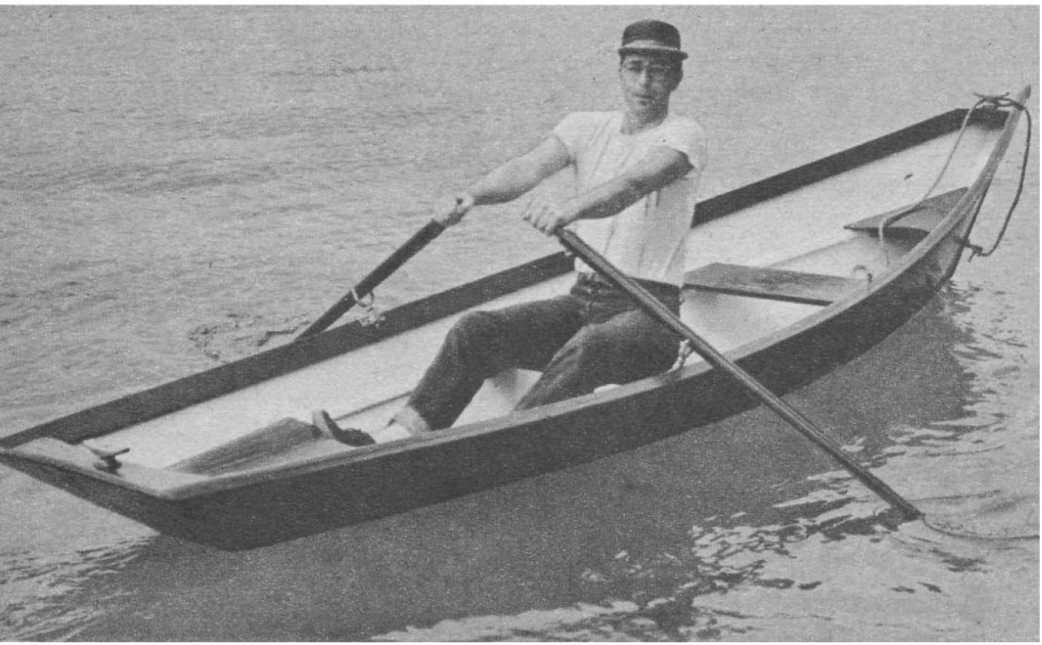
BOATS and BOATING

POD

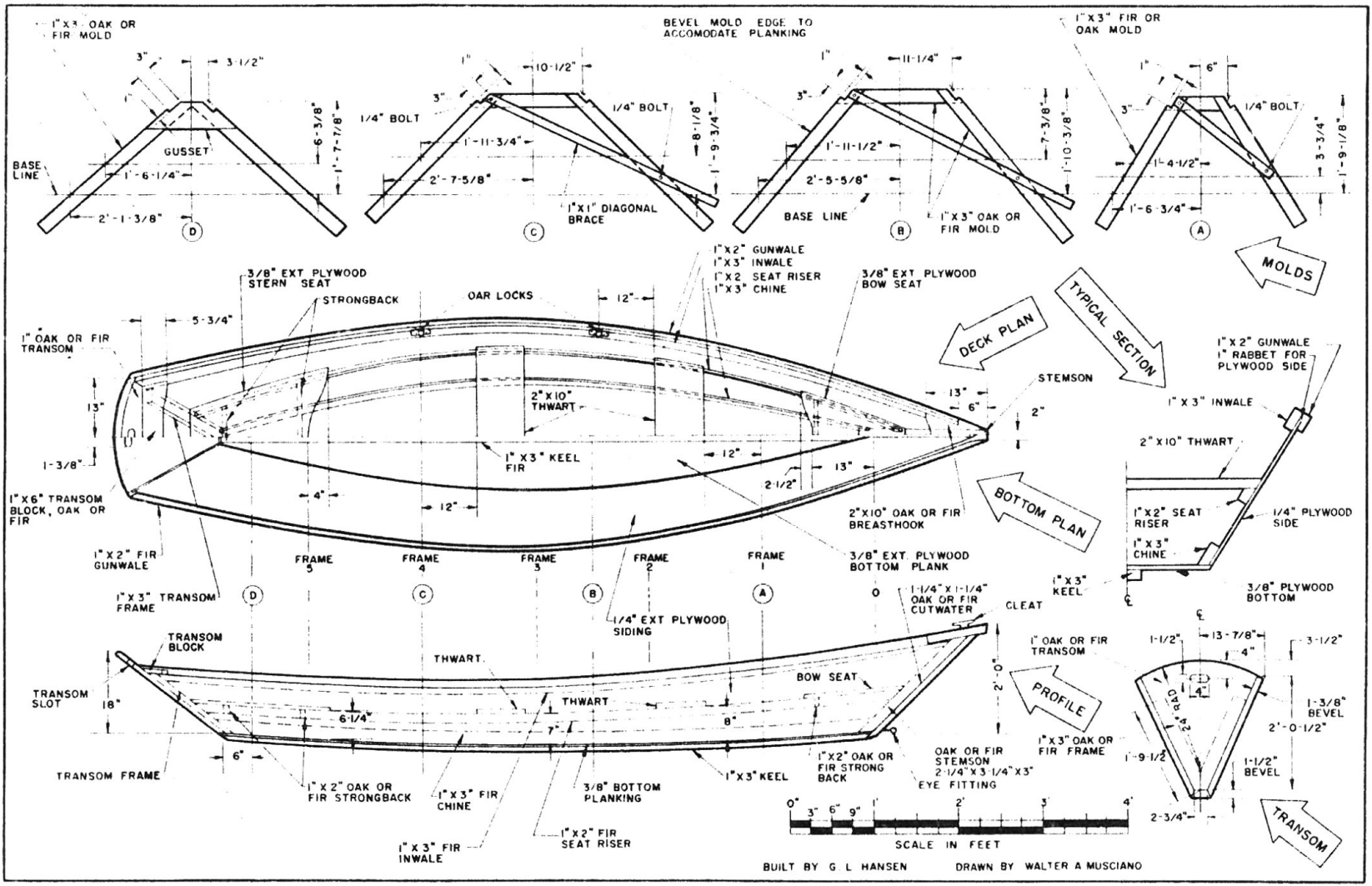
This beautiful 15-ft. rowing dory eases through the water, lets a fisherman sneak up on those big ones.

