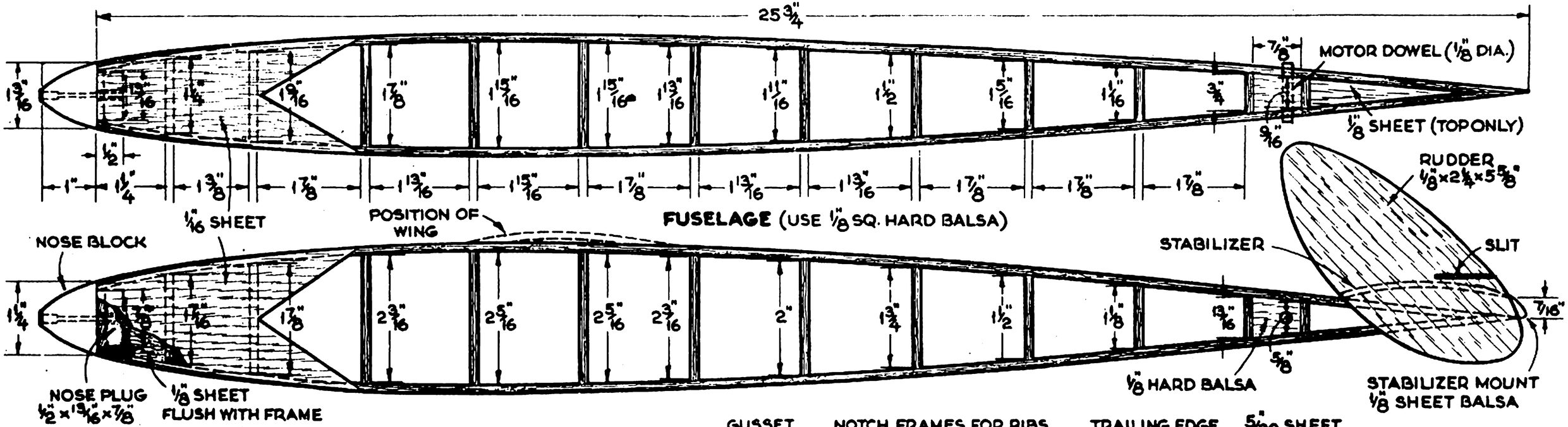
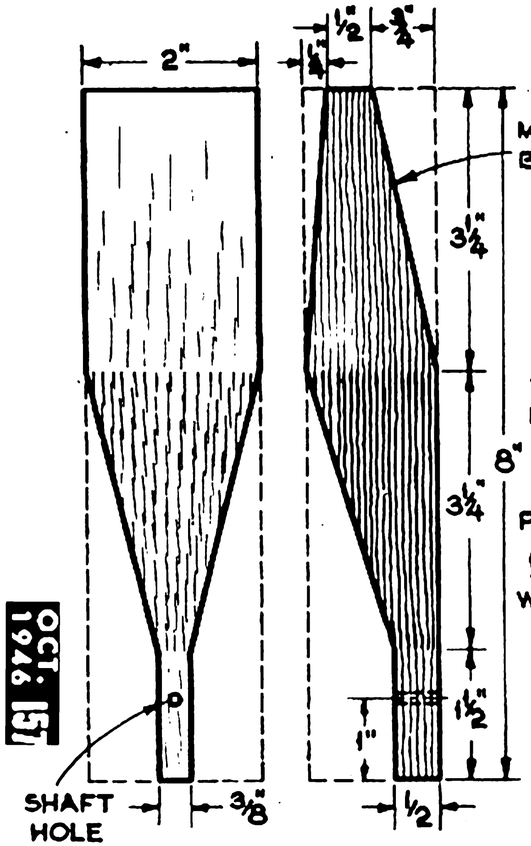
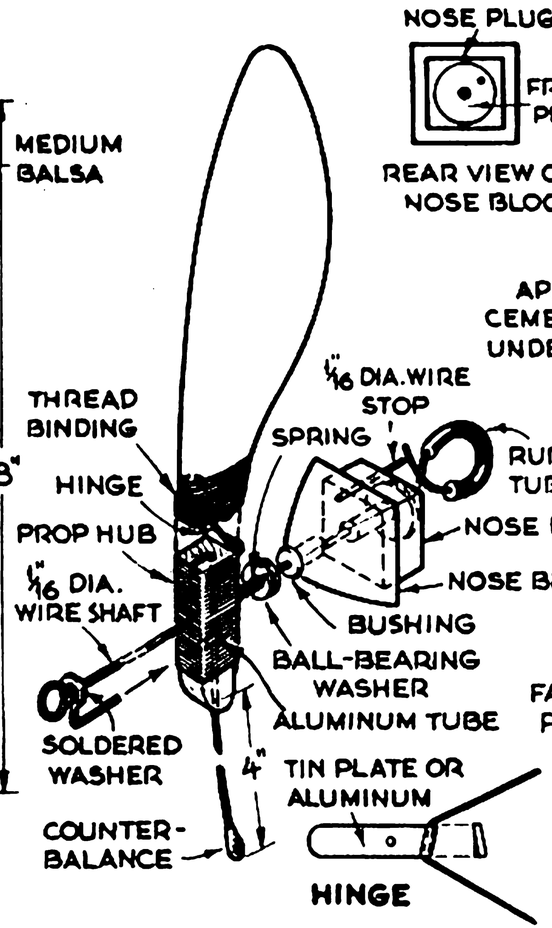


