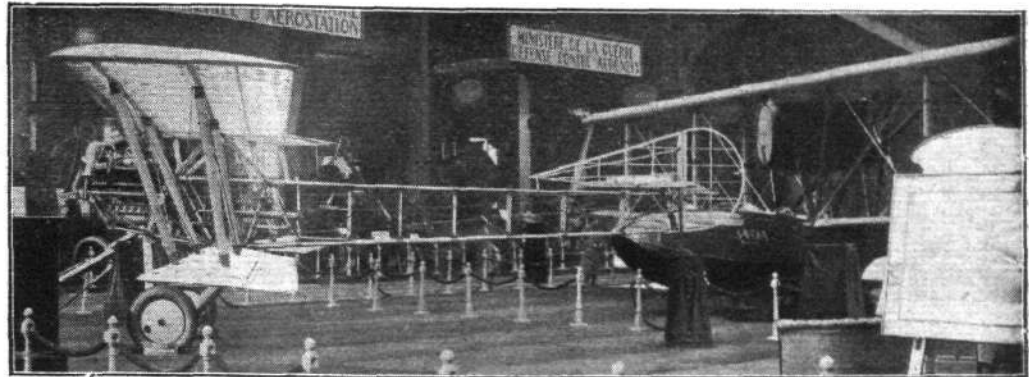
As already mentioned, the Hispano engine is fitted with a Rateau supercharger, while on the rear end of the engine,

off, until at a ceiling of 10,000 m. (33,000 ft.) it is about 175 kms. (108 miles) per hour.

In addition to the complete machine Borel shows a scale model of a huge three-engined passenger machine—a cantilever monoplane, and of an all-metal two-seater night-fighter (C.A.N. 2), also with Hispano engine. The commercial machine (monoplane) is to be fitted with three Lorraine engines

○ ○ ○ ○ ○ ○ ○ ○ ○ ○
 ○
 ○
 ○
 ○
 ○
 ○
 ○
 ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

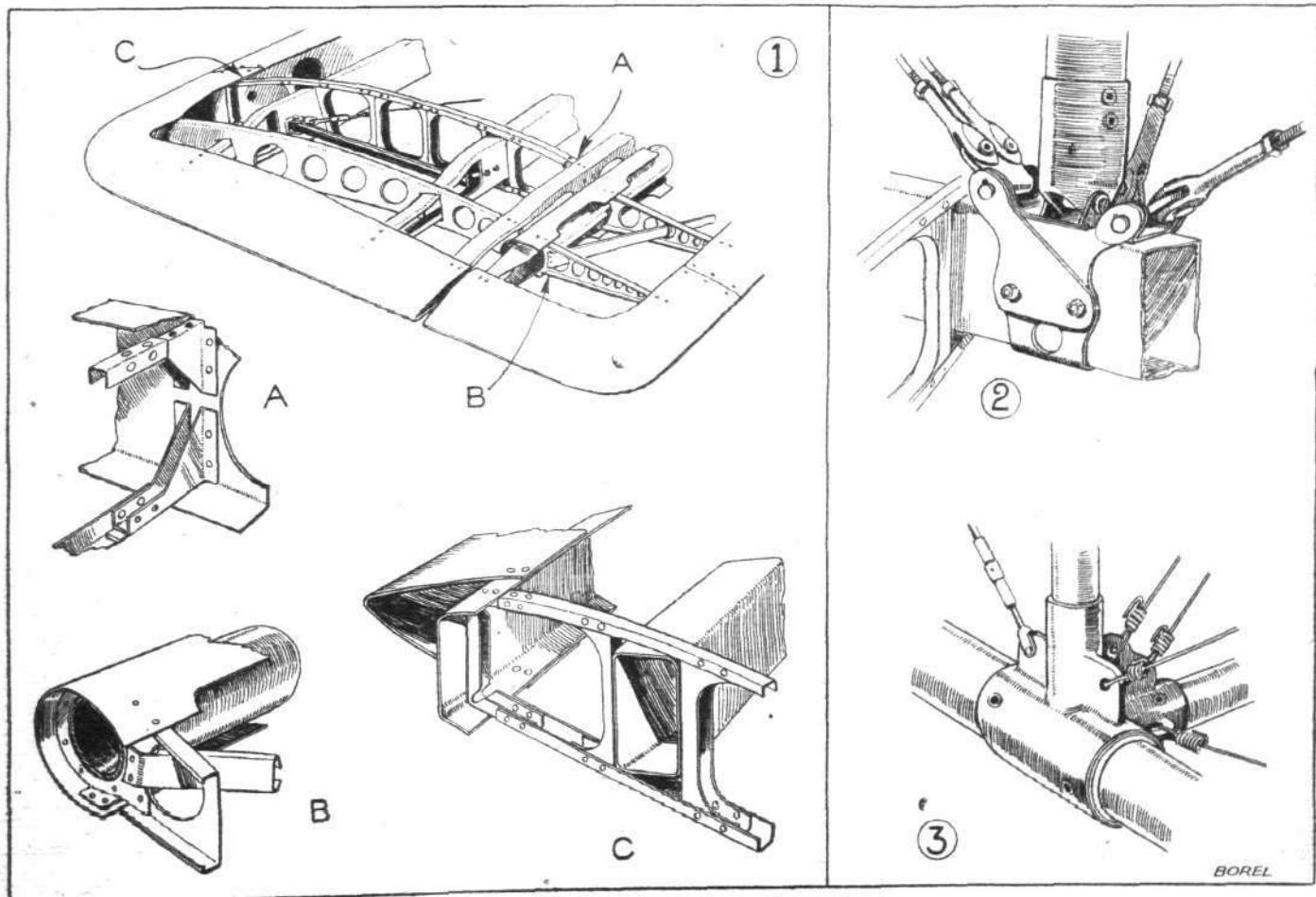
The Borel S.C.I.M. all-metal biplane.



