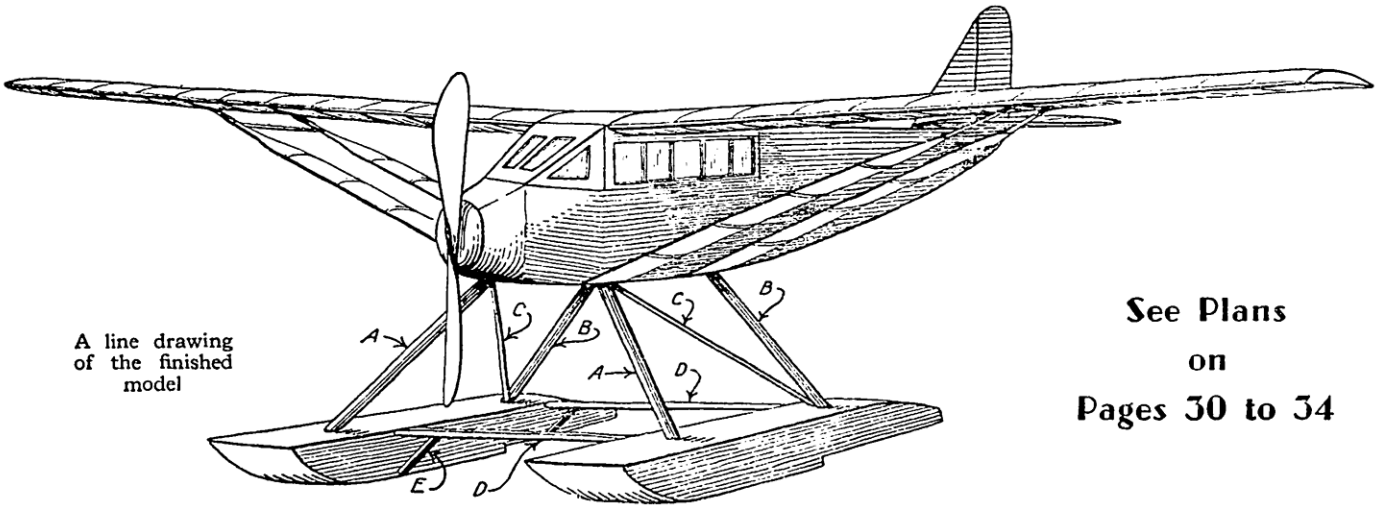

A line drawing of the finished model

See Plans on Pages 30 to 34

How to Build
A Bellanca Seaplane Model

A 2 ft. Flying Replica of the Pacemaker

THE Bellanca "Pacemaker" is that organization's latest creation. It is powered with a 300 h. p. Whirlwind motor, has the Standard Edo floats, and makes an ideal sport seaplane.

The model, if built according to plans and instructions, will give you lots of fun as well as educational data on seaplanes. The Bellanca model pictured here has flown for more than 50 seconds in twelve consecutive flights and weighs only 2-3/4 ounces.

FUSELAGE

First familiarize yourself with the plans and instructions. You will notice that the entire fuselage is made of 1/16″ square balsa. The bracings add considerably to its strength and also prevent warping of the fuselage under the strain of the motor.

After both sides are properly constructed, they are joined together at the top and bottom by cross braces. Model making pins will help you retain the streamline shape of the fuselage.

The nose is made with four formers, as shown in drawing. The two front formers are ambroided together cross-grained to insure strength.

On former A ambroid two dress snaps, one on top and one on bottom, as shown in drawing. The clasps are fastened to the nose piece as illustrated in the drawings. To the nose piece is also fastened the motor stick. Square balsa, 1/16″ x 1/16″, is used for stringers on the nose.

A piece of flat balsa 1/16″ thick is glued just above the windows to serve as a wing mount. Glue another wing mount to the other side of the fuselage. Celluloid is used for the windows. Cut in squares to fit frames and ambroid neatly.

The fuselage may be set aside for the time being while work is begun on the wings.

