Tailplane

1/16" sheet balsa

LINNET

18 swg spring wire.
WING.
This is built over the plan, so it is advisable to pin a sheet of greaseproof or tracing paper over it to prevent the cement sticking to it.

Pin down the leading and trailing edges over the drawing, then remove the ribs W1—W4 from the printed sheet (W3 is on the fuselage panel) and cement these into place, together with the tip pieces. Then cement the spar in place and you should have two wing-halves as shown in fig. 3. When both sides are set, lift them from the plan, and assemble them with the tips raised as in fig. 4. Build up the centre section with short pieces of the same materials as the wing, and well cement round the spar joint. See fig. 5. Then cover the centre-section with note paper, or use a double layer of tissue when covering.

When it is quite set, remove the wing from the plan, and shape the trailing edge as shown in fig. 3, but leave the centre part square to fit the fuselage. Round off the leading edge and tips, smooth down the whole wing and apply a coat of dope before covering.

COVERING.
The fuselage and wing require covering with the tissue paper supplied. Start with the fuselage and cover each side separately. Cut strips of tissue wide enough to slide paste for sticking it to the framework fuselage, stretch a strip of the tissue over the other sides, leaving a gap on the bottom and when it is thoroughly dry age it, and when it is thoroughly dry aged, make another coat of paste to help tighten the paper. Apply tailplane and fin.

Cover the wing with 4 pieces, centre-section. Start with the bottom piece, and lap the outer pieces onto it and repeat end to end, to help preserve the airfoil.

Dope each half-wing separately, when it is half-dry, to prevent it warping.

FIG. 3
BUILD WING IN TWO SECTIONS
OVER PLAN.

FIG. 4
RAISE WING-TIPS AS
OBTAIN DIHEDRAL
ASSEMBLING THE TW
enough to allow a small overlap. Use dope or
the framework. Apply some to one side of the
of the tissue over it and smooth out any wrinkles.
nd smooth down the edges. Repeat this for the
lap on the bottom surface below the rear motor.

dry, lightly spray the tissue with water to shrink
gnly dry again, apply a coat of dope. This will
\paper. Apply a thin coat of clear lacquer to the

with 4 pieces, and use a separate strip for the
with the bottom surface and apply the paste to
There is no need to stick the paper to each rib.
urface start with the centre-section, then over-
-oit and remember to keep the paper taut from
erve the airfoil shape.
ng separately, and pin it down to a flat board
vent it warping.

DECORATING.

The appearance of the finished model can be imp
by the addition of a little cellulose paint. This shou
the fuselage, to save weight, unless it is sprayed on
ainted by hand, applying it quickly and evenly with
not put it on heavily or the model will not fly well.

The transfers can be affixed to the wing or l
ettering or decoration required.

MOTOR.

This is composed of two 9in. elastic bands w
Lubricate them with Frog Rubber Lubricant or Castor C
into the fuselage with the help of a length of wire a
hook at one end of the wire and insert it into the
uselage. (If a thread is being used, tie a weight to

Hook the bands on to it through the opening at
the rear motor pin (cane) through the holes in the fu
can be improved considerably
This should be restricted to
sprayed on lightly. It can be
evenly with a soft brush. Do
fly well.
wing or fin, and any other

ic bands which are supplied.
: or Castor Oil, and insert them
th of wire or thread. Bend a
it into the front end of the
weight to one end and drop
opening at the rear and insert
les in the fuselage and through

5
' RE-SECTION
DETAIL.

the loops of elastic. Pull the bands out through the front, and hook
them on to the airscrew shaft (complete with Airscrew).

Fit the wing in place through the opening in the fuselage. It is held
in place with two elastic bands, stretched over the centre-section, and
hooked over the pins pushed into bulkheads 2 and 3.

The model is now complete and ready for flying. A drop of thin
oil on the airscrew shaft will improve the running.

FLYING.

This model is intended to be flown out of doors, but choose a calm
day for your first test.

Test-glide the model first to check the balance. Hand-launch it in
a slight downward direction. If it dives to the ground, carefully bend
up the rear edges of the tailplane, known as elevators, or glue a small
weight in the rear end of the fuselage. If the model climbs steeply
and stalls, bend the elevators down slightly, and/or add a small weight
to the nose of the fuselage. A small nail or drawing pin can be pushed
into the cowl block for this.

