

Inside view showing short length and roomy interior.

JUNIOR is a type of boat usually known as a yacht dinghy, but there the comparison ends. Yacht dinghys are notoriously cranky and hard to row, but *Junior* is of such ample dimensions and so carefully designed that it rows quite easily, carries three and even four adults, propels well with small outboard motors, and could even be sailed, if fitted out with simple sailing equipment. Last but not least, *Junior* makes an excellent car top boat for fishing or hunting anywhere, since it is lightweight, leakproof and easily handled afloat or ashore.

Ready to have a go at building *Junior*? The first items to collect are the construction mate-

JUNIOR

An Easily Built All Purpose Dinghy For Everyone

By WILLIAM D. JACKSON, N. A.

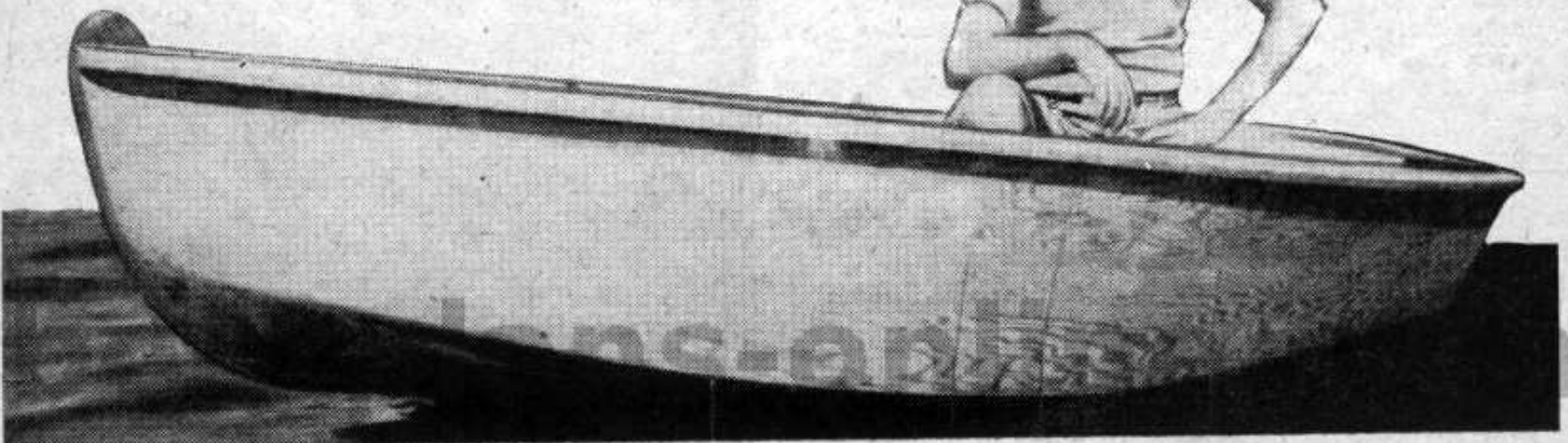
Craft Print Project No. 59

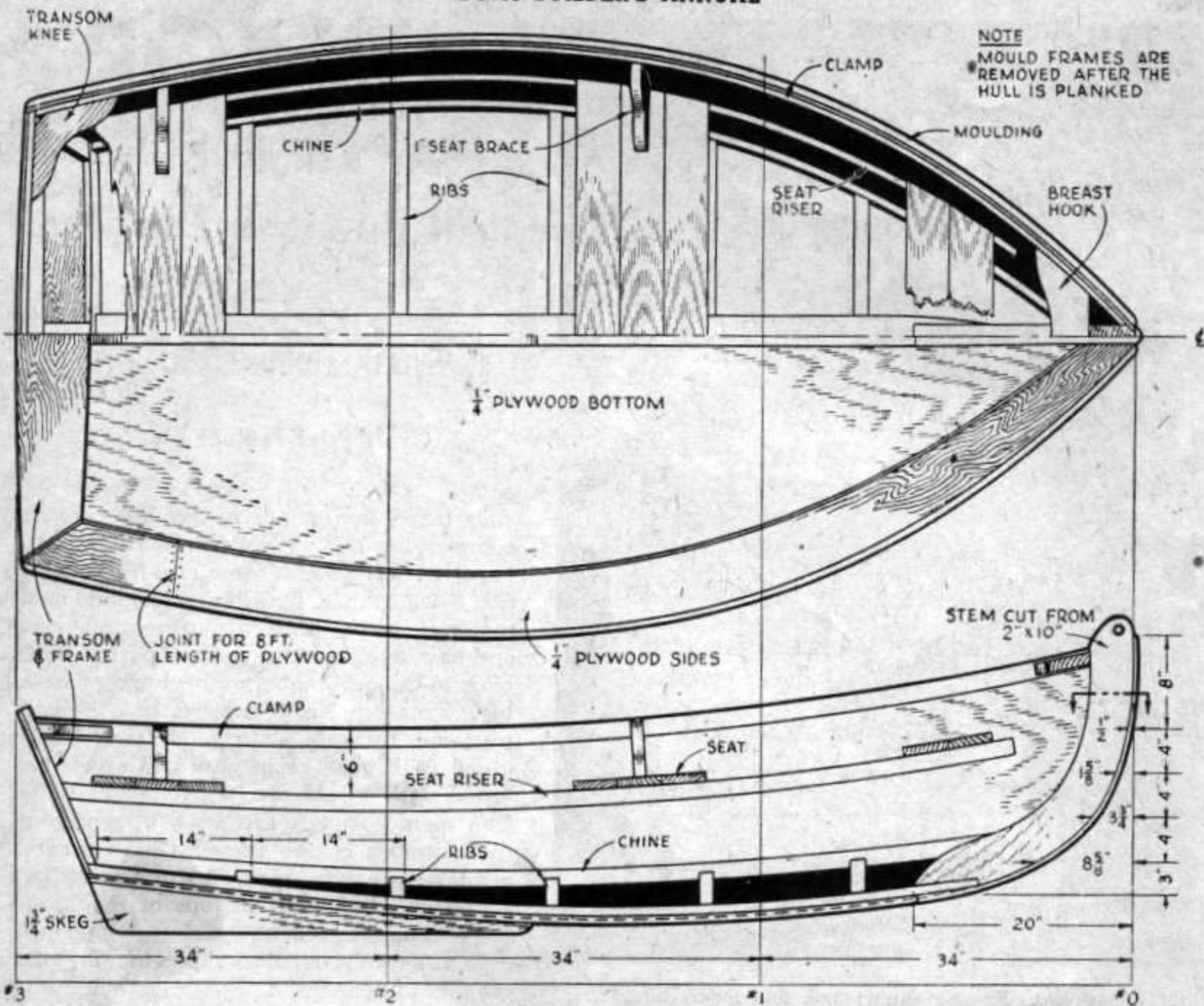
rials listed in the bill of material list accompanying this article. Prepare full size paper patterns of the stem and No. 1, No. 2 and No. 3 frames. Then lay frame and stem material on the pattern outline, and mark and saw to shape the various parts. Refer back to the outline before beginning assembly. Transom No. 3 consists of a $\frac{3}{8}$ inch plywood transom with a $\frac{3}{4}$ inch frame glued with good resin glue and screw-fastened with 1 inch No. 8 flat head screws. The mould frames are 1x4's of any common lumber cut to shape. Chine corners are fastened with resin glue and nailed. A cross piece is nailed to tops of moulds to prevent misalignment.

Next saw the form to shape, notch it for moulds and mount it atop legs similar to those on a saw horse, to provide a convenient working height. Prepare transom No. 3 and mould frames Nos. 1 and 2 for erection by cutting notches for keel, chines, and inwales, cutting notches through frame only of transom.

Assemble transom, moulds and stem upon form and prepare to attach keel in place, using two $1\frac{1}{2}$ inch No. 8 screws in transom and stem joint. Do not fasten keel to mould frames permanently

With one man sitting
aft dinghy immerses
very little.





