

# "Heron" Gas Buggy

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**M**ODERN MEDICINE is indeed wonderful—but heck, it just can't do anything for the modeler who's been stung by the "gas bug." The best remedy for the "unfortunate" is a good dose of balsa, cement, and a set of drawings. The two former items, we dare say, may be obtained from your local dealers, the latter we're here to administer in person!

This month's sky-scootin' gas buggy is a consistent little flyer designed by Frank Gagne, of New York. Frank was flying his craft at Van Cortland Park when yours truly spotted the ship. It was indeed inspiring to watch Frank rev the engine, cast hurried glances around him, and then let the tiny job take to the sky with a climb as steep as a Seversky's dive. Yes, while all the other modelers were preparing their ships for flights and the long arm of the law was desperately attempting to ground all gas buggies, the Heron would take to the sky, complete a graceful flight and land before any peace officer had time to lecture its builder.

After one afternoon of this nerve-racking procedure, it was easy to see that Frank's ship had what it takes. Yes, consistent flights are what a fellow needs in these parts if he expects to fly his ship at all. With all the policing and campaigning to ground gas buggies, there are no two ways about it. Your ship *must* take to the air like a fish to water or else all is not so well once the long arm of the law rests upon your shoulder!

Not only does the Heron serve its purpose in restricted areas, but is dependable to take to the air without coaxing or hesitation. The latter we venture to state is what builders pray for when in contests. So gather around and we'll give you the lowdown on the construction details of this high flyer. Are you ready? Okay, modelers, here we go—

## CONSTRUCTION OF THE FUSELAGE

**I**N MAKING the body, first assemble the two side panels, using 3/16" square balsa of medium hardness. These panels may be made on a jig, constructed with nails placed alternately at the points of the panel where most bending occurs. When the sides have been completed, cut the bulkheads out of 1/8" ply and cement into position the full bulkhead, just aft of the rear landing spar, and the half section, at the first upright brace. The cross-braces are then cut to size and cemented to the structure.

A floor board of 1/8" sheet balsa is cemented to the bottom of the body, and to this the coil and battery box are fastened. The timer, as you will note in the plans, is mounted at the side of the fuselage on to a triangular sheet of balsa designed for this purpose. The booster battery outlets are also located on the same triangular brace. A piece of 1/16" sheet balsa is cemented to the bottom of the rear part of the fuselage, and onto this the tail wheel

or skid is mounted, using plenty of cement.

Carved from a piece of 1 1/2" by 2" by 2 1/2" hard balsa, the nose of the model is cemented to the first bulkhead. The motor mounts, made of 7/16" by 5/8" by 5 1/2" pine, are slipped into place and fastened to the structure. The landing gear is bent from 1/16" wire and attached to the fuselage as indicated in Fig. 2.

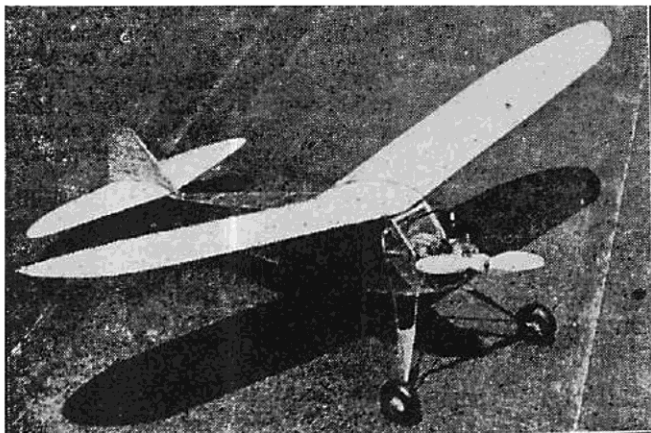
Note that Fig. 1 indicates the general shape to be assumed by the nose-block. Actual shape of the landing gear will be found on Fig. 4. Sheets of 1/16" are laminated to form a 1/8" fillet which is cemented at the lower ends of the landing struts, as indicated.

After the landing gear has been completed and cemented to the fuselage, two strips of hard balsa, 1/8" by 3/8", are cemented on the inside of the

"Chug-chug-chug, well all right. Zoom-zoom-zoom, well all right. Glide-glide-glide, well all right." Yes, fellows, that's the way we'd word that currently-popular ditty if we knew anything about music. But since we can't do anything except pick top-notch models for you fans, we'd better leave that job for some other guy. And since we DO know how to choose power jobs, we'll give you a little advice: If you want to be the envy of every modeler in your district, build this little "Heron" pronto!

