

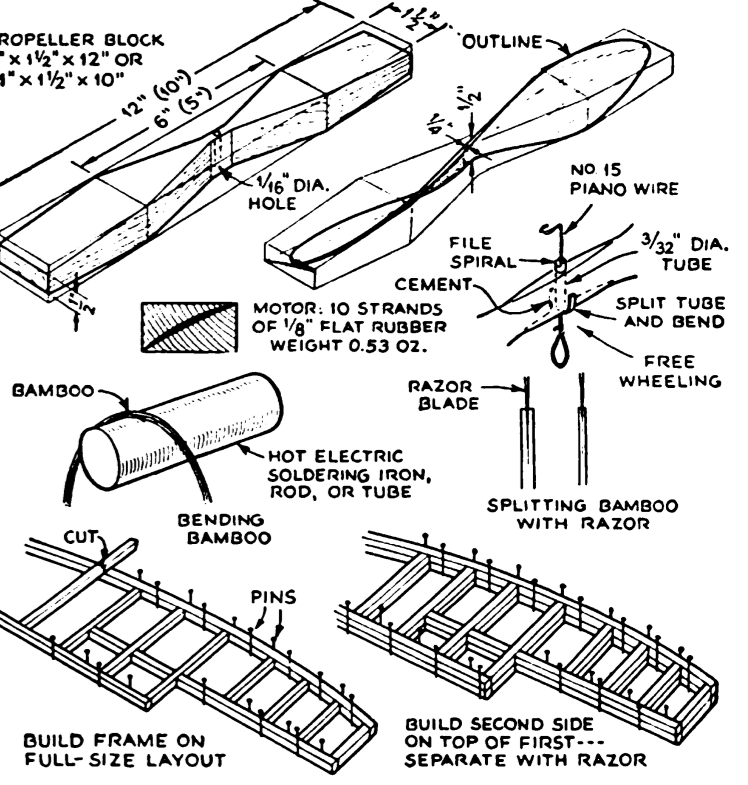
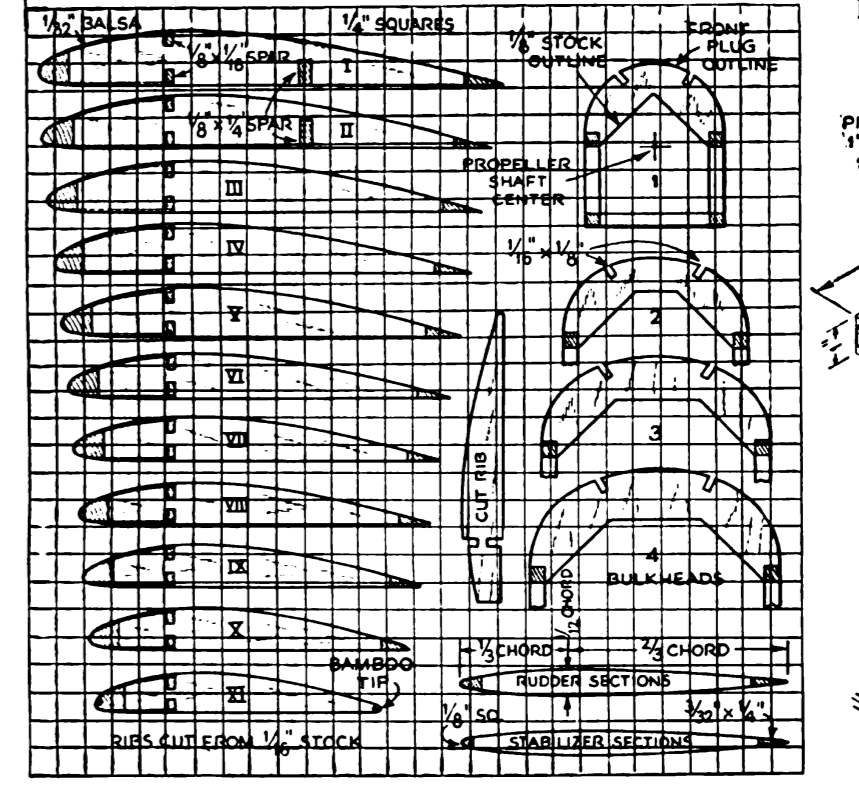