BILL OF MATERIALS

Wood Required

Transom	1 pc. ("Weldwood")	3/8" x 18" x 48"
Planking	2 pcs. ("Weldwood")	1/4" x 4" x 8'
Chines	2 pcs.	3/4" x 11 1/2" x 10'
Keel (inside)	1 pc.	3/4" x 11 1/2" x 10'
Keel (outside)	1 pc.	3/4" x 13 1/4" x 10'
Clamps	2 pcs.	1/2" x 11 1/2" x 10'
Seat risers	2 pcs.	3/4" x 11 1/2" x 10'
Ribs	5 pcs.	3/4" x 11 1/4" x 10'
Transom frame	1 pc.	3/4" x 3" x 10'
Stem	1 pc.	2" x 10" x 36"
Mouldings	2 pcs.	3/4" x 11 1/4" x 10'
Mould frames	2 pcs.	1" x 4" x 8'
Skeg	1 pc.	1 2/4" x 6" x 4'

Fastenings Required

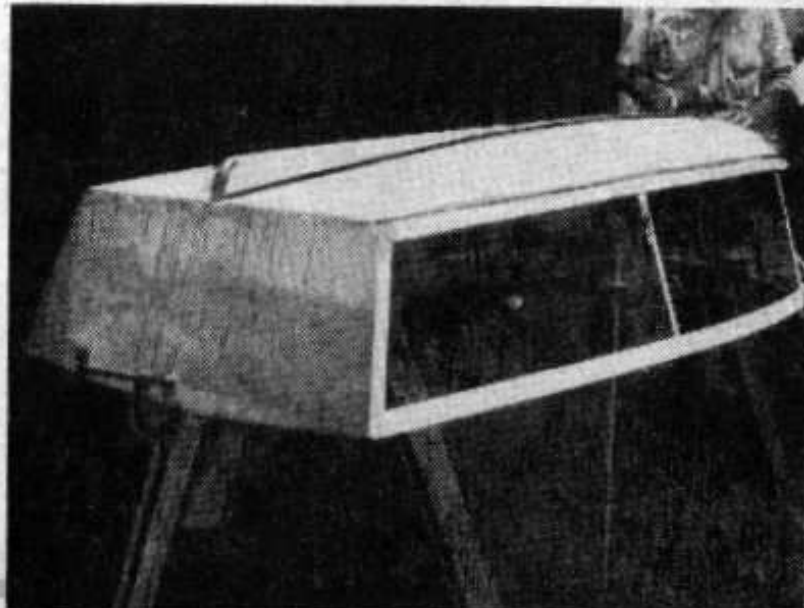
5 Gross	1-in. #8 Flat Head Screws
2 Dozen	1 1/2-in. #8 Flat Head Screws
2 Dozen	1 3/4-in. #8 Flat Head Screws
1/2 Lb.	1 1/4-in. Galvanized Shingle Nails
1/2 Lb.	Resin Glue

1 3/4 inch No. 8 screw. Next, fasten clamps to each transom joint, using 1 inch screws. Bevel ends to fit stem and then fasten them with 1 inch No. 8 screws. The outer keel is now screw-fastened in place to the inner keel with 1 1/2 inch No. 8 screws spaced about 8 inches apart. Allow the fore end of this keel to overlap stem joint and trim it later, after you have applied the planking.

