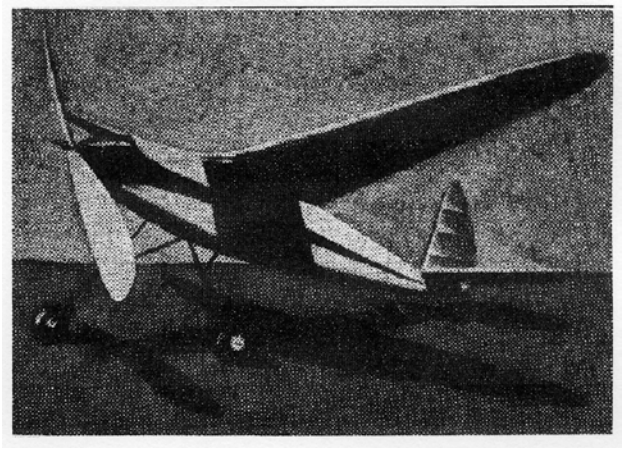
THIS SHIP'S "GOT EVERYTHING!" FAST AND RELIABLE, DURABLE, NEAT, AND EASILY BUILT, THIS NEW OUTDOOR RECORD-CHASER BY "SKATES" GUTMANN IS A SHIP YOU'LL BE PROUD TO OWN. SHE'LL FLY TO YOUR FULL SATISFACTION AND SHE'LL COME THROUGH EVERY TIME. WHAT MORE DO WE NEED TO TELL YOU? JUST READ THROUGH THE INSTRUCTIONS CAREFULLY, TURN THE PAGE FOR FULL PLANS, AND YOU'LL BE ALL SET TO CLEAR OFF YOUR BENCH AND GO TO WORK!



Rangy as a Greyhound and a whole lot faster in bad weather, this sleek sky marathoner will take 800 turns in her motor and keep on flying while you go home for lunch. Just keep your eye on these pictures while you build your model, as an aid in lining her up.

Here's an Outdoor Endurance Job

By Felix Gutmann

Under almost any weather conditions when flying is at all possible, this endurance job will give you extremely satisfying results. I know you will never regret having spent the time and effort to build it.

The ship is fast and has excellent climbing qualities, zipping up to 200 feet in just a few seconds. Even with her speed, however, the model is very stable. And as you can see from the accompanying pictures, it presents a sleek enough appearance to satisfy the most discriminating modeller. Moreover, being quite small, the model will hardly "bust the bank" of the modeller who essays to build it.

There is nothing difficult about building this job, but just the same we recommend that especial care be taken to insure that everything is done *right.*

CONSTRUCTION

Join together the two sections of the side-view on Plate 1, which is full-size. Lay the completed plan down on your workbench, cover it with waxed paper to protect it from cement, and build up two sides on it from 3/32" sq. strips of medium balsa. When they are quite dry, cement them together at the tail to the angle shown in the half-size top view on Plate 2. Now, make three tail hook bulkheads from 1/32" sheet balsa and laminate them.

Two of these bulkheads should have the grain running horizontally (see Plate 2). The piece with the vertical grain should be in the centre when all are glued together. Make a tail hook of .34 music wire and embed it in the bulkhead.

Cement the bulkhead in position between the two fuselage sides. Then cut all cross-braces according to dimensions taken from the half-size top view and Cement them securely in place. Don't skimp on the cement.

Cover the body with 1/32" medium balsa sheet, starting on the two sides and then covering the top and bottom. While you *can* do both sides at a time, your best plan is to apply cement to all parts of the framework on one side and lay a sheet of balsa 3" wide and about 18" long on top of it. Press the balsa in place and hold it down with pins stuck all around the edges.

Allow about 15 minutes' drying time (overnight if you can bear to wait that long) before trimming off the excess balsa with a sharp razor blade. Then do the other side. If you don't possess the patience that all good modellers *should* possess, you can glue the balsa to the sides, press it into place and add the pins, and then trim off both sides at the same time an hour or so later.

When sheeting the bottom of the fuselage, use 2" wide stock. After the entire body is covered, round all the longitudinal edges with sandpaper.