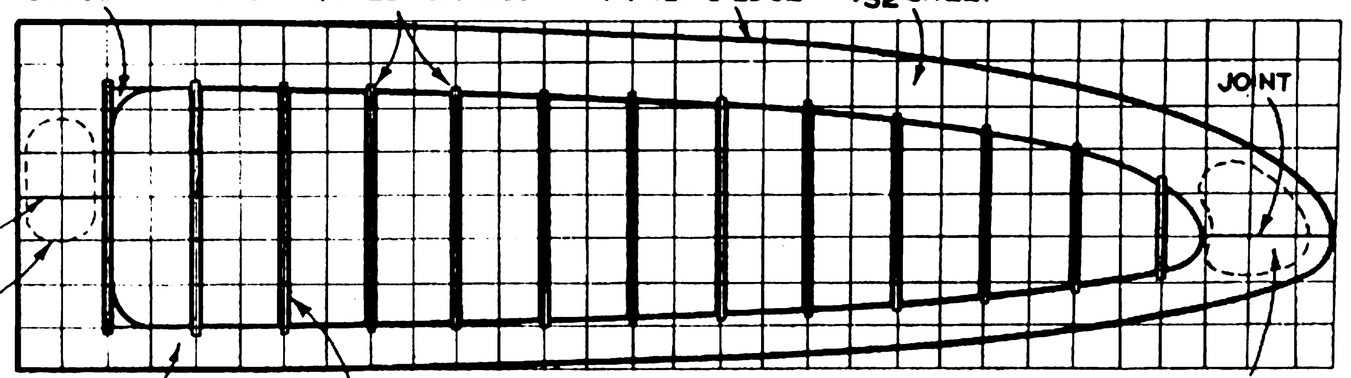


PROPELLER BLANK

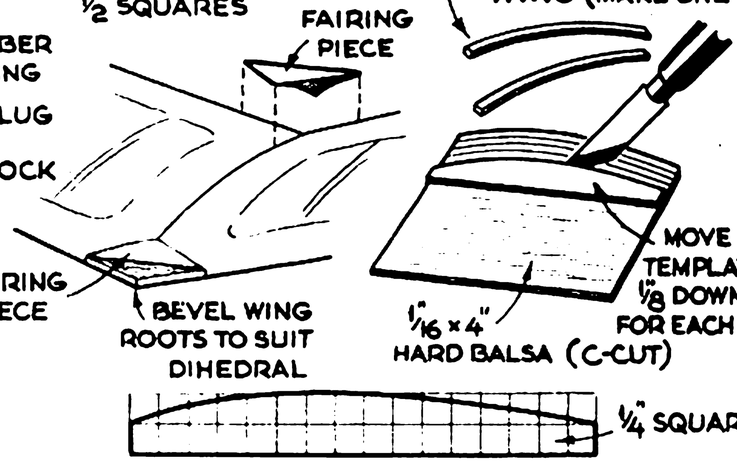


HINGE

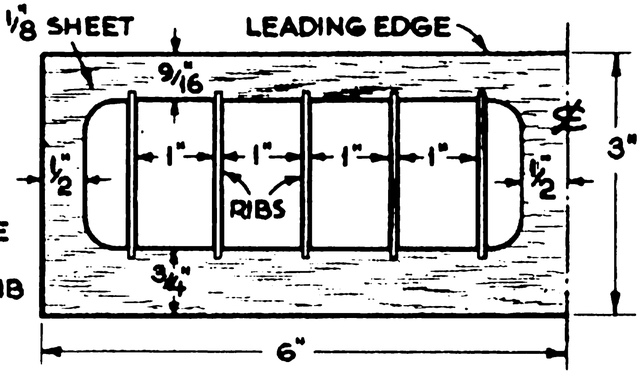
REAR VIEW OF NOSE BLOCK



WING (MAKE ONE RIGHT AND ONE LEFT)



