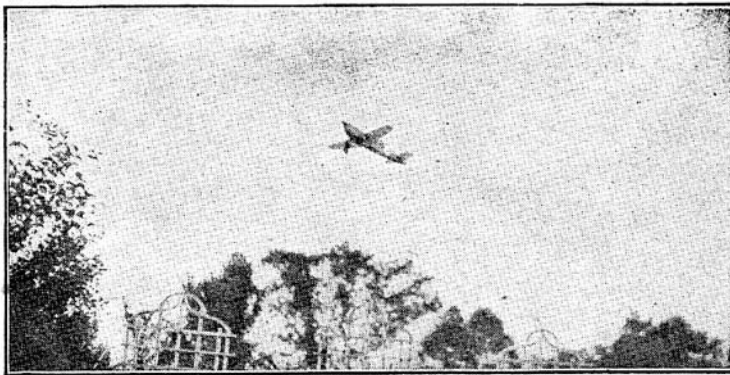


OVER IN FRANCE THEY'RE STILL TALKING ABOUT IT—AND FIFTY MILLION FRENCHMEN CAN'T BE WRONG! WE MEAN THE "WHIZZING BLUR" THAT WON THE DEUTSCH DE LA MEURTHE CIRCUIT RACE AND CHALKED UP A SPEED MARK OF 314 M.P.H. INTO THE BAR-GAIN. THAT "W.B." WAS THE CAUDRON 460 RACER. AND NOW HERE'S A GREAT TREAT FOR YOU—FULL INSTRUCTIONS FOR BUILDING AN EXACT SCALE FLYING MODEL OF THIS RECORD-SMASHING JOB.

Z-i-i-i-p! There she goes, flashing across the sub-substratosphere of the backyard. And she's TRAVELING, too—for it took a 1/250 of a second exposure for this film to "stop" it!



Build the Caudron Racer

By Marion Clarke and Robert Smith

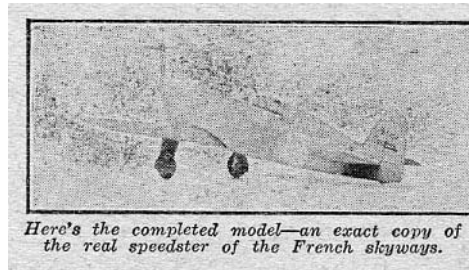
THE real Caudron 460 is powered with a Supercharged Renault engine developing 330 h.p. This first place winner in the circuit race of France averaged better than 275 m.p.h. for more than 1,200 miles! Plywood covering is used in the big plane, but only the fuselage of our model is covered with wood, for we do not wish to add too much weight. True to its prototype, the model flies very fast and covers a lot of distance in doing so.

FUSELAGE

MAKE the body in the usual manner. Join Plates 1 and 3 together for the outline. The noseblock is carved from soft balsa and shaped and hollowed out as shown. Drill a hole in front to accommodate the nose plug. The long headrest after the cockpit should be carefully hollowed. To add realism to the

model the fuselage should be covered with sheet balsa. (You may find it too heavy in comparison with others, but it is worth the extra weight in looks.) The original model had 1/64" stock on it, except the bottom of the fuselage which may be covered with regular tissue.

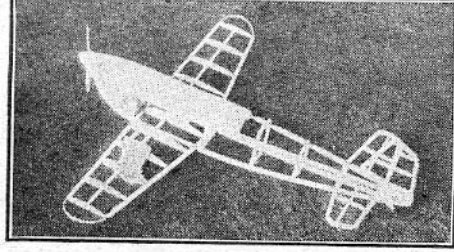
The sketch of the tail plug is self-explanatory. Bend a rear hook of .029 music wire and cement it securely in the plug. The pilot's enclosure is made from bamboo and covered with thin celluloid, and the upper forepart is shaped out of 1/8" balsa. This forms a roof for the enclosure.



WING

THE wing is built in two separate panels. The right half can be traced by reversing the left one shown on Plate 2, thus completing the wing structure. Cut the ribs from 1/32" material, except the center one which is 1/16" thick. The leading edge must be rounded on one edge, while the opposite edge fits in the notches of the ribs. The trailing edge is, of course, tapered to a knife edge at the rear, and the wing tips are bent from 1/32" sq. bamboo.