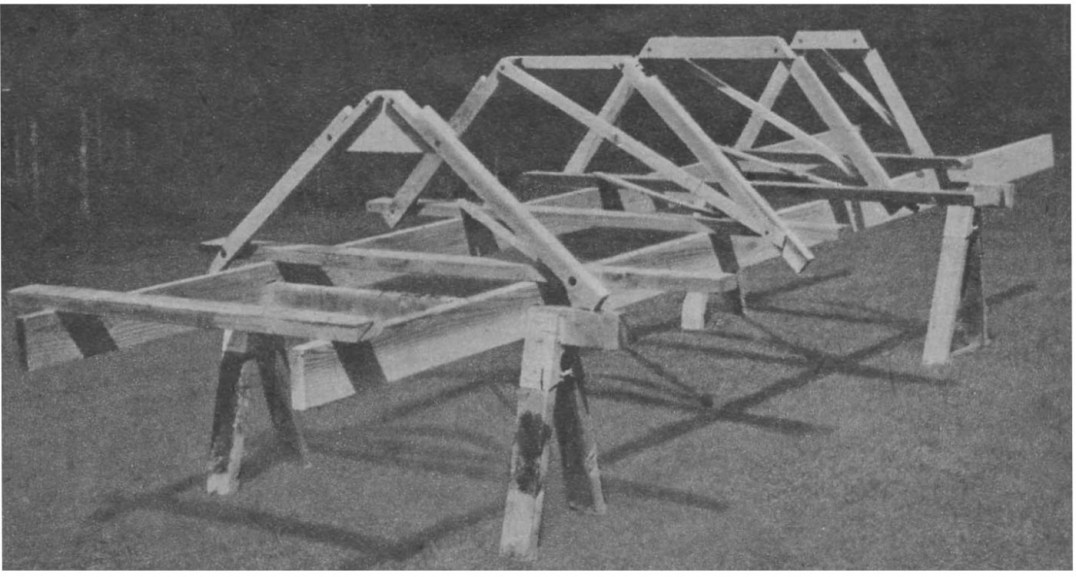


THIS dory is a natural for the man who likes a bit of exercise and appreciates the simplicity and silence of a well-designed rowboat. A narrow bottom, tapered at both ends, enables her to slice through the water with a minimum of effort and flaring sides make her safe and dry in a chop.

Pod, with a beam of 52 in., has an overall length of 15 ft., 5 in. and is 11 ft., 6 in. on the waterline. Three pieces of marine plywood make up the sides and bottom and no frames are required. This makes boatbuilding about as simple as it ever gets and the result is a light, clean hull with fewer places for rot to develop. However, for those who feel better with conventional framing, optional frames are included in the drawings.

In building Pod, the first step is the construction of a building frame. Two sawhorses, about 5 ft. long and 2 ft. high, are set up 9 ft. apart. Two 2x6's, 16 ft. long, are set on edge spanning the horses. These strongbacks are made parallel and level with 36 in. between the inside faces. They are also notched to fit the sawhorses and spiked in place.


1" X 3" OAK OR FIR MOLD
BEVEL MOLD EDGE TO ACCOMODATE PLANKING
1" X 3" FIR OR OAK MOLD
GUSSET
BASE LINE
1/4" BOLT
1" X 1" DIAGONAL BRACE
BASE LINE
1" X 3" OAK OR FIR MOLD
1/4" BOLT
MOLDS
3/8" EXT PLYWOOD STERN SEAT
STRONGBACK
OAR LOCKS
1" X 2" GUNWALE
1" X 3" INWALE
1" X 2" SEAT RISER
1" X 3" CHINE
3/8" EXT PLYWOOD BOW SEAT
DECK PLAN
TYPICAL SECTION
1" OAK OR FIR TRANSOM
2" X 10" THWART
1" X 3" KEEL FIR
2" X 10" OAK OR FIR BREASTHOOK
STEMSON
1" X 2" GUNWALE
1" RABBET FOR PLYWOOD SIDE
1" X 3" INWALE
2" X 10" THWART
1" X 6" TRANSOM BLOCK, OAK OR FIR
BOTTOM PLAN
1" X 2" SEAT RISER
1/4" PLYWOOD SIDE
1" X 3" CHINE
1" X 2" FIR GUNWALE
FRAME 5
FRAME 4
FRAME 3
FRAME 2
FRAME 1
3/8" EXT PLYWOOD BOTTOM PLANK
1" X 3" KEEL
3/8" PLYWOOD BOTTOM
1" X 3" TRANSOM FRAME
1-1/4" X 1-1/4" OAK OR FIR CUTWATER
CLEAT
1/4" EXT PLYWOOD SIDING
TRANSOM BLOCK
THWART
BOW SEAT
TRANSOM SLOT
THWART
PROFILE
1" OAK OR FIR TRANSOM
1" X 3" OAK OR FIR FRAME
1-3/8" BEVEL
1-1/2" BEVEL
TRANSOM FRAME
1" X 2" OAK OR FIR STRONGBACK
1" X 3" FIR CHINE
3/8" BOTTOM PLANKING
1" X 3" KEEL
1" X 2" OAK OR FIR STRONG BACK
OAK OR FIR STEMSON 2-1/4" X 3-1/4" X 3"
EYE FITTING
1" X 3" FIR INWALE
1" X 2" FIR SEAT RISER
SCALE IN FEET
TRANSOM
BUILT BY G L HANSEN
DRAWN BY WALTER A MUSCIANO



The building frame. Longitudinals are notched to fit sawhorses, 2x4's support the molds.

