

BLUE BILL 13-Foot Canoe—

Outboard Design

Craft Print Project No. 80



Outdoor folks who need an ultra light-weight portable boat should not find it difficult to make this boat in your choice of kayak or outboard model.

COMBINING the features of both kayak and canoe, "Blue Bill" is offered to those out-of-doors men who hunt or the sportsmen who need an ultra light-weight portable boat for use upon any waters. Besides being usable for building a double-end paddling model, a few changes permit the plans to be used for making a canoe that will accommodate outboard motors up to 6 hp. for swift, speedy transportation on any stream or waterway.

Weighing only 75 lbs. complete, "Blue Bill" is easily transported atop an auto anywhere. All details of "Blue Bill" have been simplified for easy fabrication and the construction cost is within reach of everyone's pocketbook.

At the outset, either of the two models (paddling or outboard) must be selected. With the type selected, the form is sawed to shape as indicated upon the plans and notched for frames. Mount this form upon legs similar to a sawhorse at a convenient working height. If the outboard model is constructed, let the form extend straight out 6' 8" aft of No. 5 frame position. As all frames are the same for the outboard model aft of No. 5, make four additional No. 5 frames and one transom piece as shown. For the paddling model, make one No. 5 frame and two of every other as all frames forward and aft

Uses: Extremely wide adaptation to various uses. May be used as duck boat, canoe, kayak, outboard kayak. Is adapted to sheltered waters. May be paddled or propelled with outboard motors from 1 to 6 hp.

LENGTH: 13 ft. 6 in.

BEAM: 3 ft. 2 in.

DEPTH: 12 in.

WEIGHT Complete: 75 lbs.

SEATING CAPACITY: 3 persons.

CONSTRUCTION: Wood frame canvas covered.

TYPE: Flat bottom, knuckle joints.

MATERIAL LIST

Parts	Pieces	Finished Dimensions
Keel	1	3/4" x 1 3/4" x 14'
Chines	2	3/4" x 3/4" x 14'
Steer and Rize Bottoms	8	1/2" x 1" x 14'
Bottom Bottoms	2	1/4" x 3/4" x 12'
Deck Bottoms	4	1/2" x 3/4" x 12'
Inside Coaming	2	1/2" x 1 1/2" x 8'
Outside Coaming	2	1/4" x 2" x 8'
Side Deck Support	1	1/4" x 1 1/2" x 8'
Deck Beams	1	3/4" x 1 1/2" x 48"
Floor Boards	3	1/2" x 6" x 8'
Frames (Marine plywood)	1	1/4" x 12" x 6'
Stems (Marine plywood)	1	1/4" x 12" x 48"
Raised Canoe Bow Sections	1	1/2" x 4" x 8'
Mouldings	2	1/2" x 3/4" x 14'
Form	1	17 1/2" x 5 3/4"

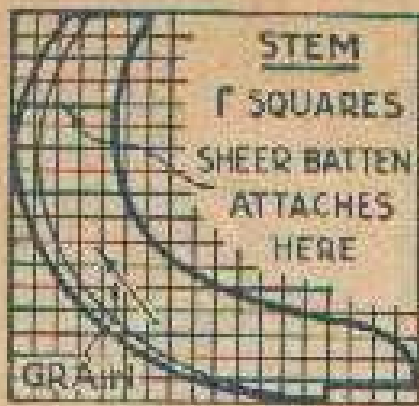
Kinds of Wood: Spruce, fir, cedar, cypress, white pine, red wood, yellow pine. Make form from rough lumber.

FASTENINGS AND OTHER MATERIALS

- 1 Gro. 1" No. 8 I.H. screws. Cadmium plated, brass, or galvanized.
- 1 Gro. 1 1/2" No. 8 I.H. screws. Cadmium plated, brass, or galvanized.
- 1 Gro. 1 3/4" No. 8 I.H. screws. Cadmium plated, brass, or galvanized.
- 2 Cos. 1/4" lugs.
- 2 Cos. Airplane wing dope.
- 1 Lb. Casein glue.
- 1 Qt. Enamel.
- 15 Yds. 30" canvas. 8 or 10-oz.

from amidships are alike. To facilitate construction of frames draw full-size paper patterns of frames from No. 1 to No. 5, lay frame material upon patterns, prick outline through, saw to shape, and laying the frame parts upon the patterns so as to conform to outline, daub joints with glue and fasten with 1 1/2" No. 8 I.H. screws.