When the wing halves are complete they should be glued securely at the center and the middle rib inserted. The amount of dihedral necessary for best flying results is 5/8" under each tip. The framework is now covered with a light grade of paper, using banana oil as the adhesive. This is now sprayed with colored, or clear dope (as the builder prefers). The authors finished their model in green. An opening similar in shape to the middle rib is cut out of the body covering on either side of the fuselage to allow the wing to be slipped through. Once fitted it is glued in the framework firmly.



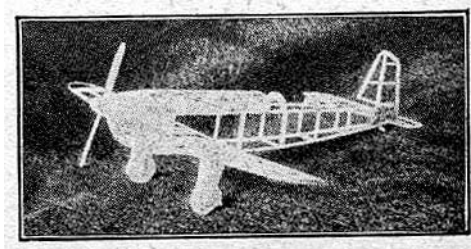
EMPENNAGE

BOTH the rudder and the two sections of the tail can be built easily over the drawings. The spars for both are tapered from $1/16$ " x $3/32$ " material, the leading edges are cut from $3/32$ " sq. stock, and the trailing edge pieces are tapered from $1/32$ " x $3/16$ " balsa. Carefully cut and sand the tips out of $1/32$ " sheet. The root ribs are $1/16$ " thick, and the other ribs are $1/32$ " thick. Cover these frameworks on both sides and dope them in the same manner as the wing. Glue them on the fuselage in the position shown in the plans.

LANDING GEAR

CUT two struts from $1/32$ " sheet to the shape shown on Plate 4. Cut two more from $1/8$ " stock, but this time cut the bottom so the wheel will fit and turn without hitting the thicker strut. A piece of thin aluminum is cut and bent as shown. One end is glued between the, thin and the thick struts. Repeat for the other leg of the gear. Pins serve as axles, on which turn $1/4$ " balsa wheels. Small beads between the wheel and aluminum and thin balsa strut will keep it in place.

A streamline block is glued on each leg of the landing gear (refer to Plate 4 and photos). Cut away paper on the bottom of the wing so that the struts will fit up in it, and then glue the legs on the spar and auxiliary spar. Be sure the landing gear struts are parallel to each other and that they are securely cemented. Mount the tailskid on the tailblock, and glue it in to stay!



PROPELLER AND FLYING

CUT the prop block out of a $3/4 \times 1 \frac{1}{4} \times 7 \frac{1}{2}$ " balsa block and shape as in Plate 4. Carve the prop carefully and paint it silver a couple of times to represent the Ratier controllable pitch propeller which the real ship uses. Mount a hardwood noseplug and two thrust washers on the .029 prop shaft, and bend the end of it, in the propeller. The spinner is notched to receive the hub and is cemented on the prop. For a simple scale prop for display purposes you can cut blades from thin wood and glue them on a spinner.

Paint the fuselage, tailblock, spinner, and landing gear with the color you selected for the wing. As these units are all wood you will find it necessary to give them two or more coats of dope. The discs of the wheels are painted silver and the tires black. A big numeral 6 should be put on the body and the upper side of the left wing, while the script, "Avions Caudron" should go on the empennage. Louvers can be either painted on, or cut in, the nose of the ship.

Put in six strands (three loops) of $3/32$ " brown rubber. An "S hook" will come in handy when using the winder for longer flights. The machine is now set to be tested and this should be done over tall grass or something similarly soft so you won't smash the job right off the bat!

If it stalls, add a little weight inside the nose; if it dives, lighten the nose and bend up the elevators. After it glides perfectly, wind it quite a few turns and let it fly. The amount of incidence of the left wing may have to be increased due to the torque of the prop and the small wingspan. This can be done by steaming the wing structure and keeping it in the required position for a length of time. Don't be surprised if your model flies extremely fast. It's got to—for-it not only weighs quite a lot for its size, but it's also trying to live up to the terrific speed of its proto-type! Good luck, and don't break too many speed records!