Next the mold anchors are added. First locate station "A" over one of the sawhorses and mark this and the other stations on the upper edges of the strongbacks. A length of 2x4, at right angles to the strongbacks, serves as a mold anchor at each station. Each mold anchor is placed on the amidships side of the station with its edge coinciding with the station line. Spikes and diagonal braces hold them in place. Our draftsman, able fellow though he is, made a slight error in showing the location of these mold anchors. We, in turn, did not catch it until it was too late to change the drawing. However, the stations are located correctly and everything will be fine if you move the forward and aft mold anchors toward the bow and stern respectively so that their edges coincide with the station lines. This, of course, changes the location of each mold so that its amidships side also coincides with the station line.

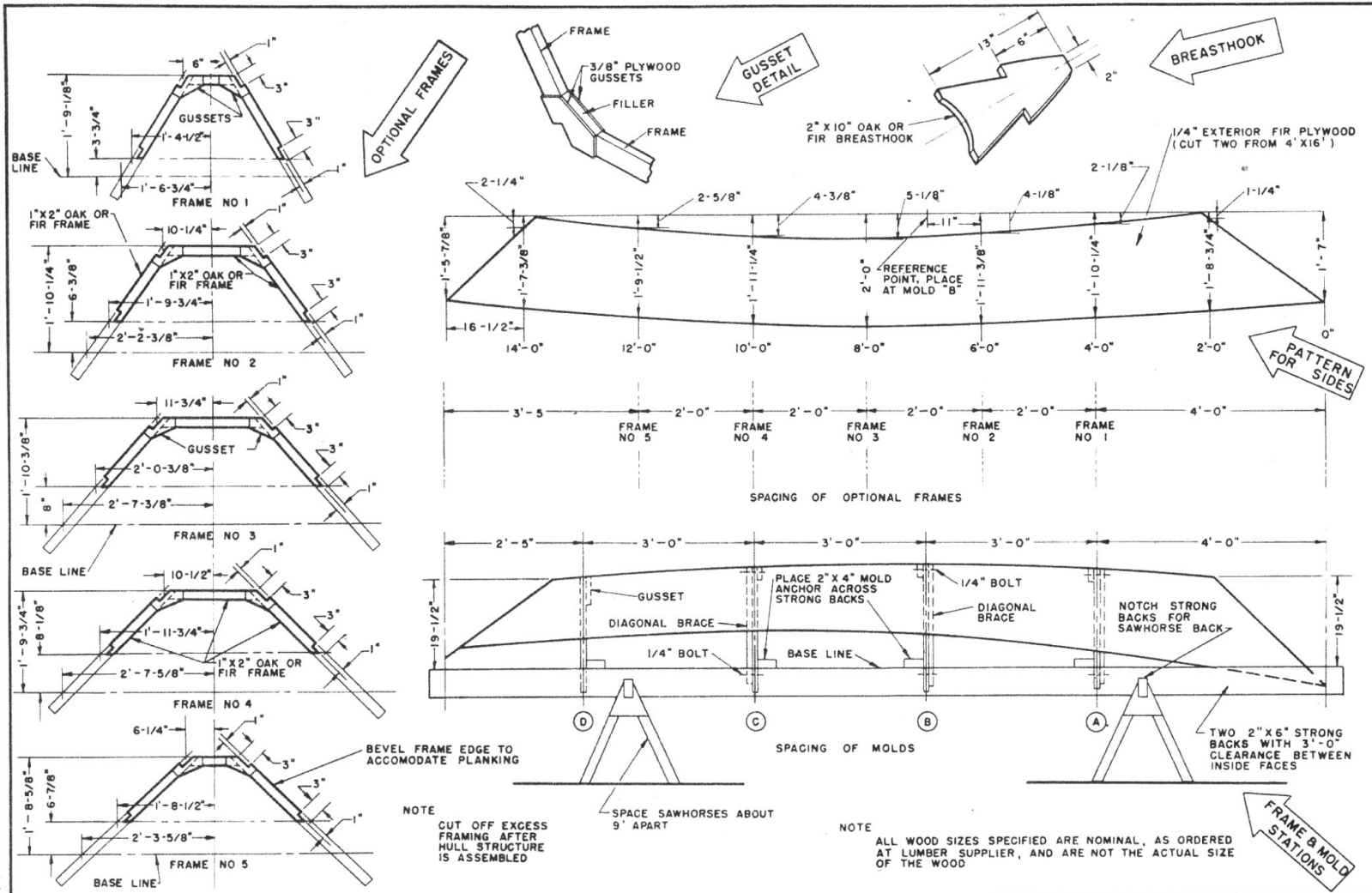
The molds themselves can be made from any 1-in. lumber that is strong and true. Lay them out full size on paper, then transfer the lines to the wood and cut them out and assemble them. Each mold is fastened to its corresponding anchor with ¼-in. lag screws and the upper edge of the anchor determines the base line. Make sure each one is vertical and that its centerline coincides with the centerline of the complete building frame; then bevel the edges to take the planking.