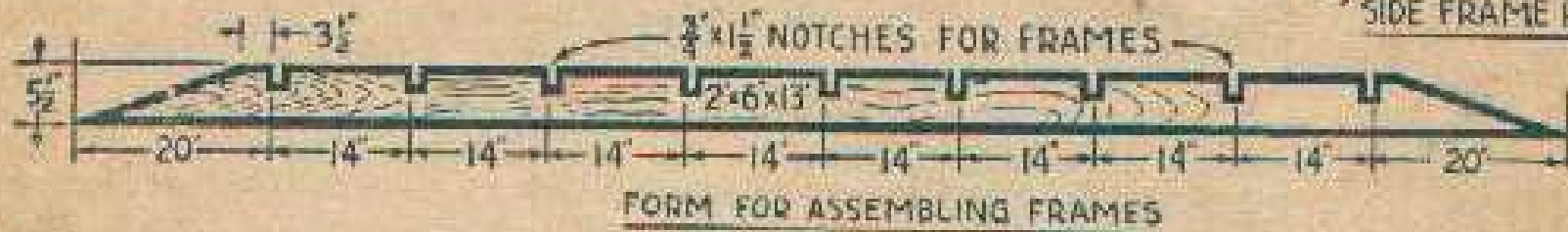
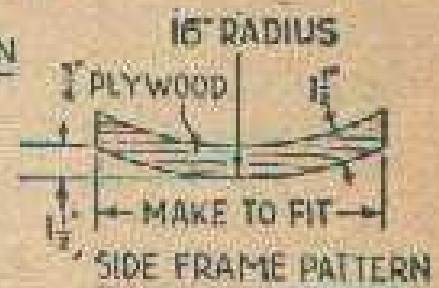
With all frames made, assemble on form upside down and proceed to attach keel to center of bottom frame cross members with two 1 3/4" No. 8 I.H. screws to each joint. First drill and



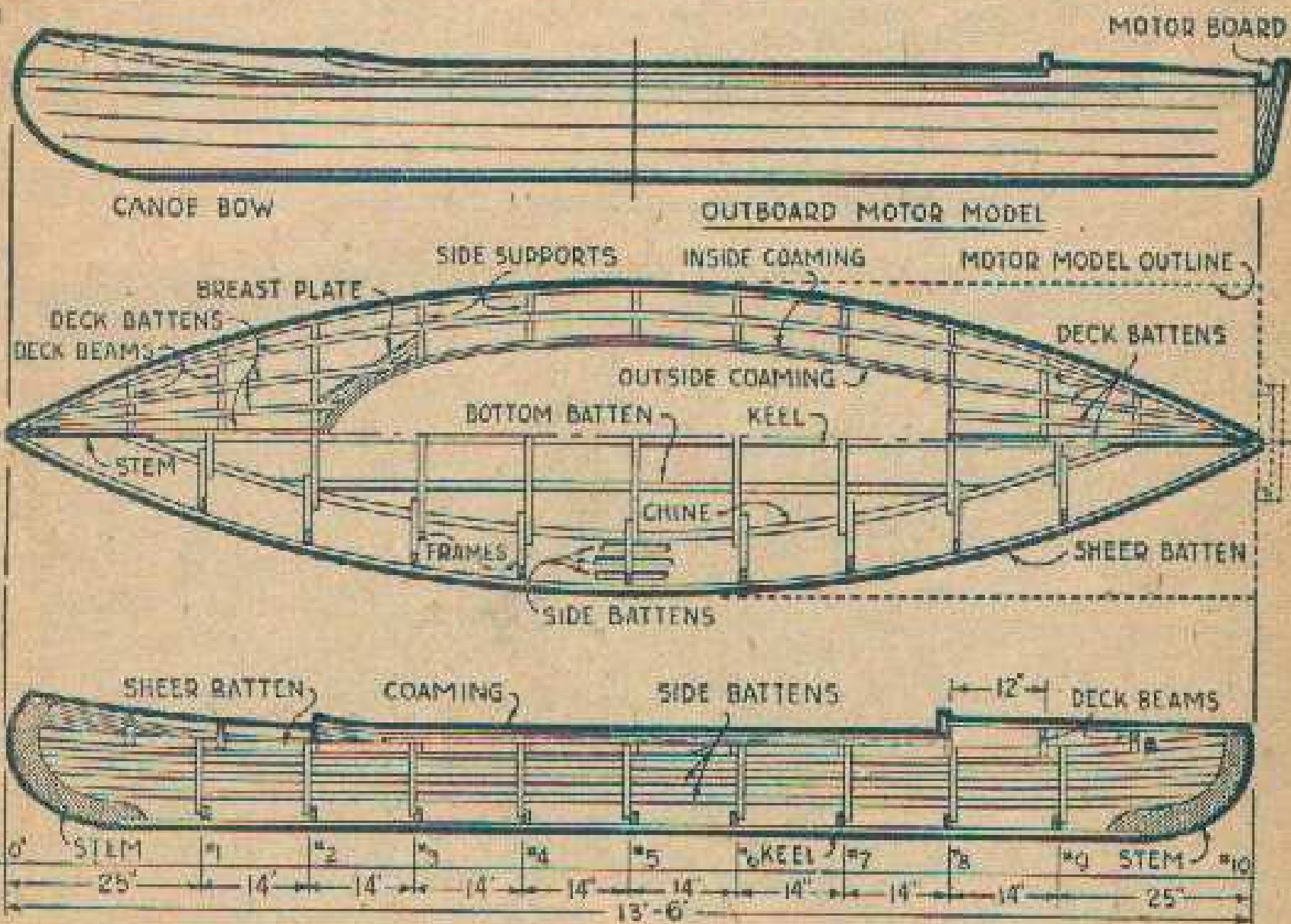
MAKE TWO OF
 $\frac{3}{4}$ " PLYWOOD
OR $1\frac{1}{2}$ " LUMBER