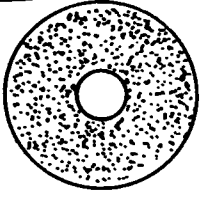
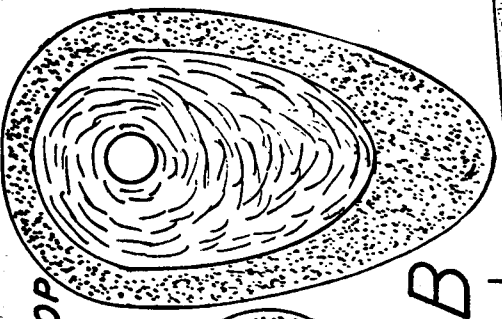
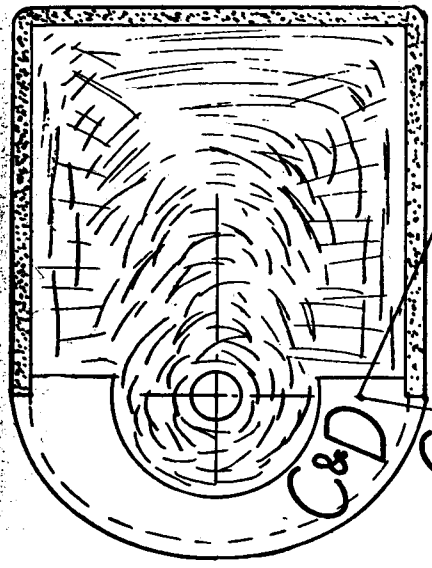
PLATE 1.