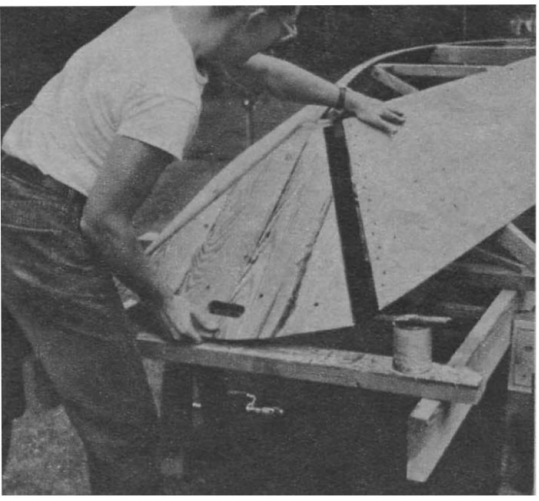
Before going ahead with instructions for assembling the hull, lets get clear on some basic points: Each piece of wood going into the hull is to be treated with wood preservative before assembly; all screws are flathead brass wood screws driven in at right angles to the surface of the wood unless otherwise noted; the screws must also be countersunk $\frac{1}{16}$ in. unless the heads fall in plywood, in which case we reduce the depth to 1/32 in.

We are now ready to prepare and attach the sides. Lay them out on the ¼-in. plywood sheet and cut them out with a sharp, fine-toothed saw to avoid splintering the edges. Reference points are then marked on each side as indicated in the drawing. Then clamp the sides over the molds with the reference points at station "B."

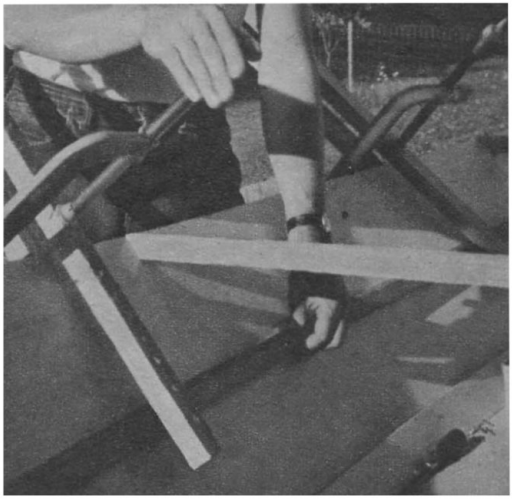
Fastening the chines to the side planks involves considerable bending so they are soaked with water as they are pulled into place. Be sure to let each chine overhang the plywood enough to allow for a bevel. Then hold them in place with clamps until you drive in ⅞ in., No. 7 screws spaced 6 in. apart.