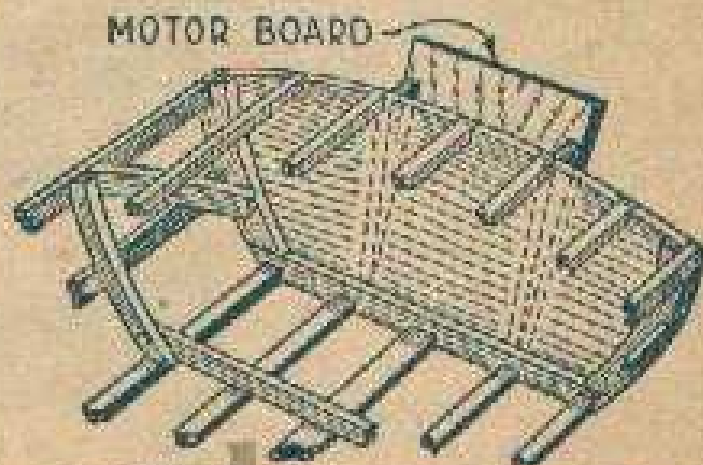
CANOE BOW CONSTRUCTION



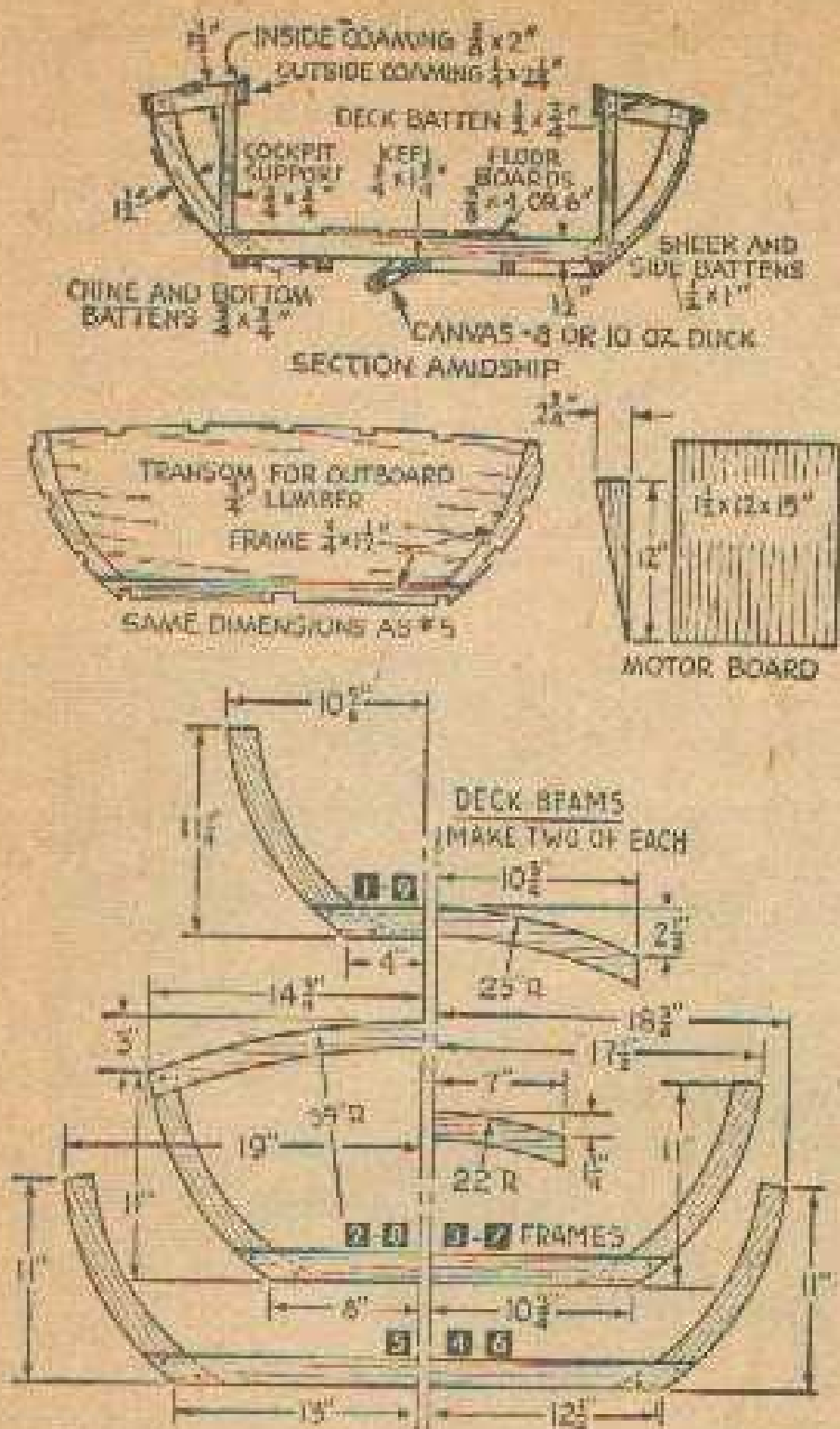
FORM FOR ASSEMBLING FRAMES



countersink for all fastenings. A coating of casein glue wherever possible on joints will strengthen things considerably. The stems are sawed to shape and notched for the keel to which they are attached with two $1\frac{1}{2}$ " f.h. screws. The $\frac{3}{4}$ " x $\frac{3}{4}$ " chines are now clamped in place at No. 5 frame, simultaneously bent both forward and aft and screw fastened with one $1\frac{3}{4}$ " No. 8 f.h. screw to each joint. Trim chine ends to fit against stem and keel joint and fasten similarly at both ends of framework. At this point it is necessary to trim all edges of side frames to conform with sweep of side battens to be attached. A light batten laid around frames will



TRANSOM OF OUTBOARD MODEL



stem as shown. Same deck beams are used for either bow construction. Fasten deck beams to sheer battens at points shown and cut to fit side deck supports, fastening all pieces in place with 1 1/2" No. 8 f.h. screws. The deck battens are notched into frame beams No. 2 and No. 8, while the ends towards each bow are simply butted against sheer battens. Bend the inner coaming in place and screw fasten with 1" No. 8 f.h. screws. At this point bevel the stem edges forward to conform to sweep of battens and with all constructional details finished.

Turn hull right side up and begin covering hull by tacking canvas evenly along the keel, stretching cloth towards bow and stern. Continue tacking along keel and commence stretching cloth towards sheer, pulling excess cloth over sheer batten and tacking. The cloth is pulled over the stern, tacked and trimmed. In this way each half of the hull is covered with the canvas meeting along the keel. With bottom and sides finished turn hull over and cover decks similarly. If necessary, piece cloth and later cover the joints with cloth tape.