By Nick Limber

Designer of "Petrel" Gas Job," etc.

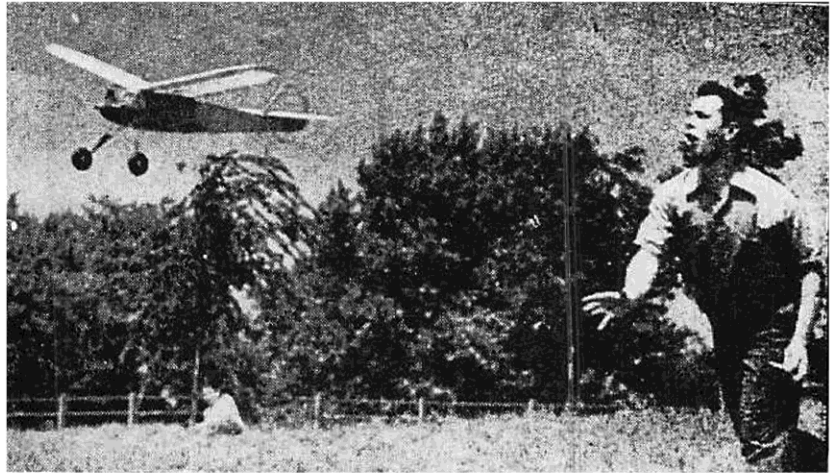


This shot of the "Heron" shows what a truly clean job she is. And you can also see that her landing gear was designed for strength as well as beauty. Yes, that l.v. was planned to absorb every shock that comes with hard landings.



And now we see Frank Gagne—the young chap who designed our "Heron"—proudly displaying his brain-child. True, she's just a mere handful of flying power. But—take it from us—she's a handful that's really worth working for!

*Right: It was plenty hard to get a good flight shot of this month's gas job—because she wouldn't stand still long enough to be snapped! But after several tries, our cameraman came through with this remarkable pic. And just look how Frank Gayne's got his mouth open. Better close it quick before the "Heron" tries to set-down in your "hangar!"*



top longeron to strengthen the wing bed.

Short lengths of 1/16" aluminum tubing are glued to the tail post and to the former directly in front of it, to accommodate the rudder shaft. Bind the tubing into place with thread and coat it liberally with cement. The tail block is carved from medium balsa, 7" by 1 1/2" by 2", and glued in position.

Note that it is important that the motor be installed allowing for 1/2 degree of right thrust and 1 degree down thrust. When drilling holes into the motor mounts allow for this off-set.

#### MAKING THE WING

**C**UT RIBS from 1/16" sheet balsa. Cement them to the spar, and when the cement has hardened attach the trailing edge. Insert the leading edge and the 1/8" square spars. The forward portion of the wing is covered with 1/32" sheet balsa. The wing tips are carved from 1/8" sheet. Incidentally, the sheet balsa covering of the leading edge extends around the under surface to the 1/8" square spar.

A dihedral of 4 1/2" is required under each tip. This is built into the wing by cementing "V" plates onto the center portion of the main spar and binding into place. When the assembly has been completed, the center portion is covered with 1/32" sheet; this includes the under surface of the section, also. For the sizes of the materials used in the construction of the wing, refer to the "Bill of Materials."

#### TAIL ASSEMBLY

**B**OTH the rudder and the elevators are constructed in the same manner, therefore a general description for their construction will be given rather than a detail account of each unit.

The rudder outline is of 1/8" sheet. The ribs are of 1/16" by 3/16" sheet, which are streamlined and cemented to the spar. Strips of 3/16" balsa are used for the spars. To these, 1/16" wire is cemented. Thread and a liberal amount of cement are used to hold the wire in place. Small wire hooks are cemented to the outline of the unit, as indicated.

Trace the stabilizer ribs from the plans and cement them to the main spar. Attach the leading and trailing edges, form the tips, and sandpaper to shape. Fig. 3 indicates that a strip of 1/4" balsa is glued to the center-section of the elevator. To this, the rudder spar and rods are inserted. Be sure, however, that the fit is neither too loose nor too tight. Continue to experiment until you get exactly the correct size.

