

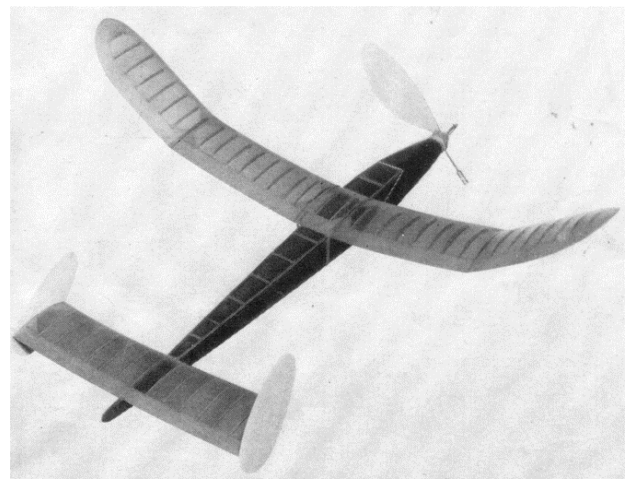
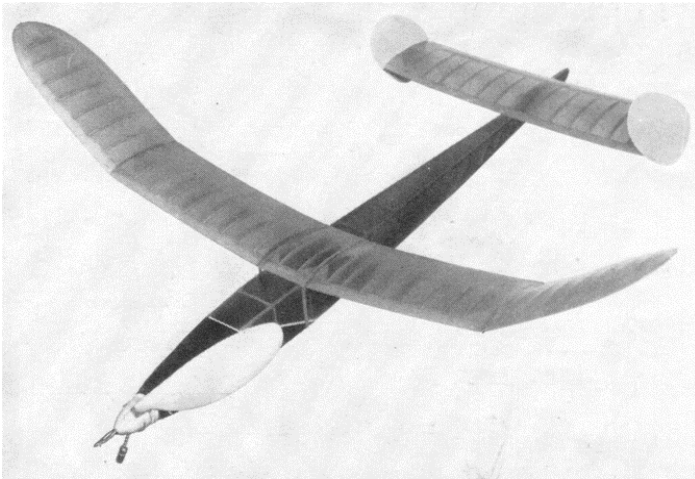
THIS "STICKER" ALWAYS WINS!

A champion designer and filer tells you how to build this consistently winning stick model

by **RAY BEAUMONT**



Light, simple construction, single-blade propeller and efficient stable design makes this plane supreme as a contest winner



EVERY modeler who has entered a contest feels that some day he will build a first prize model. Time and again after working for weeks on a model, he enters a ship in a contest only to find that he didn't do something just right. So after the contest home he goes, confident that he has found the faults in his model, will correct them and will most certainly win the next meet.

But winning models are not built overnight: test after test must be made. experiments with various wing and stabilizer arrangements, trying different airfoils. Reading advice given by

successful contest winners stimulates ideas that beget other ideas and in this way new models are created. Then the builder is on his way to success.

The little stick model shown here has proved to be a real contest ship, winning three first places in the P.M.A.A. contests and taking fourth place at the New Jersey State Championships with a single flight of 9 min. 36 sec. It has invariably proved to be a one flight ship attested by the fact that the writer has lost track of the models of this ship that he has lost. It is very easy to build and uses a square fuselage blending into the spinner for

utmost efficiency. The arrangement gives a fast climb and the stick really "gets up there," then settles into a beautiful glide, the result of a little extra time spent on the wing formers

This ship costs very little but will give you big performance.

CONSTRUCTION: Begin by enlarging the plans to full size, but make sure they are drawn exactly right. Lay the drawing on a smooth board and cover with a piece of wax paper to save the drawing as you build. This little extra precaution saves the trouble of making new plans from time to time.

FUSELAGE: The longerons are of perfectly straight grained and hard 1/8" square balsa. Place them exactly on the drawing of the sides and pin in position by placing the pins on each side so the longerons will not be weakened. Next add the cross braces placing the uprights in position first. Take time to do this right, as perfect construction will give you a perfect job. When the first side has been laid down place the other side on top and when dry separate with a razor blade.