BACK OF NOSE
BLOCK

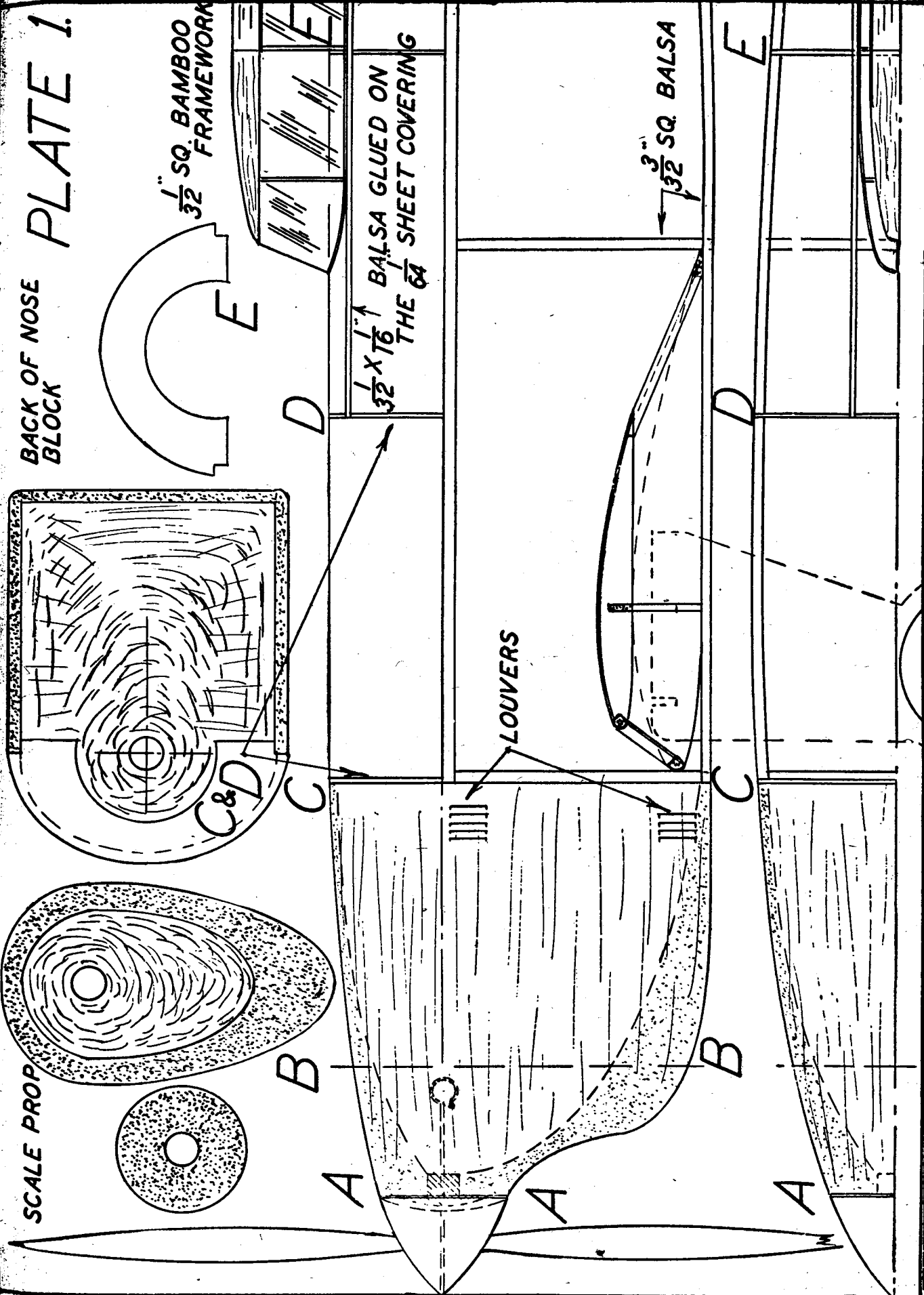
$\frac{1}{32}$ " SQ. BAMBOO
FRAMEWORK

$\frac{1}{32}$ " x $\frac{1}{16}$ " BALSAM GLUED ON
THE $\frac{1}{64}$ " SHEET COVERING

$\frac{3}{32}$ " SQ. BALSAM



LOUVERS



3" SQ. LEADING
EDGE

LANDING
GEAR STRUT

TAPERED SPAR
FROM 1/16" STOCK

1 X 3/16" TRAILING
EDGE

1" SQ.
BAMBOO
TIP

①

②

③

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⑥

⑥

⑤

④

③

②

①

MAKE ONE

(CENTER)