#### COVERING THE MODEL

**Y**OU MAY use either bamboo paper or Japanese silk to cover the Heron. The original craft was covered with paper. But, no matter which you select, apply a liberal amount of dope to the frame of the portion being covered as an adhesive. The dope, incidentally, is mixed with an equal amount of cement in order to obtain best results.

Clear dope is applied to the units after the covering has been completed. Several coats, of course, may be applied, depending upon the effects desired and the grade of covering used.

Coloring the craft will be left to the judgment of the modeler. It is advisable, however, that a bright combination of colors is used, so that the model may be clearly seen when at high altitudes. And after painting, take your craft outside for testing.

#### ADJUSTING AND FLYING

**D**O NOT under any conditions attempt to fly the model unless she has been balanced after the motor has been attached. First glide the craft from a low altitude and make adjustments until stable flights and perfect landings are achieved. Adjust in the orthodox way for any kinks that may appear while balancing the ship. Usually by shifting the battery box, the proper adjustment of weights may be made and perfect balance achieved.

When balanced, set your timer for a twenty second run, rev-up your motor, and head her nose into the wind. The tiny craft will take to the air in short order if the instructions have been followed and the proper adjustment made. A check-up after each landing is an advisable habit to get into, because this will undoubtedly make for longer life of the ship.

Well, fellows, that's all there is to it! So get busy on this job before it's time to start on your home-work. And if you by chance run into any difficulty, let's be "Heron" from you. (Haw-w-w-w-w-w!)