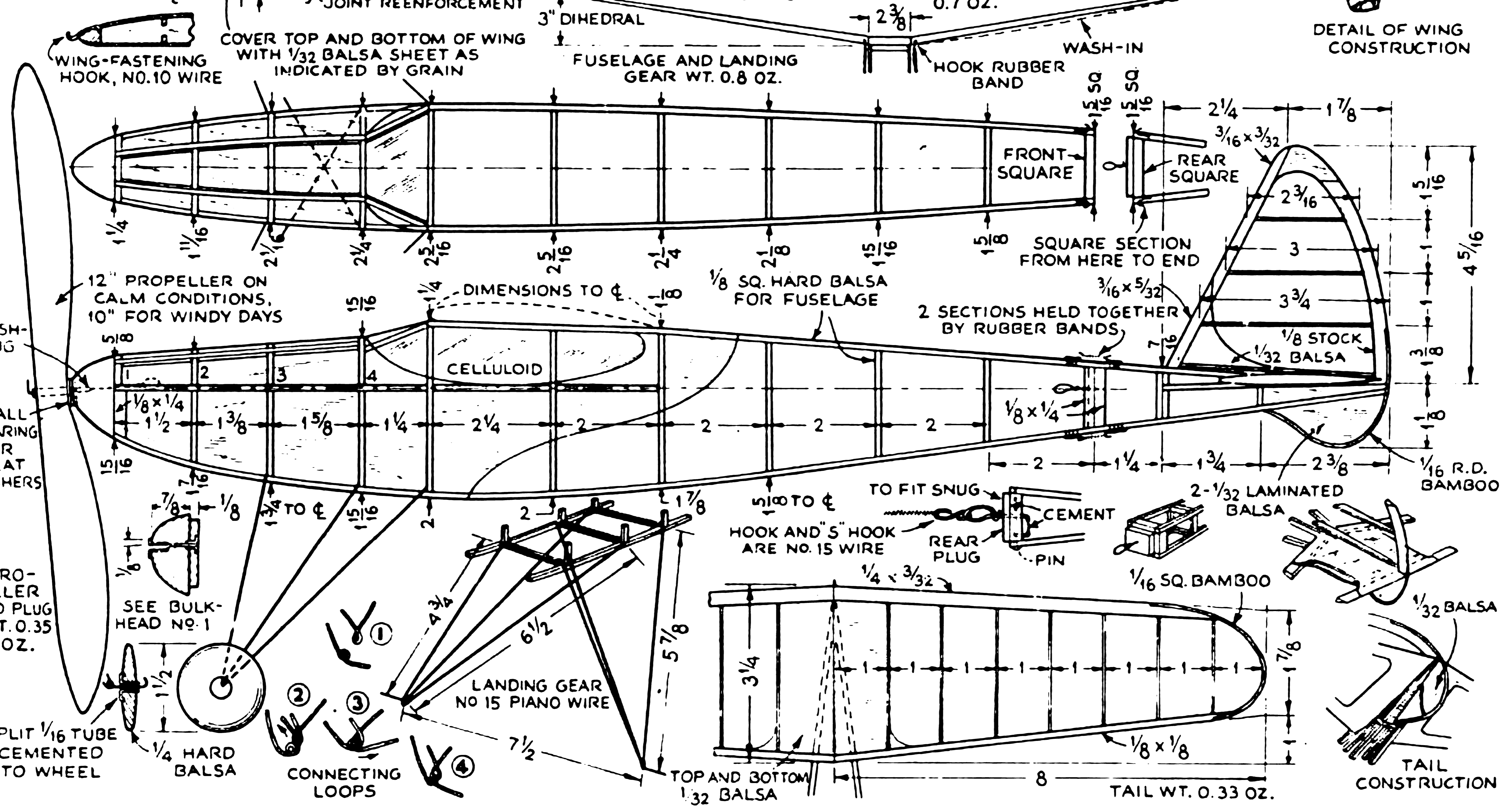
By FRANK ZAIC