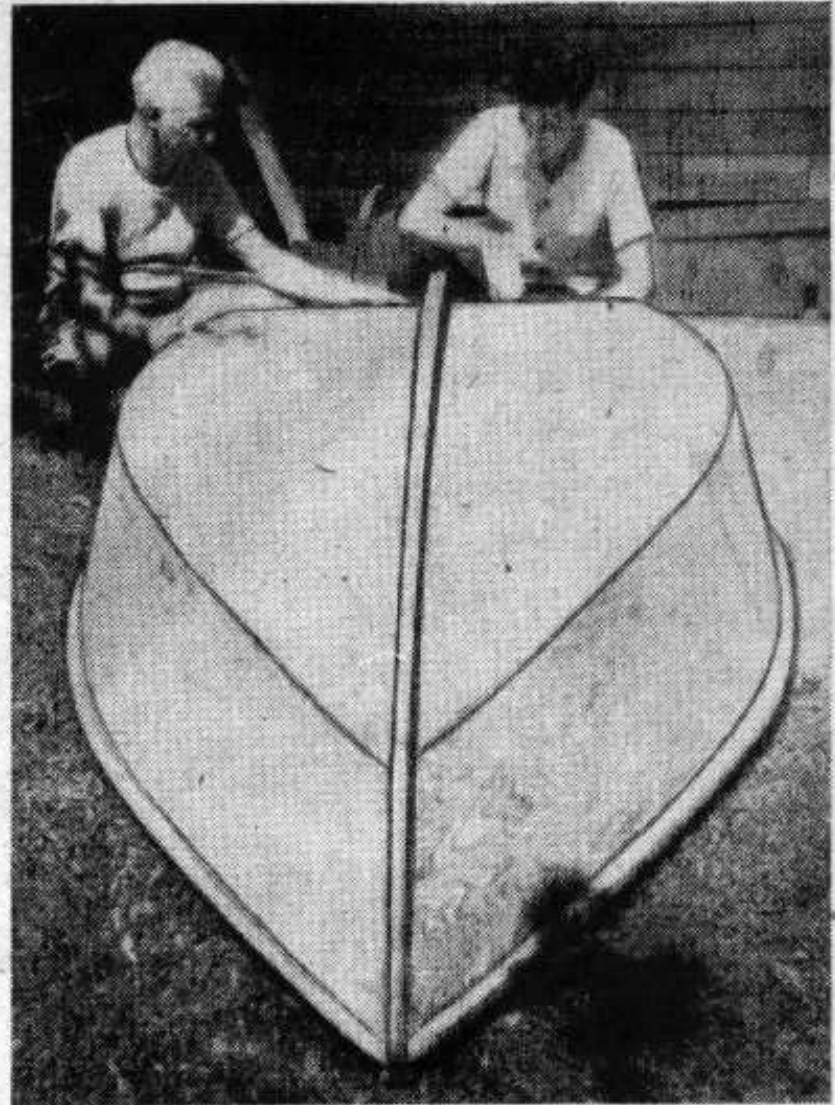
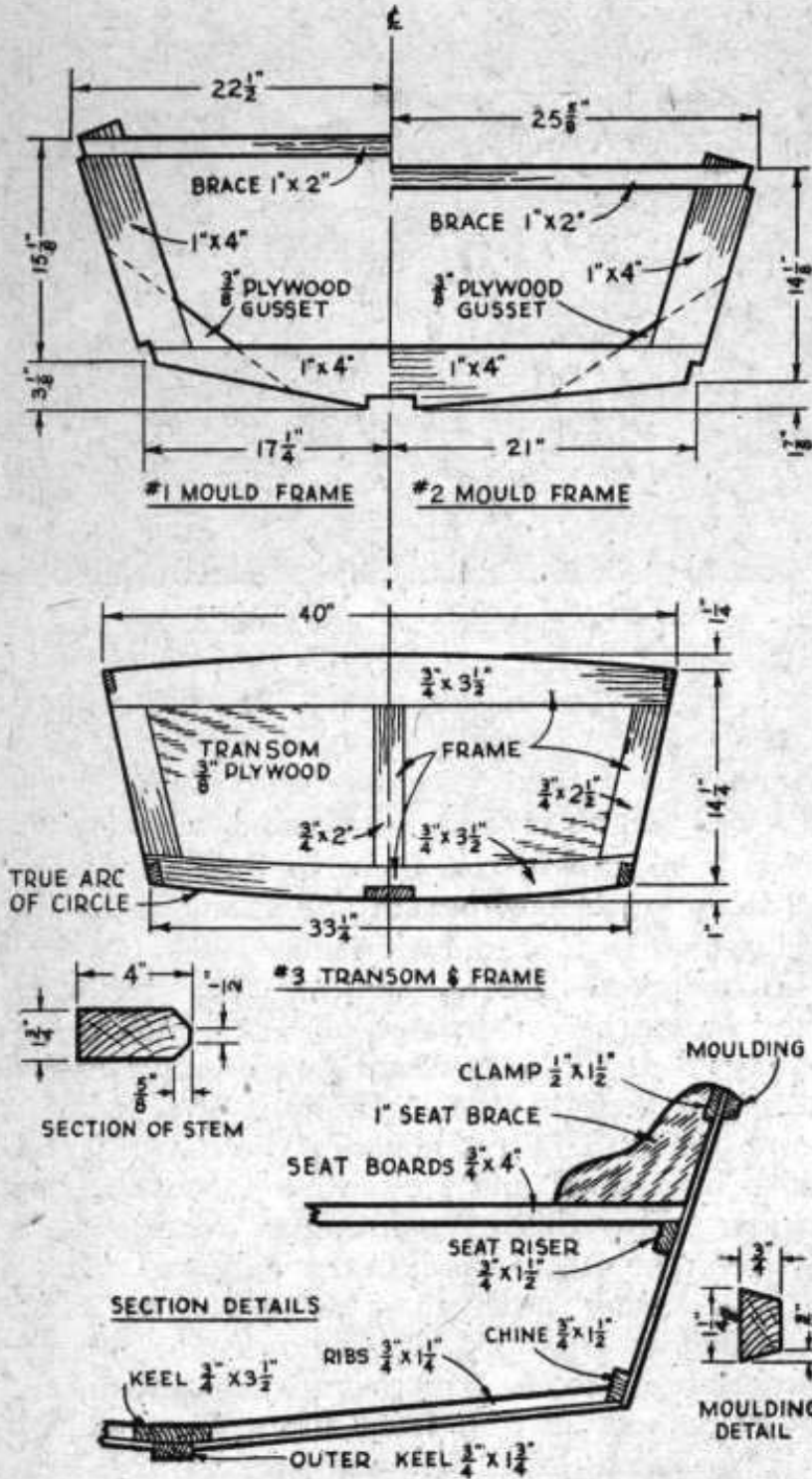
The entire framework is now trimmed and faired. To construct the bottom, first lay a sheet