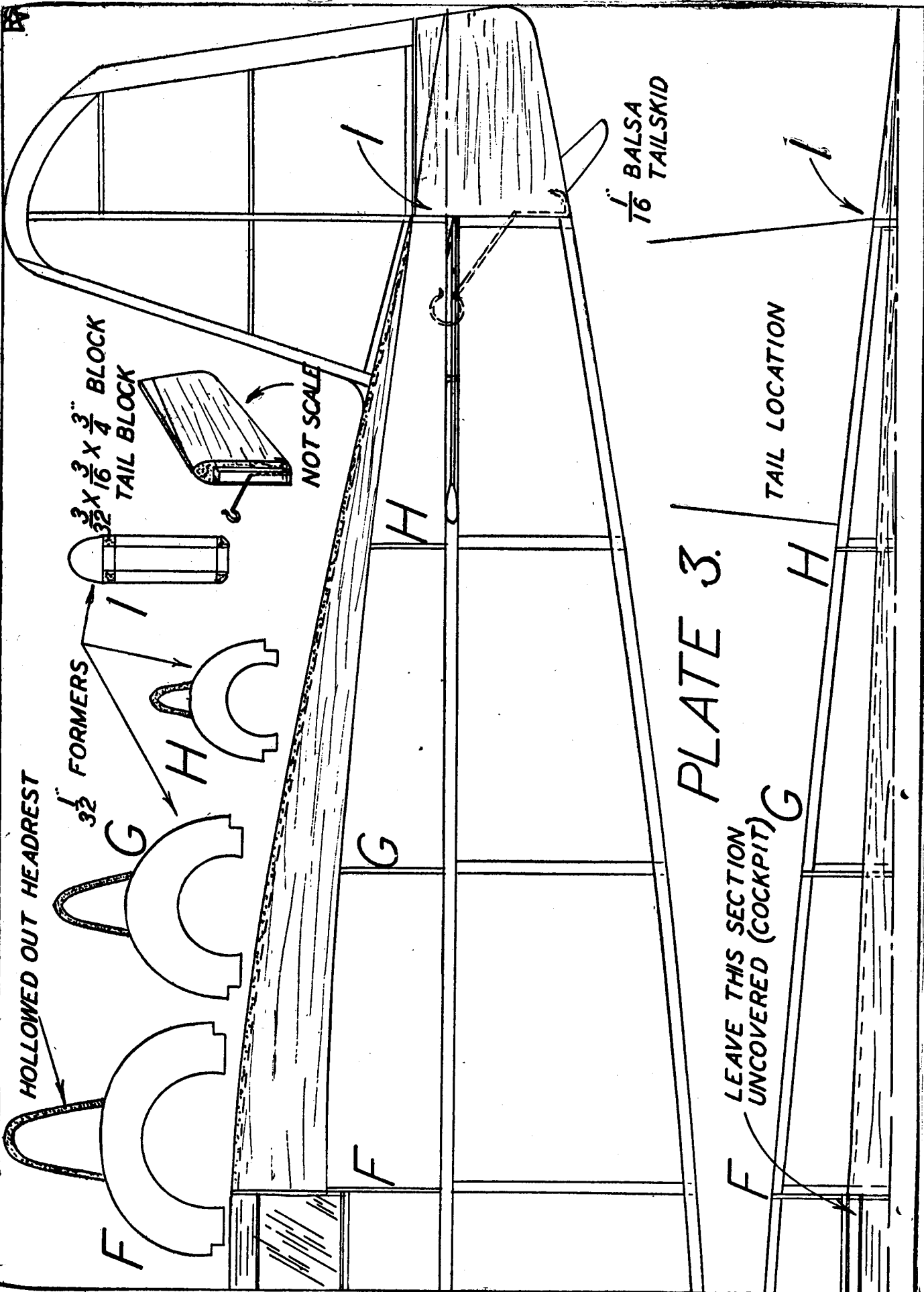
MAKE TWO

CAUDRON 460 MONOPLAN
EQUIPPED WITH SIX CYLINDER RENAULT
ENGINE DEVELOPING 330 HORSE POWER

ALL RIBS OF 3/32" BALSAM
EXCEPT CENTER WHICH IS 1/16"

PLATE 2.

C. 1000



HOLLOWED OUT HEADREST

$\frac{1}{32}$ " FORMERS

$\frac{3}{32}$ " x $\frac{3}{16}$ " x $\frac{3}{4}$ "
TAIL BLOCK

NOT SCALE

$\frac{1}{16}$ " Balsa
TAILSKID

TAIL LOCATION

PLATE 3.

LEAVE THIS SECTION
UNCOVERED (COCKPIT)