WINGS

The wing ribs are made of 1/32″ balsa. For your center spar use balsa 1/8″ square cut to the proper length. The leading edge is made from 1/8″ square balsa and the trailing edge from 1/32″ bamboo. The wings are simple to make and should cause no difficulty.

TAIL SURFACES

The tail surfaces include the rudder and elevators. These parts are not movable. The ribs are cut from 1/32″ balsa. A strip of 1/16″ square balsa is used for the spar running through the elevators. Bamboo bent to shape over a candle flame and glued to the ribs of the elevators and rudder completes this.

The streamline wing ribs for the struts are cut from 1/32″ balsa.

(*Continued on page 47*)

Necessary Materials

3 strips	1/32" x 2" x 36"	balsa	wing ribs, rudder and elevator ribs, struts, pontoon sides and bulkheads
5 strips	1/16" x 1/16" x 18"	balsa	fuselage longerons and braces
2 strips	15" long	bamboo	
2 strips	1/8" x 1/8" x 36"	balsa	wing spars
1 block	1/2" x 2" square	balsa	nose piece
1 block	3/4" x 1-1/2" x 7"	white pine	propeller
1 strip	1/8" x 1/4" x 12"	white pine	motor stick
1 package		model making pins	
1	2 ounce can white	ambroid	
7 feet	1/8" flat	Championship rubber	
2 sheets	fine	Japanese tissue	
1		thrust bearing	
2		copper washers	
2	2 ounce cans	banana oil	
1 foot	No. 14	music wire	fittings
1 piece	1" x 10" long	celluloid	

How to Build a Bellanca Seaplane Model

(*Continued from page 29*)

Balsa 1/16″ square is used for the leading and trailing edges. Sandpaper down smoothly after all are completely dry. Refer to the drawings in making the struts. To eliminate intricate work, the small horizontal part of the struts where they join the fuselage has not been incorporated.

PONTOONS

The pontoons are easy to make. The sides are traced and cut from 1/32″ thick balsa. Ambroid the bulkheads, which are cut from 1/32″ balsa, in their proper places. Set aside to dry.

PROPELLER

The propeller is cut from white pine 3/4″ x 1-1/2″ x 7″ long. Cut out to shape and smooth all roughness. Before inserting the shaft, balance properly.

COVERING

Japanese tissue is used for covering. Banana oil is best to use for gluing. Pull gently on the paper to remove all wrinkles. The pontoons are covered on top and bottom only. Give two coats of plain banana oil, which will make them absolutely waterproof. One coat of banana oil is given to the wings, struts, tail surfaces and fuselage.

ASSEMBLING

First attach the wings to the sides of the fuselage. Small model making pins will help hold the wings in their proper places. The dihedral angle is 3/8″. Allow a few hours to dry.

The next to be attached are the struts. Glue in proper places as shown in drawings. Place the model upside down when in the process of drying. The tip ends of the struts rest directly on the seventh rib from the fuselage. Pins will help hold the struts securely.

The tail assembly is glued on next. First put on the stabilizer. Have it pointing slightly downward so that the plane will climb easily. Now the rudder is glued in position. Allow ample time to dry.

The pontoons are next to be assembled. Balsa wood 1/8″ x 1/4″ streamlined and cut to proper length, as shown in drawing, is used for struts. The first two are ambroided directly underneath the first wing struts and to its base on the pontoons.

The rear struts are glued underneath the rear wing struts and to the base on the pontoons. Use model making pins and set tightly. Be sure to have the tail up in flying position. Set aside to dry for a few hours.

Use seven feet of 1/8″ flat rubber for motive power.

FLYING

Your model is about ready to fly. Hold it about five feet above the ground and launch. It should glide to a smooth landing. If a lake or pond is nearby, take it there for a test. Wind it about fifty times for a taxi run. It will probably jump clear of the water and land soon after.

Now wind the motor about one-hundred and fifty or two hundred times. Give the plane a slight push, heading it into the wind. Longer flights may be obtained by launching it by hand.