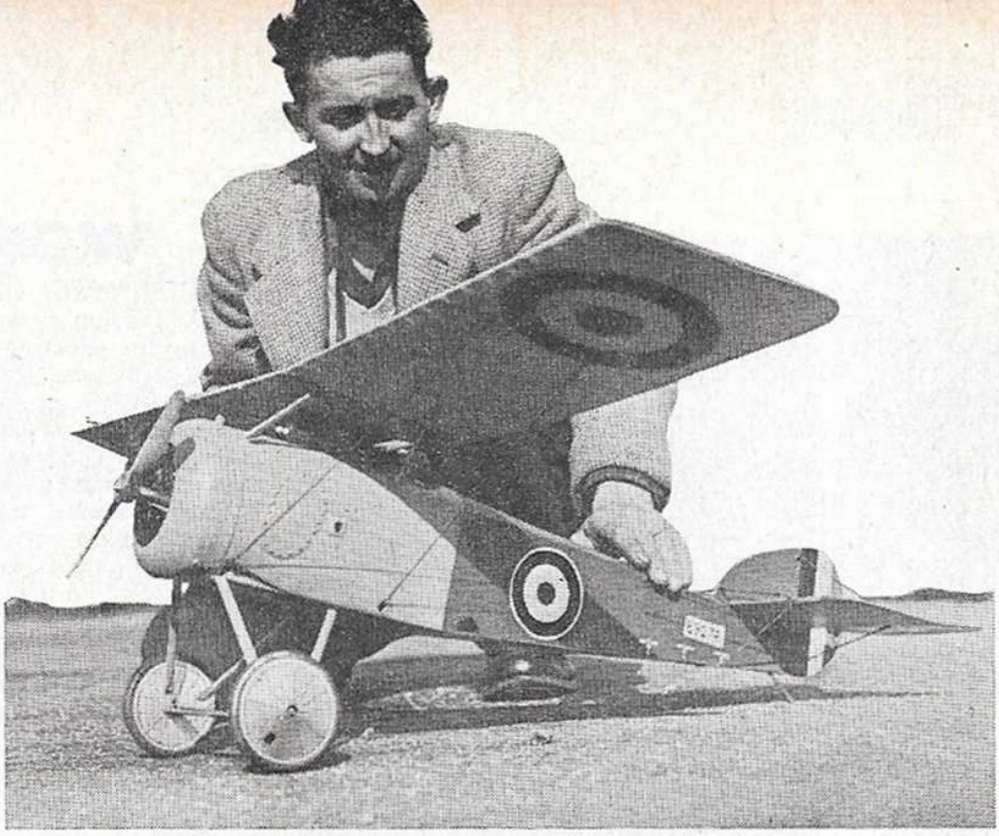
SOPWITH SWALLOW

A monoplane joins our flying scale range of one-eighth size '14-'18 fighters from the board of—

JOHN DARNELL



THIS RELATIVELY little-known Sopwith parasol monoplane makes a perfect free-flight scale model and completes the APS range of ⅛th-size '14-'18 fighters that came from the Kingston factory. Already firmly established as favourites in plans service are the *Pup*, *Camel* and *Triplane* so why not add this snappy flier to your collection? It suits any of the 1.5 c.c. diesels, will trundle around with a 1 c.c. and really tear up the air on 2 c.c. or more.

The Swallow (real one) began life under another name as the Scooter and appeared as the Sopwith Monoplane No.1 in 1918. It had a 130 h.p. Clerget rotary engine and was based on a Camel fuselage with the swept wing surfaces placed very low over the normal gun position. As such, it was an ambitious project and in the guise of civil registration G-EACZ was a fine aerobatic and racing mount for Harry Hawker. The Swallow was Monoplane No. 2, having a higher centre-section to clear the armament, greater span and larger ailerons: but in spite of persistent trials, it showed no great advantage over the Camel and was of course, too late in 1919 for active service. Registered B 9276, the sole Swallow had a 110 h.p. Le Rhone engine.

John Darnell's model has simple structure, is a veteran flier, and can take either radial engine mounting direct on the ply bulkhead F.1., or have a beam mounted engine on the alloy bracket detailed. The pendulum-controlled rudder is a fine stability aid, and the shock absorbing undercarriage is both realistic and practical. Like the full size, the axle is retained in position with rubber band binding which allows initial bumps to be taken by the flexible axle, while in the event of a resounding thwack on terra firma, the whole u/c pivots and rear legs stress a rubber band as they slide into the fuselage and give up to 2½ in. of total wheel travel!

Begin with the fuselage, making up the basic box structure using spruce longerons, extra weight of which is negligible and strength value inestimable, then add the surrounding formers stringers etc. Do not apply the nose sheeting until after the cabane struts, undercarriage tube and rigging tubes are bound in place and the u/c fitted complete with shock rubber to dowel. Note that the axle assembly is completely separate and need not be made until last. With the u/c in place, and 22 swg cross braces soldered to prevent sidesway just as they did on the full-size, pre-cement the nose faces to take F.I. and after fixing this important bulkhead, apply the nose sheet.

Now turn to the wing, which should by rights be flat: but needs the dihedral indicated to make the model auto-stable in flight. To get this dihedral angle, all we need to do is to adjust the rigging cord on final assembly and to set the root rib of each wing panel at the angle provided by the template shown. The wing then can be made in one flat unit, with un-cemented dry butt joints where the spars and trailing edges pass from panel to c/section, leaving the leading edge to keep the wing in one piece and angling the root ribs leaving a "Vee" gap. Part the wing panels by cutting through the l.e. and then fit the locator dowels so that the correct dihedral is obtained. Pin together and bind the c/section to the cabane struts using the frontal aspect of the whole wing as a guide to lateral line-up and the wingsweep in plan view to check the other way. Leave to dry, after liberally cementing all binding, then add the upper rigging pylon braces.

Tail unit, sundry rigging hooks and scale fittings (don't forget the pilot!) are self explanatory from the drawing, and we are left with the cowl and colouring to complete. On the John Darnell original, the cowl was beaten from a sheet of 20 swg aluminium, over a hardwood former: but a laminated balsa one would suffice. In any case, up to 1½ ounces of ballast will have to go into this short nose to get the centre of gravity forward.

This model really glides, so the initial trim is soon found by altering the tailplane angle for a long flat descent. Try her on low power with a 9 x 4 prop., gradually working up the revs each flight and you will soon be the envy of the '14-'18 fans who will rejoice in the realistic flight pattern.