The edges of canvas along the coaming are covered with the 1/2" x 2" outer coaming which is screw fastened with 1" No. 8 f.h. screws. The edges along the sheer batten are concealed and

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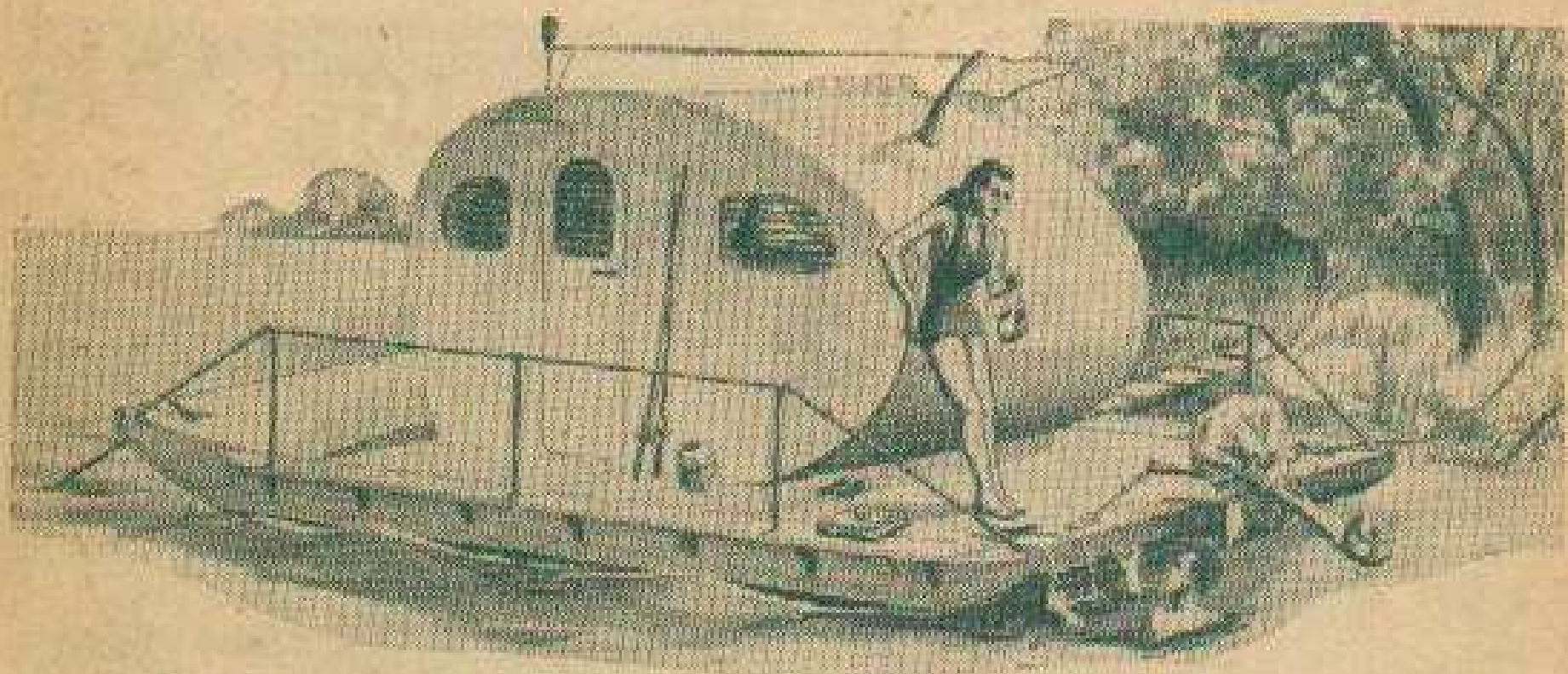
trimmed with the $\frac{1}{2}$ " x $\frac{3}{4}$ " moulding which is also screw fastened in place with 1" No. 8 f.h. screws spaced about eight inches apart. The cloth along the stem edges is best covered with narrow strips of wood or brass bands.