as these are later removed. A few screws inserted through keel and form, however, may assist in retaining hull shape. Remember to remove these screws later.

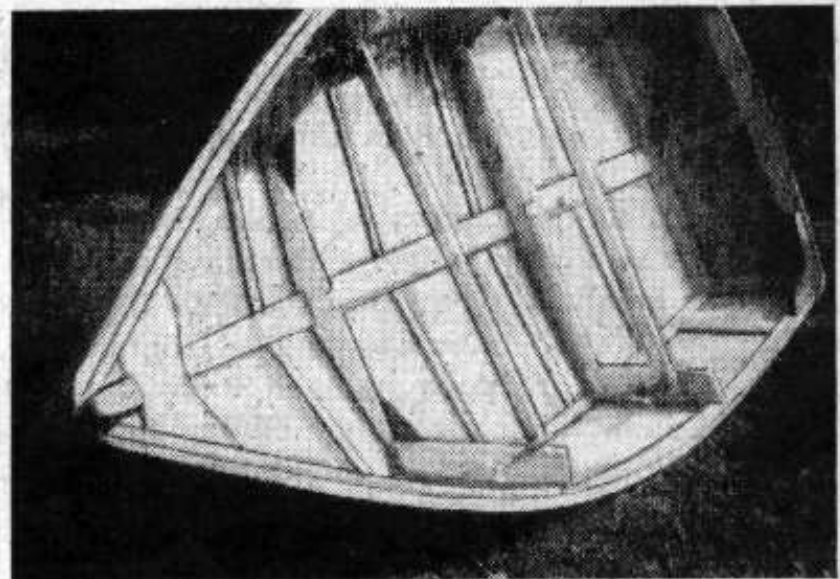
Attach both chines simultaneously, starting at transom and working forward. Bevel ends of chines to fit stem and fasten chines to each joint with a



Stern view of dinghy before sides are planked.



Hull planking is finished; bottom and sides are now complete.