AIRFOIL TEMPLATE



HALF PLAN OF STABILIZER
(MAKE OF ONE PIECE)

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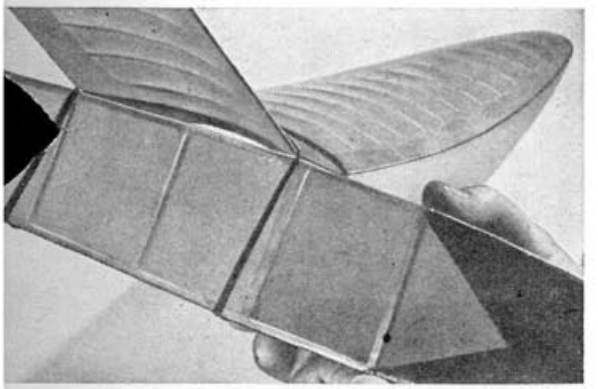
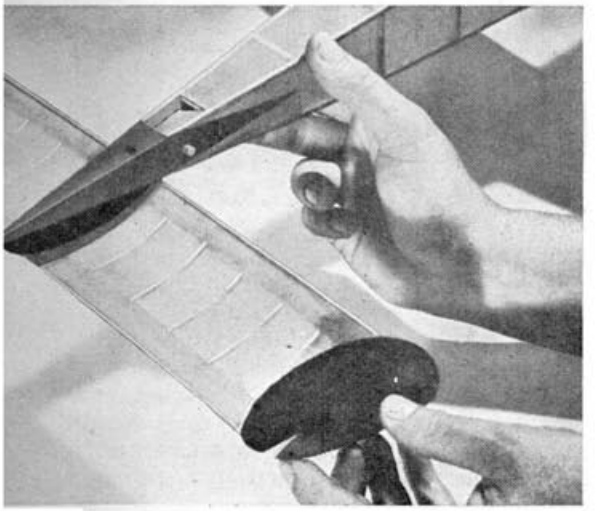
A folding prop cuts wind resistance and gives the model a smoother glide when the power runs down.



Both wing and stabilizer have a deep undercamber, as you will notice above and below. A slit in each rudder allows for warping to make the model turn.



SKY CLIMBER

....A High Flying Rubber-Powered Model

By PAUL MUELLER

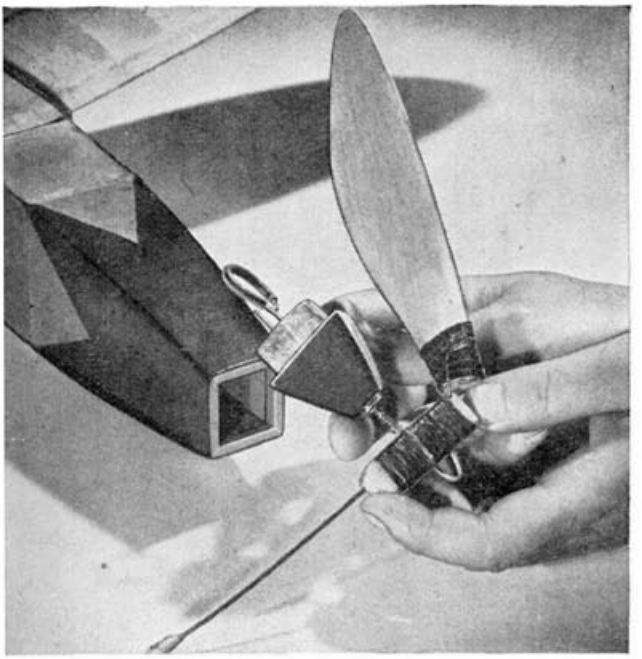
WHEN you fly this sleek little rubber model, you may be surprised at the altitude it reaches before the folding prop kicks in and the ship starts on a slow, flat glide. Its motor run is longer than you usually find in models of this size and an airfoil section with a deep camber produces a high lift.

