



**THE CYGNET.**

DESIGNED BY  
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SCALE. FULL SIZE.

# THE "CYGNET" ————— A Beginner's Simple 'Plane

THE "Cygnet" is a beginner's simple 'plane, being easy to build and even easier to fly if it is constructed in accordance with instructions; yet it will be a good design upon which further improvements or rather experiments may be made. Furthermore, the appearance of the model is enhanced by its simple lines and lack of unorthodox trimmings.

## Fuselage.

A full-size plan should be drawn of this and the two sides built on it in the usual manner, and then being joined by the cross-members.

All longerons and struts are of  $\frac{3}{32}$  in.  $\times$   $\frac{3}{32}$  in. balsa.  $\frac{1}{16}$  in. sheet balsa is cemented in the first bay for strengthening purposes, and two pieces of  $\frac{1}{16}$  in. sheet balsa are also cemented in the bays indicated, and pierced to take the motor peg, which is a piece of birch dowel or split cane  $\frac{1}{8}$  in. in diameter.

## Main-plane.

The leading edge is of  $\frac{3}{32}$  in.  $\times$   $\frac{3}{32}$  in. balsa, and the wing is made up of  $\frac{3}{32}$  in. sheet balsa ribs on two spars of  $\frac{3}{32}$  in.  $\times$   $\frac{3}{32}$  in. balsa and a  $\frac{3}{32}$  in.  $\times$   $\frac{1}{4}$  in. balsa trailing edge. The centre section is covered with  $\frac{1}{32}$  in. sheet balsa top and bottom, and four small pins are cemented in to take the rubber bands for fixing the wing. Wing tips are made of thin reed cane bound and cemented to the leading and trailing edges. The dihedral is 1 in. at the tips.

## Tail-plane.

This is of the lifting type. The elevator is built of  $\frac{1}{32}$  in. sheet balsa ribs on a  $\frac{3}{32}$  in.  $\times$   $\frac{3}{16}$  in. spar, with a leading edge of  $\frac{3}{32}$  in.  $\times$   $\frac{3}{32}$  in. balsa and a  $\frac{3}{32}$  in.  $\times$   $\frac{1}{4}$  in. trailing edge. The rudder is formed by two  $\frac{1}{32}$  in. sheet balsa ribs cemented to a leading and trailing edge of  $\frac{3}{32}$  in.  $\times$   $\frac{3}{32}$  in. balsa. The bottom of the rudder is made of a piece of  $\frac{3}{32}$  in. sheet balsa,  $\frac{1}{4}$  in. wide and carved to fit over the centre section of the elevator. It is secured on to the elevator by cement (after covering).

## Undercarriage.

This is simply a piece of 18 s.w.g. piano wire, bent, bound and cemented to the cross-struts of the fuselage where indicated. The length of each leg is 4 in. (to centre of wheel). 1 in. diameter wheels are used.

## Nose-block.

The nose-block is carved from a piece of block balsa  $1\frac{1}{8}$  in.  $\times$   $\frac{7}{8}$  in.  $\times$   $\frac{7}{8}$  in., and is drilled to take an 18 s.w.g. brass bush. The propeller shaft is of 18 s.w.g. piano wire and an 8 in. "Paulownia" type propeller is used. A free-wheel may be fitted if so desired.

## Flying.

A motor of four strands of  $\frac{3}{16}$  in. flat rubber is recommended—2 in. longer than the distance between motor peg and hook, and up to 500 turns may be given in safety on a lubricated motor. The model should have a fast climb and a flat glide.