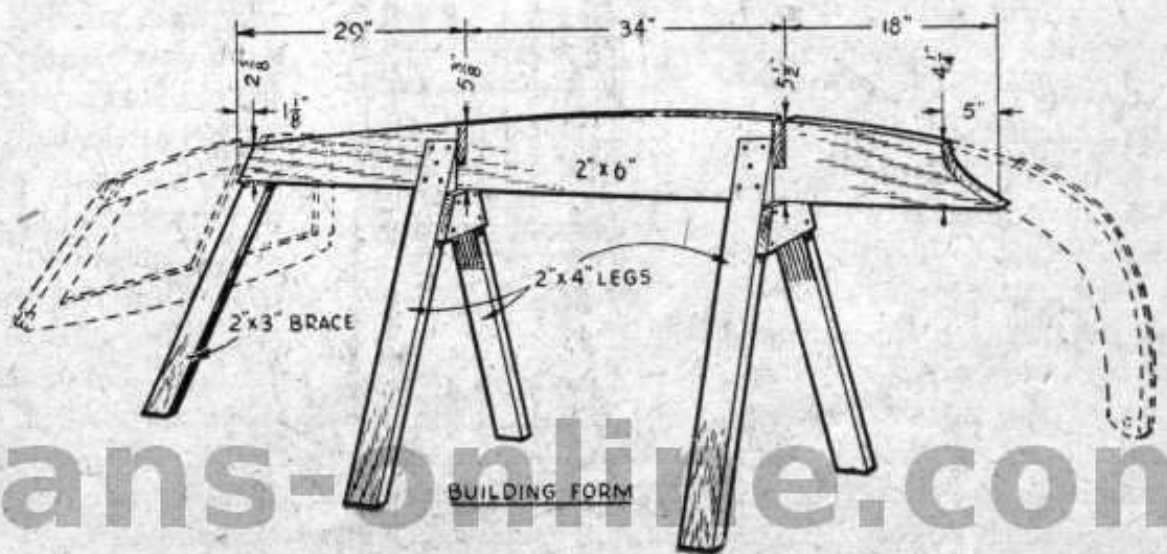


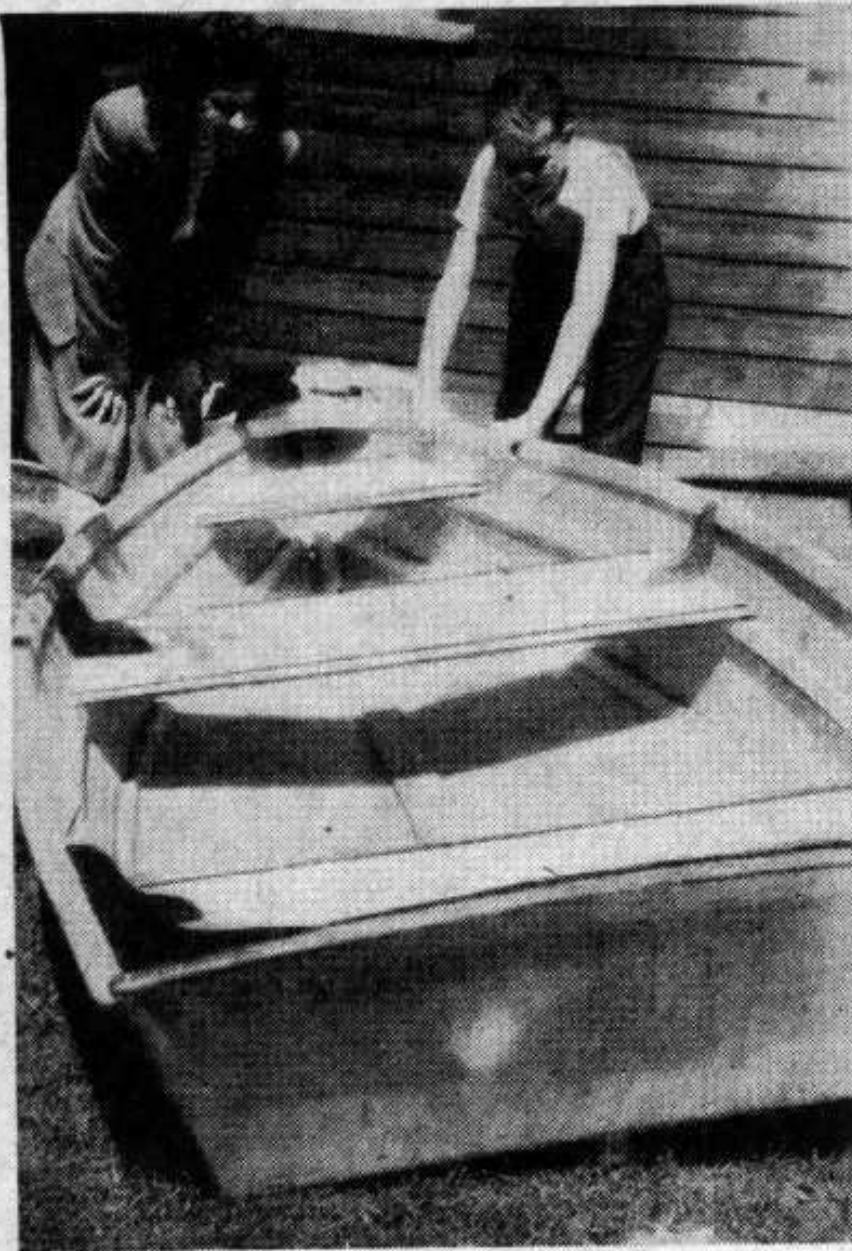
Inside view shows completely planked hull before seat risers and seats are installed.

of plywood in position and mark and cut to shape. Coat adjoining surfaces liberally with good resin glue. Then lay thin cloth strips upon the glued area and recoat with the glue. Clamp the plywood in position and fasten along the transom, chines and keel with 1 inch No. 8 screws spaced about 2 inches apart. If difficulty is experienced in attempting to bend plywood at the bow, soften it with hot water and it will go in place readily.