The stemson must be beveled to a proper fit. Pull in the sides and mark this bevel, then cut it as required. Also trim the chines to butt flush against the


OPTIONAL FRAMES
FRAME NO 1
FRAME NO 2
FRAME NO 3
FRAME NO 4
FRAME NO 5
BASE LINE
GUSSETS
1"X2" OAK OR FIR FRAME
GUSSET
BEVEL FRAME EDGE TO ACCOMODATE PLANKING
FRAME
3/8" PLYWOOD GUSSETS
FILLER
GUSSET DETAIL
2"X10" OAK OR FIR BREASTHOOK
BREASTHOOK
1/4" EXTERIOR FIR PLYWOOD (CUT TWO FROM 4'X16')
2'-0" REFERENCE POINT, PLACE AT MOLD "B"
PATTERN FOR SIDES
SPACING OF OPTIONAL FRAMES
GUSSET
DIAGONAL BRACE
1/4" BOLT
PLACE 2"X4" MOLD ANCHOR ACROSS STRONG BACKS
NOTCH STRONG BACKS FOR SAWHORSE BACK
TWO 2"X6" STRONG BACKS WITH 3'-0" CLEARANCE BETWEEN INSIDE FACES
SPACING OF MOLDS
SPACE SAWHORSES ABOUT 9' APART
FRAME & MOLD STATIONS
NOTE
CUT OFF EXCESS FRAMING AFTER HULL STRUCTURE IS ASSEMBLED
NOTE
ALL WOOD SIZES SPECIFIED ARE NOMINAL, AS ORDERED AT LUMBER SUPPLIER, AND ARE NOT THE ACTUAL SIZE OF THE WOOD



The transom is installed. Marine glue and screws through the side planks secure it.



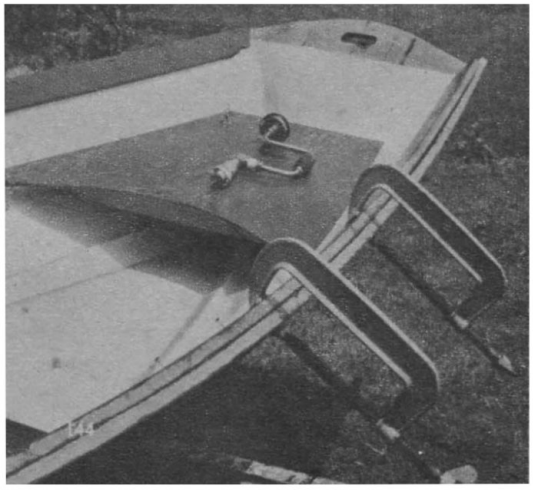
The method used to clamp the seat risers. Note the temporary spreaders at the sheer.

stemson. When the stemson has been fitted, fasten it in place with marine glue and 1¼ in., No. 8 screws spaced 1½ in. apart, making sure it is in line with the centerline of the building frame.