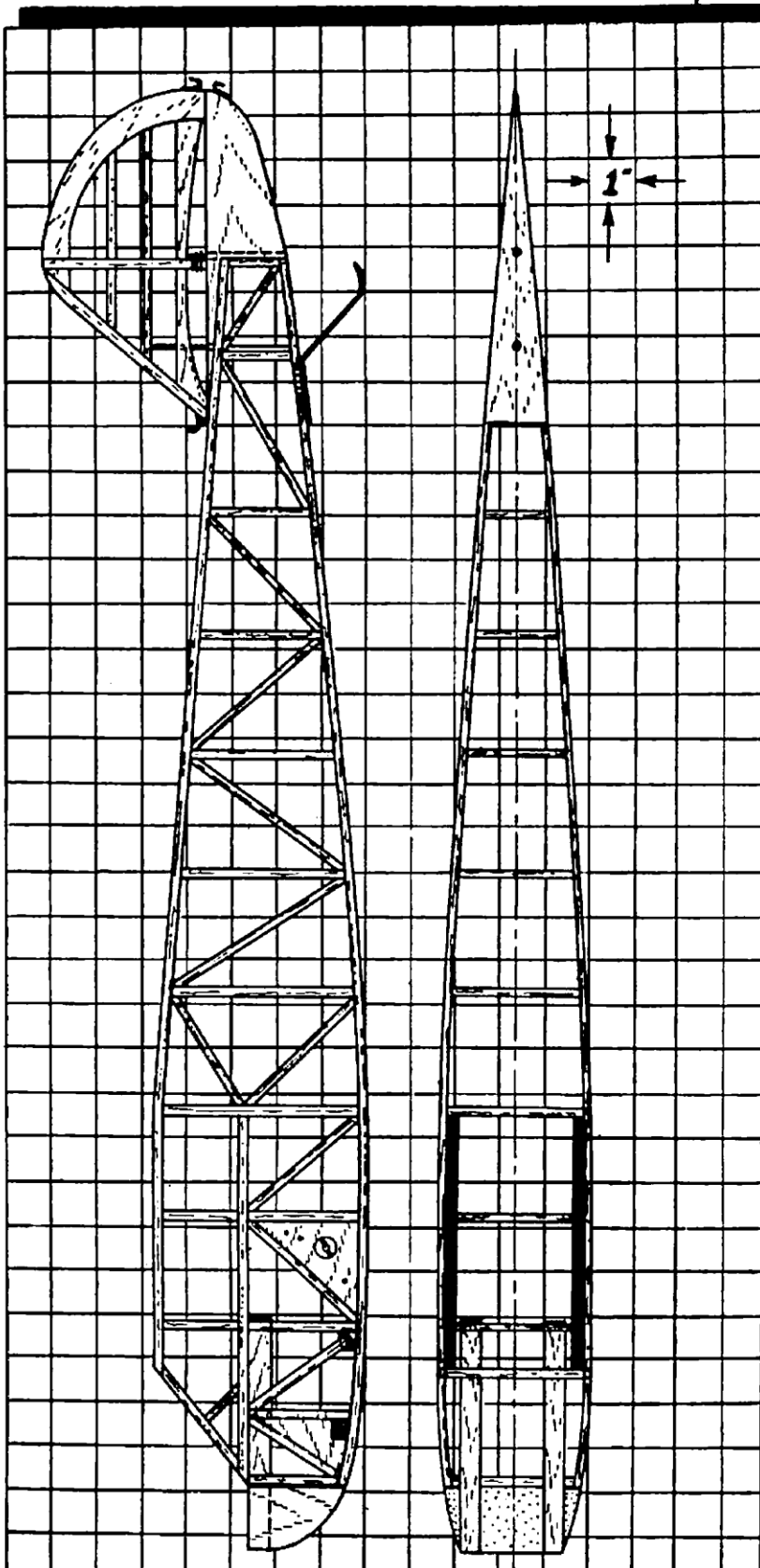
### BILL OF MATERIALS

*(All wood is medium balsa except where otherwise specified)*

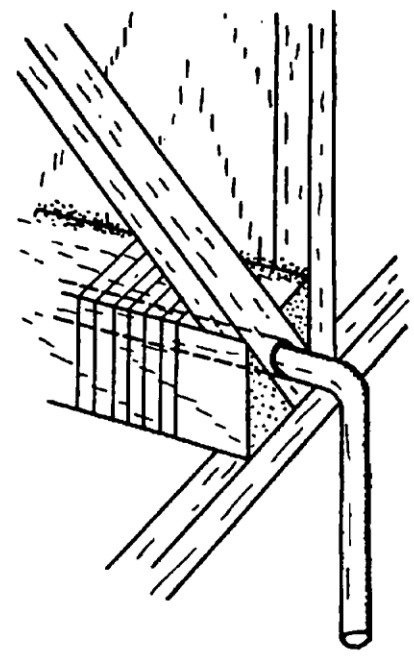
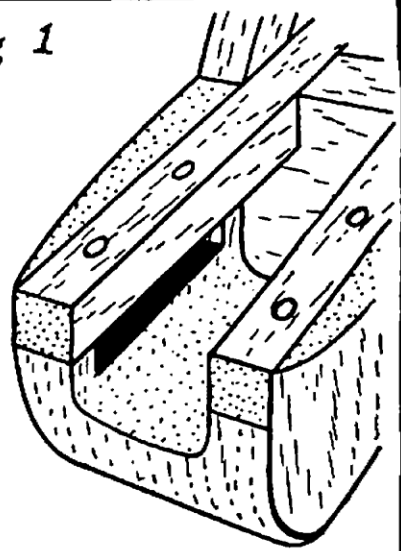
Eight strips 3/16" sq. by 36" for longerons and braces;  
Four strips 1/8" sq. for diagonals;  
Four strips 3/16" by 3/4" for spars and trailing edge;  
Four sheets 1/32" by 2" by 36" for leading edge covering;  
Four strips 1/8" sq. by 36" for wing spars;  
Three sheets 1/16" by 2" by 36" for ribs;  
Two strips 3/16" sq. for leading edge;  
Two strips of 7/16" by 5/8" by 5 1/2" pine for motor mount;  
One sheet 1/8" plywood for bulkheads;  
One strip 1/8" by 3/8" by 18" for wing bed;  
One sheet 1/8" by 3" by 18" for floor boards;

One block 1 1/2" by 2" by 2 1/2" for nose;  
One block 7" by 1 1/2" by 2" for tail block;  
One sheet 1/8" by 2" by 36" for wing tips and "V" spar plates;  
One sheet 1/8" by 2" by 36" for tail outlines;  
One strip 1/16" by 3/16" by 36" for tail ribs;  
One sheet 1/16" by 2" by 18" for stabilizer ribs;  
One length of .049 wire for tail skid, one length of 1/16" wire for landing gear, bamboo paper or silk, clear dope, cement, pigmented dope, and all the rest of usual supplies.

**E·A·HERON**



*Fig 1*



*Fig 2*

NOTE - FIGURES ARE NOT TRUE SCALE:  
FIG.1 MOTORMOUNT  
FIG.2 LANDING GEAR