Now cut a nose block and sand it down on the body to give "that moulded appearance." Cut away enough of the sheeting at the tail to allow insertion and thorough gluing of the tail incidence block. And in the position shown by the black outline surrounding the tail hook on Plate 1, cut an opening in the sheet and make a door of 1/16" hard sheet balsa.

Sand this down with the rest of the body. Finish off the fuselage by first sanding with 10-0 paper and then applying four coats of banana oil with intermediate sandings. This should give you a satisfactory sleek finish on which you may add decorative strips or other desired details.

Hinge the tail hook door in place with strong paper, silk or adhesive tape over its "leading edge" and glue a small knob at the edge toward the tail.

LANDING GEAR AND PROP

Plate one shows the landing gear in detail, and the wire parts can easily be made from it. The wheels are each made with two discs of 1/8" hard sheet balsa, cemented together with the grain at right angles. When the glue is dry, the edges of the discs should be nicely rounded and then bushings glued on each side of the axle holes. Finish the wheels down smoothly, paint them the desired colour, and slip them over the axles. Hold them in place with a dab of cement.

Carve the prop from a medium-hard block measuring 1" by 1 1/2" by 11", following the details on Plate 2. Since your prop is one of the most important parts of the plane, if you're at all dubious of your ability it might be better to purchase one ready made. If you make your own, however, sand it down carefully, finish it with 10-0 sandpaper, and give it four to six coats of banana oil with sandings between each coat.

WINGS AND TAIL

Additional explanation is hardly needed for the wing and tail drawings. Follow the dimensions given in scaling up the plans. To get the plan for the left wing, trace the outline given—which is for the right wing—and then reverse the

tracing paper so your pencil marks are next to the workbench.

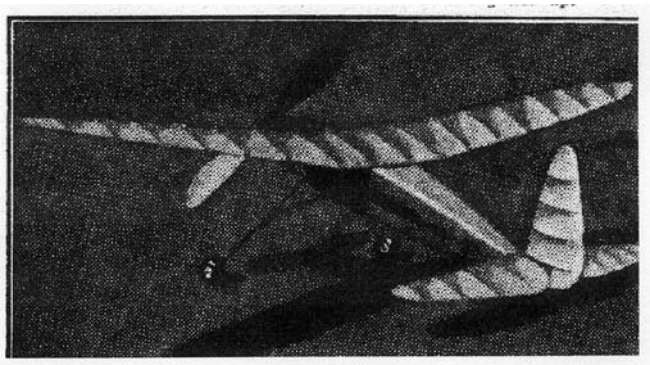
Use 1/16" medium or bard balsa for the ribs, and hard stock for the spars. Be sure to incline the end ribs of the centre section to allow for dihedral, which is 1 1/2" at each tip. Cement the wing sections together *before* covering, for the best possible results.

Tissue is used for the covering, and may be applied either with banana oil or thin cement applied to the framework and the paper carefully laid on top. It is better to cover the bottom surfaces first.

The best colour scheme is one that will allow the model to be seen well either on the ground or in the air. Try, say, colour such as white, yellow, or red, on top of the wing and tail and on the body, and a colour such as blue or red on the bottom of the wing and tail, and on the rudder. Some prominent red should appear on every model. And by all means put a high lustre on the prop or paint it silver, for often a model may be kept in sight merely by the glint of the prop even though the rest of the model is invisible.