As paint applied to canvas results only in a heavy, lifeless surface, the entire canvas covering must be doped with airplane dope which fills the canvas weave, tautens the cloth, and renders the whole waterproof. Apply three or four applications of the airplane dope to the canvas surface, allowing one-half-hour intervals for drying and sanding lightly. The final finish may be either pigment colors added to the dope or a coat of lacquer. Before applying paints or enamels to

the doped surface allow hull to air a few days, then apply a coat of varnish and follow with one or two coats of porch or floor enamel.

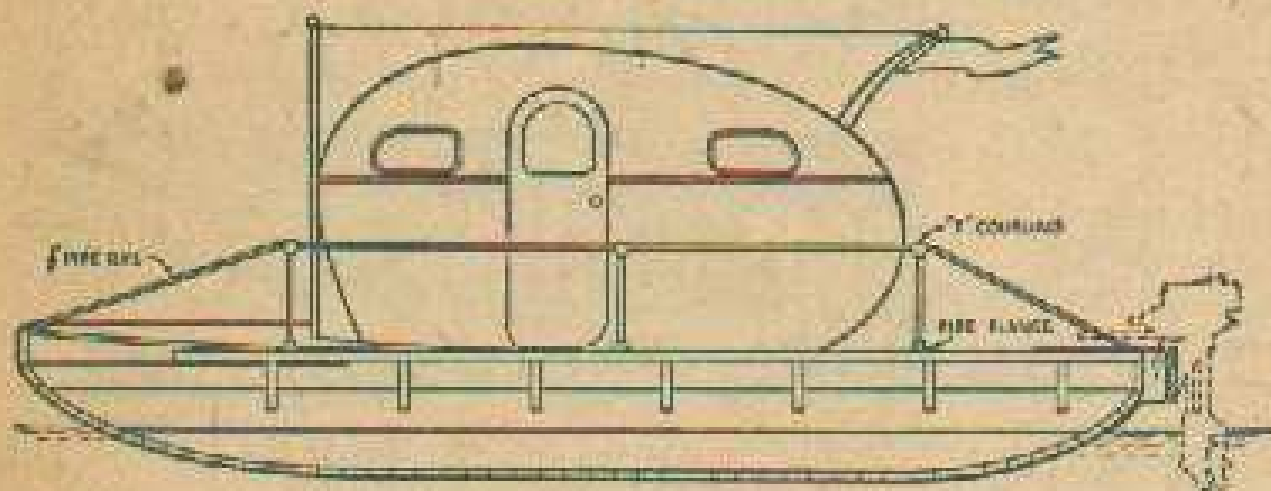
The $\frac{3}{8}$ " x 4" floor boards are screw fastened with 1" No. 8 f.h. screws to the frames. A regular canoe paddle will propel the boat easily.

● Craft Print No. 80 in enlarged size for building the Blue Bill is available at 50¢. SPECIAL QUANTITY DISCOUNT! If you order two or more craft prints (this or any other prints), you may deduct 10¢ from the regular price of each print. Hence, for two prints deduct 20¢; three prints, deduct 30¢, etc. Order by print number, enclosing remittance (no C.O.D.'s or stamps) from Craft Print Dept. B-156, SCIENCE AND MECHANICS, 450 East Ohio Street, Chicago 13, Illinois. See coupon on page 132.



House Trailer Becomes a SEA HOME

By WILLIAM D. JACKSON, N.A.



HOUSE trailers are ordinarily confined to the highways. But with the mounting congestion in trailer parks and along the highways, a most welcome variety of trailer travel is yours with this easily propelled barge for house trailers. With this barge, any trailer owner can have a house boat that may be moved on the countless picturesque miles of U. S.

rivers or sheltered waterways—one that retains all of the decided conveniences that only modern house trailers have.

You can purchase a good low-priced house trailer from any dealer specializing in used trailers. Even if the tires and running gear are in poor condition, this need not deter the buyer, since the body is all that is needed for this house boat home. The plans show suggested barge sizes for various lengths of trailers. Even on large bodies of water there are sheltered nooks where dock space could be rented at a nomi-

nal fee and the *Sea Home* kept at some likely spot convenient to one's work or used for play or sport when you can find the time.

To propel the *Sea Home*, use an outboard motor of 10-30 horsepower according to size of barge built, for speeds of 5 to 12 miles per hour. The outboard motor is held astern with an outboard bracket such as a 2 x 12 x 18 inch motor