When the glide seems satisfactory, put a few turns on the motor
and launch the model (into wind) if any. The turn can be adjusted by
bending the fins, or by twisting the wing slightly.

Increase the turns on the motor gradually, up to a maximum of
approximately 350; if the motor is not lubricated, the turns must be
limited to 200. An unlubricated motor will wear and break very quickly.
Stretching the elastic while winding will enable more turns to be obtained.

This model will take-off from the ground without assistance. Having
wound the motor, place the model on a smooth surface, and release it
directly into wind.

Designed and Made in England by
INTERNATIONAL MODEL AIRCRAFT LTD.
MORDEN ROAD, MERTON, LONDON, S.W.19.
INTRODUCTION.

This model is one of the Frog Senior Series, which consists of a range of models of near-scale design and appearance, representing popular full-size sports 'planes, all approximately 18in. span.

They embody very simple and quick constructional methods, as in the Frog Junior Series models, all the main parts being ready-cut to shape, and only require cementing together.

To ensure a satisfactory job, study the plan and check the parts with it before commencing. Assemble the model step by step as shown.

Cement and dope are not included in this kit, but they can be bought at any model shop. Use quick-drying balsa cement such as Frog Universal. You will also need a balsa-cutting knife or a razor blade, and a few pins.

When you have built this model, remember there are others in this series equally attractive.

THIS KIT CONTAINS:
1 Plan and Instructions.
4 Balsa Sheet of cut-out fuselage sides.
1 Balsa Sheet of cut-out tailplate and fin.
1 Balsa Sheet of cut-out bulkheads, ribs, etc.
1 Balsa Sheet of cut strips.
1 Balsa Block for front lower cowl.
1 Shaped wire undercarriage.
1 Propeller with shaft and bush.
1 Piece celluloid for windscreen.
1 Piece cane for motor pin.
2 Wheels.
2 Zin. elastic bands for wing.
2 9in. elastic bands for motor.
2 Transfers.
1 Piece tissue for covering.
1 Piece sandpaper.

BUILD

FUSELAGE ASSEMBLY.

Carefully remove all of knife or a piece of razor blad by cementing pieces of balsa then cement bulkheads 2 as fig. 1. Make sure they are other side in place. When and the front pieces 5, 6, 7:

UNDERCARRIAGE.

Bend the top part of 1 side view drawing; then c
BUILDING INSTRUCTIONS.

1. Ove all the parts from the balsa sheet using a balsa razor blade to separate them with a clean edge. Start of balsa strip cut from scrap, to bulkheads 2, 3 and 4, heads 2 and 3 to one of the side panels 1, as shown in they are upright, and allow to dry. Then cement the. When these are set, assemble the other bulkhead 4, is 5, 6, 7 and 8.

2. Fit the wheels in place and bend over the ends small paper washers to the axles to hold them on, from paper to the shape given, fold them, and glue t

3. Cement the half-bulkhead 10 to a cross-strut to fit between the sides.

4. Fit the top front stringer and cockpit pieces 1 then cut the small pieces of 1/16in. sheet from scrap shown. The rear stringer is fitted after the tailplane

5. Cement the wing mounts 12 in position as show.
in place. Then fix the lower part 9 and the nose piece, and the ends of the wire, or glue them on. Cut the two fairings and glue them to the wire legs, pass-strut which should be cut pieces 11 in place, see fig. 2, from scrap to fit to the nose as tailplane is assembled.

TAILPLANE AND FIN.

Remove the shaped tailplane from the balsa panel, round off the edges and sandpaper the surface smooth. Then cement it to the fuselage as shown in the side view. Cement the fins on the ends of the tailplane together with the small oblong pieces. Then fit the rear stringer in place.

Fix the shaped windscreen with cement, holding it in position until it has set.

Cement the tailskid 13 in place as shown.

Remove any sharp corners with sandpaper, and smooth down the whole model to obtain a good finish. Apply a coat of dope or clear lacquer before covering.