After the bottom is planked, trim the edges of the plywood evenly. Then begin planking sides, gluing and screw-fastening along chines, transom and stem. Drill lead holes at points where plywood is to be attached to clamps. Then fasten with galvanized 1 1/4 inch shingle nails clinched on the inside. Trim edges of plywood evenly and cover exposed edges along stem with 1/2 inch x 1 1/2 inch outer stem band, softened in hot water, bent in place, and screwed and trimmed to shape. Trim fore end of outer keel so that it fairs into stem band. Now lift hull from

form, leaving moulds inside so that hull retains its shape. Install the breast hook which is located forward and the stern knees located aft.



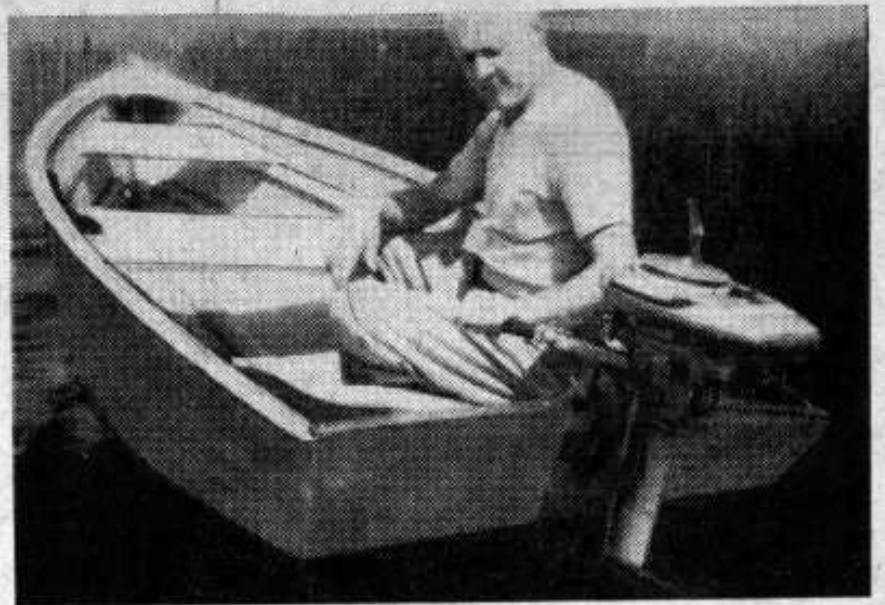


Boat completed except for painting.

These should be fastened in place with $1\frac{3}{4}$ inch No. 8 screws.

Next fit ribs in place from chines to keel. After coating surfaces to be joined with resin glue, drill lead holes and fasten ribs in place with $1\frac{1}{4}$ inch galvanized shingle nails clinched on the inside. The mouldings are now attached to each side, using $1\frac{1}{2}$ inch No. 8 screws which are spaced a distance of approximately 8 inches apart.

After nailing temporary cross pieces across the



With the outboard on and rarin' to go

boat to prevent misalignment, remove moulds from boat. Spring seat risers into position, and fasten them from the outside with 1 inch No. 8 screws. Next cut seats to fit and screw-fasten them in place with $1\frac{3}{4}$ inch No. 8 screws. When all seats are in position, fit and screw-fasten the seat knees to fore and aft seats.

Floor boards are optional. If they are used, they should be constructed of $\frac{3}{8}$ x 6 inch pieces of plywood, screw fastened to ribs. But before fastening floor boards in position, it is wise to paint the hull. First apply a coating of equal parts linseed oil and turpentine to outside and inside; follow this by painting or varnishing as desired. The original hull in this case was painted on the bottom with red cruising bottom paint; the sides were painted with white canoe enamel; the inside up to the seat risers was painted buff; the remainder of hull from risers to mouldings was varnished three coats with spar varnish. Finish the boat by equipping with a light weight pair of six foot oars.

● Craft Print No. 59 in enlarged size for building the "Junior" is available at 25¢ each. Address Craft Print Dept. B-48, SCIENCE AND MECHANICS, 49 East Superior St., Chicago 11, Ill.