Now join the sides together starting at station No. 17 first, then join the sides at station No. 6. Let these joints dry thoroughly, then place the nose block in position. This gives the fuselage proper shape from the top view. Then add remaining cross braces. The fuselage is now ready for the sheeting. Cut the 1/8" sheet to shape and place it on the top and bottom of the nose. When dry the fuselage is ready for sanding. Sand the nose shape perfectly round at station No.1 so that it blends into the spinner.

When boring the hole in the block, make absolutely sure that it is dead center. Sand the finished fuselage thoroughly and it will then be ready to cover with tissue. When covering be sure to have the grain of paper run lengthwise with the fuselage as it prevents wrinkles and gives the ship better appearance and efficiency. Shrink the tissue with a spray of water and apply two or three coats of nitrate dope.

WING CONSTRUCTION: The wing is known as a polyhedral type, and the easiest way to start is to cut one template from hard balsa, using this template to cut out 36 ribs from a medium hard piece of 1/16" sheet. Then take a piece of 1/8" sheet 36" x 4" and draw the leading and trailing edges outline on this piece and cut out the center. Notch the inside of the

leading and trailing edges and place the formers in position.

The wing should be laid on a flat surface when placing the formers in position. As this is a sparless wing, special care must be taken to prevent twists and warps. When the wing is thoroughly dry, remove it from the plans and sand until the finish is real smooth, sanding the outside trailing edge to a knife edge.

Follow the plans and you will find correct dihedral to be easy, starting with the tips first. Place the gussets in their proper position; important because it gives the wing strength. Cover the wing one section at a time, the bottom sections first. Run the grain of the tissue with the wing span, making sure that the paper is glued to every rib on the bottom. Avoid wrinkles. Spray the tissue with water and when dry apply two or three coats of dope. Pinning the wing down and doping one section at a time will prevent warps.

THE STABILIZER: Constructed the same as the wing, with the exception that there are no dihedral breaks.

THE RUDDERS: The rudders are shown full size on the plan and are made of 1/16" sheet balsa. They should be sanded to a fine finish and polished with two coats of dope.

THE SPINNER: The spinner and nose plug are made of hard balsa, the former turned on a lathe if possible. The propeller is made of a balsa block 7" x 2" x 1 1/2" straight grain. The plans are full size and the prop is started by cutting the front view first, then turning to the side view.

Insert the 3/32" plywood which gives the hub strength. Carve the prop and finish with fine sandpaper, then add several coats of dope which gives the prop a fine polish. Set the propeller in the spinner and the prop shaft can

then be installed. Use plenty of glue on the spinner and nose plug to give it strength.

Balance the prop with solder, a counter made by rolling a piece of paper around a pencil and pouring hot lead into the mold, placing the wire in the lead while it is soft.

ASSEMBLING: Set the wing on the fuselage with rubber hands. Glue the stabilizer in place, making sure that it is in perfect alignment with the wing. When dry put fourteen strands of 3/16" flat rubber in the fuselage which should be broken in by stretching many times before using in the ship.

Put the prop in place and the ship is ready to fly

FLYING ADJUSTMENT: As you test the model use a small piece of balsa wood, 3/16" will do, to give the wing proper incidence. Place the wood under the wing leading edge, hand launching the model several times to find the proper glide. Give the prop 60 or 70 winds and your model should have a fairly good climb and circle to the right. When it has reached this point give the motor full power. Now is the time the model will pay dividends for the amount of time spent in building it.

BILL OF MATERIALS

7 pieces 1/8" x 1/8" x 36" Med. hard balsa
1 sheet 1/8" x 3"
1 sheet 1/8" x 4" x 36"
1 block 7" x 2" x 1 1/2" propeller
1 sheet 1/16" x 3" x 36"
1 piece plywood 3/16"
2 oz. glue
2 oz. nitrate dope
1 dowel stick
1 piece piano wire 1/16" 18" long
3 sheets tissue

VICTORY

***Scanned from July 1942
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