**NEW Thermal Hunter PLANE MODEL**  
*Built to Break Records*

**H**ERE is a model airplane that may break the existing world records for flight this summer. By utilizing the rising air currents, this so-called "thermal hunter" quickly attains considerable height, and its gliding range is much longer than the average miniature craft. With most of the present outdoor records well over the half-hour mark, model airplane builders are faced with the problem of how to establish new records. The propeller run of an average model is between one and two minutes, and the problem is how to get the needed extra forty minutes. The qualities needed are lightness, streamlining, a high climb, and a good glide. Lightness and strength is had by using sheet-balsa in the form of box construction. Streamlining is just a matter of having a good shape with round corners, sanding and polishing all moving elements, and lining up the thrust line with the wing and tail incidences. High climb depends on the amount of rubber used. The glide depends on the adjustments made on the model while testing.

Draw the fuselage outline and uprights on white paper, tacked to a soft board, and wax all points at which the cement is likely to touch it. Stick pins on this outline wherever the uprights meet the long-edges, and where the curves are severe. Hold the long-edges in place against the pins with other pins. Fit the uprights with emphasis on the proper angle. Make two uprights at a time and set one aside for use on the opposite side. After one side is finished and cemented, the other side can be built right on top of it. The two sides are assembled by cementing the center cross-braces first. Line up the sides and hold them in position with square blocks. The remaining braces are cemented from the center out. The braces should be cut to size before assembling. Note the extra large braces at the front and at the rear-plug point. Also note the curve as well as the incidence of the stringers on which the stabilizer rests. Let

the fuselage stay in the jig until the cement is dry. The landing gear is made of wire because it cannot be broken. The tripod system is used so that no soldering is required. Bend the wire to the shapes indicated. The axle portion is of X-form with the upper portion closed. The four struts are made from one piece of wire so shaped as to form two V's connected by a flat upper portion, which is fixed to the fuselage. Note how the connecting loops are made. Place the shaped wire in the fuselage without fixing it until the loops are connected. After the loops are intertwined, the wire is bound and cemented to the cross-braces and long-edges. The wheels are made as shown from



Patterns for the ribs, bulkheads, and rudder and stabilizer sections, all laid out on 1/4-in. squares; and, at right, the propeller and construction of frame

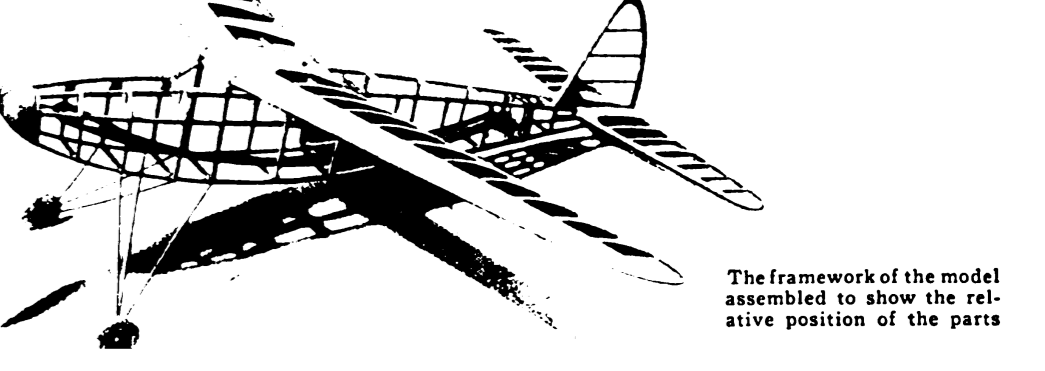
**STREAMLINED OUTDOOR DURATION FLYER CLIMBS ON ITS OWN POWER AND GLIDES A LONG WAY ON RISING AIR CURRENTS**

hard balsa. The axle bushing is a piece of tubing with an end split to allow for curving the two sections into the wood. The tube should extend beyond the wheel to cooperate with the axle back hook. The bulkheads are cut to sizes from 1/4-in. hard balsa. Cement them in place and fix the stringers into the slots. The front portion of the fuselage is covered with 1/32-in. sheet balsa to provide the needed handling strength. Start the covering on the upper curve first and trim the sheet to the halfway thickness of the stringers. The subsequent sheets must be fitted to this cut. If the balsa cannot be bent to shape for full length, the stations difficult to handle may be covered individually.

rough sandpaper and finish with No. 10/0. The blades should be doped with two coats of cement, sanded, and polished. They may also be covered with silk for strengthening. The "free wheeling" is made from a metal tube by cutting a spiral on one end and splitting the other end (Continued on page 92)



The so-called "thermal hunter" models have a propeller run of from one to two minutes, but glide for many minutes more



The framework of the model assembled to show the relative position of the parts