immediately in front of the pilot, is an Odier engine starter. We believe the machine, fuselage as well as wings, is to be covered with fabric. It is shown in skeleton.

The main characteristics of the Borel Cap. 2, 1922, are as follows: Length o.a., 8 ms. 17 (26 ft. 10 ins.); span, 13 ms. (42 ft. 7 ins.); chord, upper 1 m. 90 (6 ft. 3 ins.), lower 1 m. 25 (4 ft. 2 ins.); wing area, 39 sq. ms. (420 sq. ft.); weight empty, 1,000 kgs. (2,200 lbs.); fuel, 325 kgs. (715 lbs.); useful load, 400 kgs. (880 lbs.); total loaded weight, 1,750 kgs. (3,850 lbs.). Fitted with supercharger the speed at ground level is estimated at 200 kms. (124 miles) per hour. The maximum speed is reached at 5,000 m., where it is 248 kms. (154 miles) per hour, and from then onwards the speed falls

of 375 h.p. each, and is designed to carry 30 passengers inside the centre-section of the very thick monoplane wing. It will have a total weight of 22,000 lbs. and a radius of action of 620 miles with full load. The span is 36 ms. (118 ft.) and the total wing area 240 sq. ms. (2,582 sq. ft.). According to wind tunnel tests at St. Cyr, the machine should have a speed near the ground of 202 kms. (125 miles) per hour. With the central engine stopped the estimated speed is 174 kms. (108 miles) per hour. Thus if the full-size machine comes up to the model figures, the power expenditure is only 37.5 h.p. per paying passenger. Asked whether the machine would fly with one of the wing engines stopped, the gentleman in charge appeared to think this doubtful.



SOME CONSTRUCTIONAL DETAILS ON THE BOREL BIPLANE: 1. Wing tip and details of all-Duralumin construction; the spars are Duralumin tubes of rectangular section, while the ribs are built up of channel sections. 2. Stirrup attachment of wing-bracing wires, a bush being inserted in the parallel socket for the Duralumin tube longerons are stepped down in diameter, a bush being inserted in the parallel socket for the smaller tube.