The wing frame is cut from 5/32″ medium sheet balsa, two sheets being cemented edge to edge. Inner edges are notched at intervals of 1″ to accept the ribs, all of which are cut to an airfoil shape by use of a template. Fit the ribs by inserting one end in a notch on the leading edge and cutting to suit the corresponding notch on the trailing edge. Sand the leading edge of the wing round and the trailing one sharp. (Sand the stabilizer and rudders in the same way when you come to them.)

When the ribs are firmly cemented in place and dry, bevel the wing roots for a joint that will provide a dihedral of 3¼″, and reinforce the joint with triangular fairing pieces. Cover the underside of the wing first, applying cement to the full length of each rib to get the indicated camber. Then cover the top in the conventional manner, water the tissue, allow to dry, and apply two coats of clear dope. The pull exerted by the covering when finally dry will increase the dihedral at the wing tips to about 4″.

Although the drawing shows the stabilizer frame only in half plan, it is cut as one piece from a 12″ length of ⅛″ sheet balsa. Build and cover it in the same manner as the wing, but note there is no dihedral. After shaping the rudders, make a slit in the trailing edge of each to allow for warping to give the model a gentle turn.

The fuselage is built in the regular manner, one side being shaped on top of the other. At the front, the first panel is filled all around with ⅛″ sheet set in flush with the longerons and crosspieces. Then this is covered with 1/16″ sheet extending back three panels, a deep V being cut in the back edge of each piece as shown. After



After the power run, a spring on the shaft pulls the motor hook against a stop on the plug. This positions the prop for landing.

these pieces have been cemented in place, fair the edges with sandpaper before applying, watering, and doping the tissue.

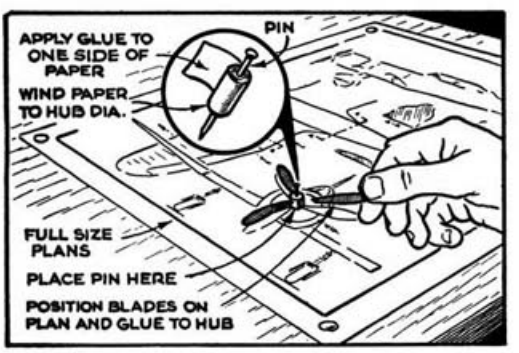
At the rear, ⅛" filler sheet also is installed in the side panels where the motor dowel is located and in the final V-shaped panel on top where the stabilizer goes. If desired, the panel under the dowel can be filled with a removable door. Install the dowel itself with a press fit for easier placing of the rubber. From ⅛" sheet balsa, shape a stabilizer mount conforming to the undercamber of the stabilizer and giving a slight negative incidence when the mount is centered and cemented on the filler sheet previously fitted between the longerons.

After carving the nose block, cut a friction plate from thin tinplate and cement it to the rear face of the block. Shape the propeller with an undercamber of about ⅛" and give it three coats of dope, sanding between each coat. The hinge must have the swivel at an angle and be carefully positioned so that the blade will fold back flush against the fuselage. Cement the hinge in place, forming the prongs to the lower part of the blade, and bind the entire hinge with thread. Then cut the propeller on the same plane as the hinge swivel. The counterbalance is a length of wire with a blob of solder at the end.

Since there is no landing gear, it is desirable to have the prop in a horizontal position when the model lands. This is accomplished with a spring that thrusts the shaft forward at the end of the motor run, throwing the motor hook against a wire stop on the nose plug. Although not absolutely essential, an aluminum tube into which the anchor prong of the shaft can be cemented in the hub will give greater strength.

Bend a loop on the front of the shaft for attaching the winder. The entire propeller assembly pulls out for winding.

Install between 16 and 20 strands of ⅛" flat brown rubber, lubricating it first, and the model is ready for the first test glides and adjustments. The original model used a ⅛" right down prop thrust, making it climb to the right, and when power ceased it glided to the left, but your adjustments may be different. When you are satisfied with the first short flights, give the rubber about 300 turns with a winder—and watch her go.



How to Position Prop Blades

When you are building a small scale model of a plane, the blades of three- or four-blade props can be positioned at the correct angle by the procedure illustrated.

Cut a narrow strip of paper, apply glue to it, and wind around a straight pin until it equals the hub diameter. Then place the pin in the center of the hub on your plans and glue the blades to the hub in the indicated position.—Freddy Mitchell.