ASSEMBLY AND FLYING

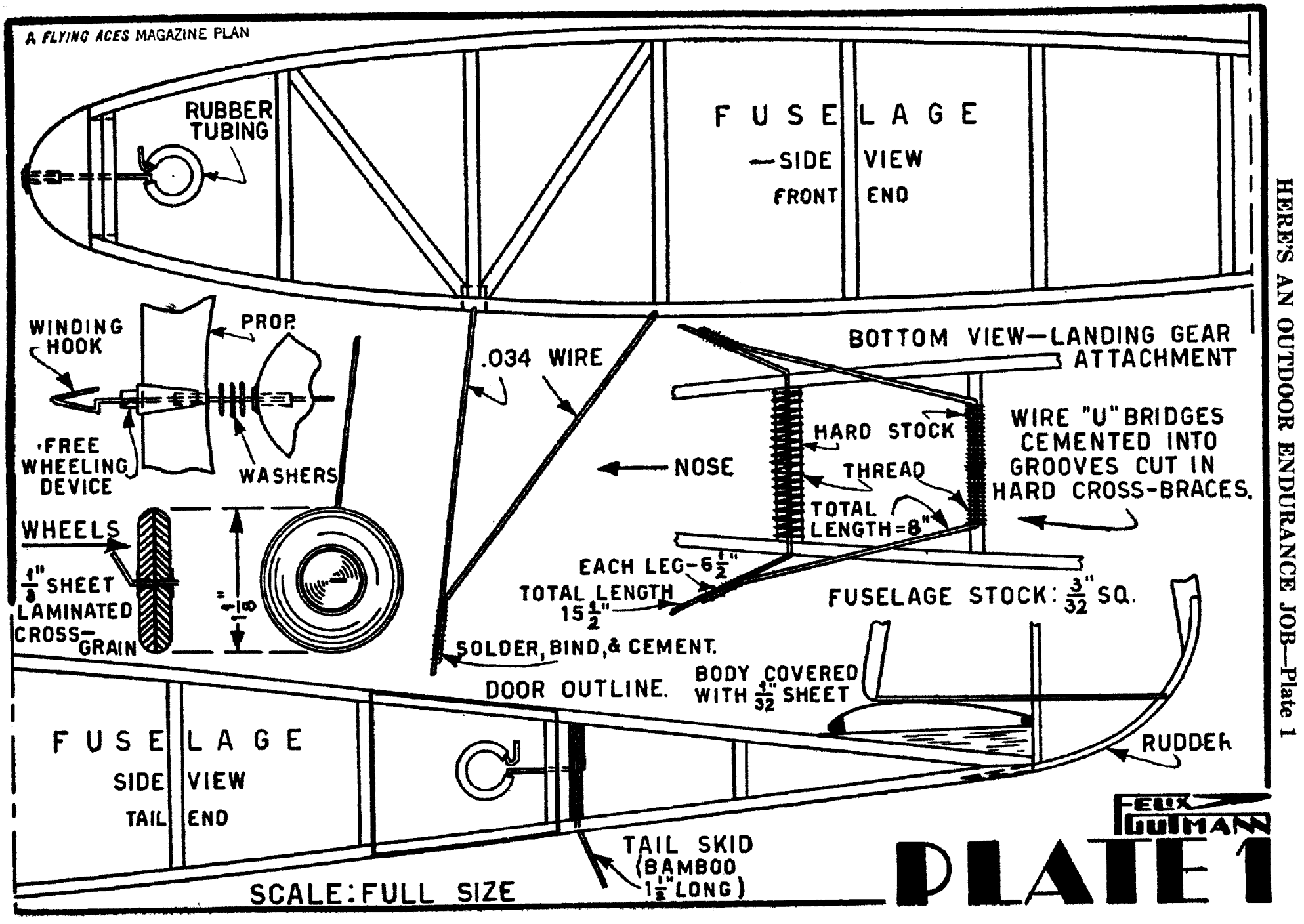
To assemble the model, start by cementing the elevator on top of the tail block. Do a good job here, and line it up well before the cement is dry.



She's ready for action, fellows! And action is just what you'll see when you turn loose your Gutmann endurance job. For she's as fast as she is dependable, and you'd better have plenty of red and silver colouring on your job so's you can keep her in sight.

The rudder is then cemented as shown on the side view. The wing is held in place with a strong band of 1/8" rubber. The model is adjusted by sliding the wing, changing its incidence, and by warping the rudder. The tail should have a slight negative incidence—no more than -2 degrees. Use a good free wheeling device for the propeller.

Power the model with 10 to 14 well-lubricated strands of ¼" flat brown rubber. Allow a few inches of slack. Use a winder, stretch the rubber, and turn in about 800 winds._ And by all means have your name and address on the model—just in case.



HERE'S AN OUTDOOR ENDURANCE JOB—Plate 1

HERE'S AN OUTDOOR ENDURANCE JOB—Plate 2