F

F

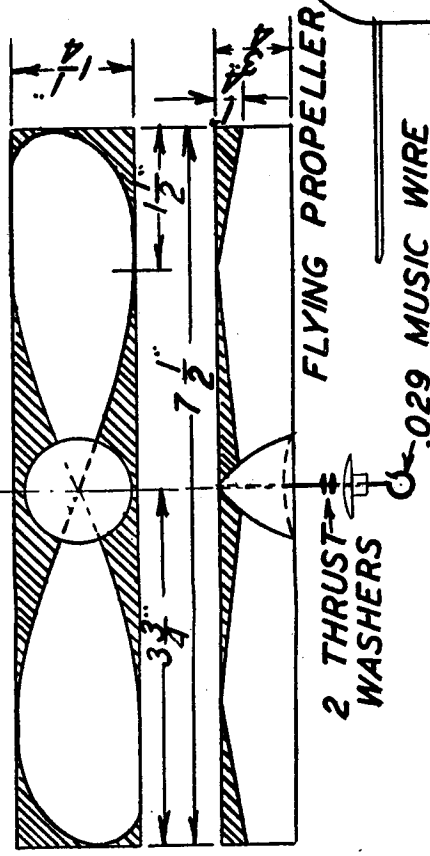
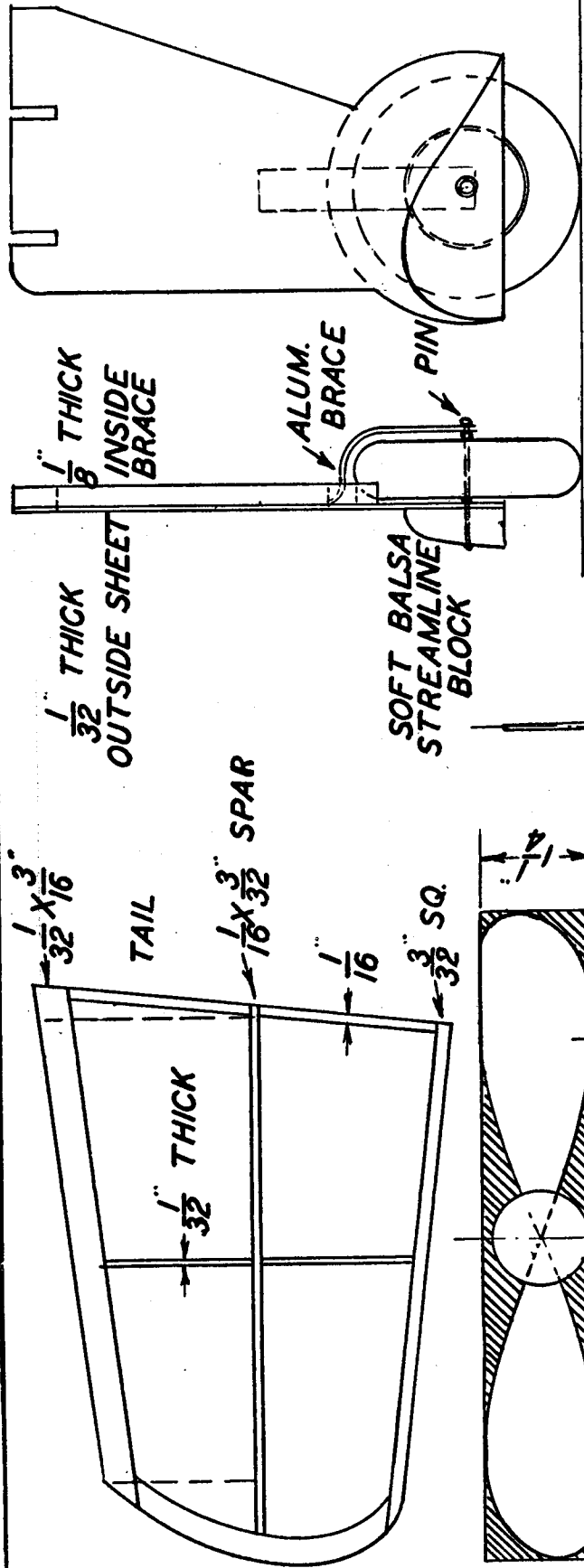
G

H

F

G

H



$1\frac{1}{4}$ DIAM. BALSAM WHEEL

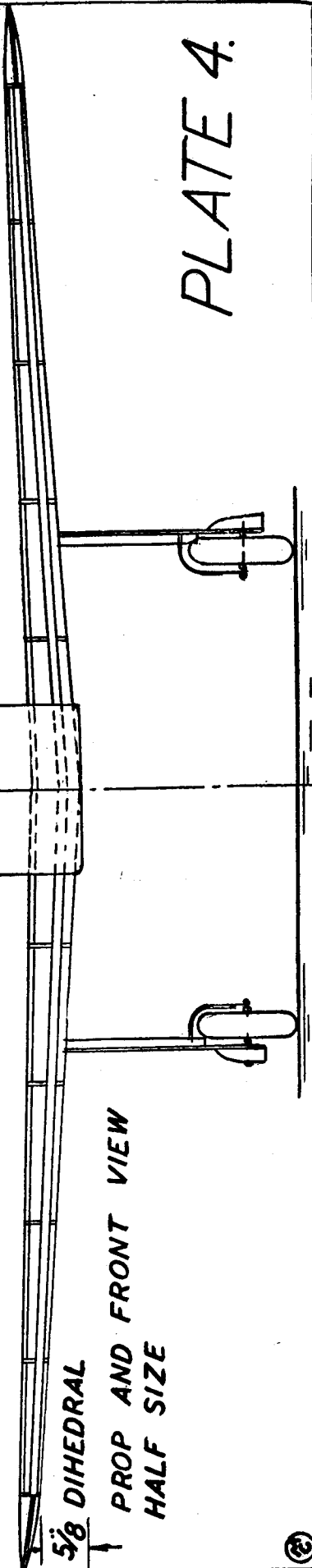


PLATE 4.