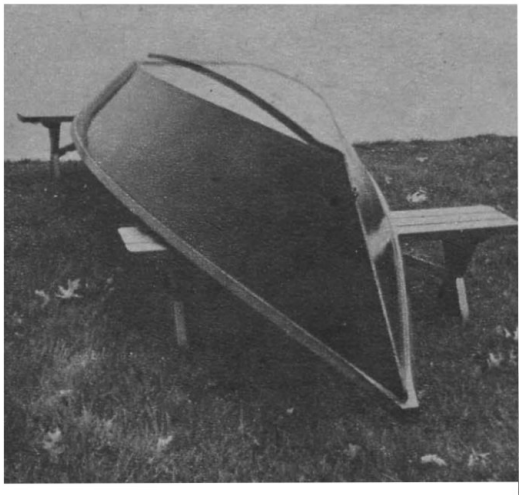
Next make the transom. We built this up of pieces of oak which were doweled and glued, using a resorcin resin with catalyst. Be sure to make allowances for the bevels as noted in the drawing. When the piece is complete, hold it in place on the building frame, pull in the sides and mark the bevel. After cutting this bevel, the transom frame is fitted. This frame is beveled to match the transom and notched to receive the chines. It is then glued and screwed in place with 1½ in., No. 8 screws spaced 3 in. apart and offset in two rows. When this is done, you can place the transom assembly on the building frame for a final fitting and secure it with marine glue and 1¼ in., No. 8 screws spaced 1½ in. apart and offset in two rows.

The next step is to plane the excess material off [*Continued on page* 158]

Starting at the stem and working aft, the inwales are clamped and screwed in place.



Pod has beautiful lines, moves along with little effort on the part of the oarsman.



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the chines, stemson and transom assembly. Take a straightedge, place a level on top and slide it along the chines at right angles to the centerline of the hull. By watching the points of contact, you will be able to locate the high spots and trim them off. Then take the plywood sheet from which the bottom will be cut and lay it on the chines. There should be good contact throughout.

With the sheet resting on the chines, trace the outline of the bottom on it; then cut it to shape. Spread marine glue on the chines, place the bottom in position and fasten it with 1¼ in., No. 8 screws spaced 3 in. apart. Screws near the transom must be driven in at an angle to be buried in the chine. Then shave the edges of the bottom flush with the sides. At this point the keel can be fastened in place with 1 in., No. 8 screws spaced 8 in. apart and offset in two rows. Drive the screws through the bottom into the keel.

Now cut two temporary spreaders and install them between the sides at the sheer. Locate one 6 in. forward of station "B" and the other 6 in. aft of station "C." The hull can then be removed from the molds.

The seat risers are trimmed to fit flush against the stemson and transom frame. They are clamped in position and fastened with ⅞ in., No. 7 screws spaced 6 in. apart and driven in from the outside through the planking. The top edges of the risers must be planed so that the seats lie flush on them.

After sanding and priming the hull, install the two thwarts. Allow very light contact between the ends of the thwarts and the side planks and fasten them to seat risers with three 1½ in., No. 8 screws in each end. The temporary spreaders can now be removed.

The seat risers are notched to a depth of ⅜ in. to take the strongbacks which help support the seats. The strongbacks are cut to fit into the notches flush with the tops of the risers and also beveled so that they fit snug when tapped into place. No fastenings are used between the strongbacks and the risers but the seats are secured to the risers and strongbacks with 1 in., No. 8 screws spaced 9 in. apart. It is best to paint the undersides of the seats before installation.

The gunwales are rabbeted ¼ in. x 1 in. to cover the edge of the plywood, then clamped in place on the side planks. Make sure the gunwale is at the right height to be faired into the transom, then drive in 2 in., No. 10 screws horizontally through the gunwales into the transom. Screw the gunwales to the stemson temporarily so the clamps can be removed.

The ends of the inwales are cut to butt flush against the stemson. Clamp those ends into position, flush with the top of the gunwale and then work aft, clamping and screwing as you go. Use 1¼ in., No. 8 screws ¾ in. below the upper edge of the inwale and spaced 6 in. apart.

The after end is cut and beveled to fit flush against the transom proper, the transom frame being trimmed to just below the inwale.

Tap the gunwale along its full length with a mallet to make sure the plywood is seated in the rabbet and then drive in 1¼ in., No. 8 screws ½ in. above the lower edge of the gunwale, spacing them 12 in. apart.

Up at the stem, trim off the gunwales at the point where they converge naturally with a vertical cut at right angles to the hull centerline. Measure back along the centerline 6 in. and make a similar cut to a depth of about 1¾ in. In determining the exact depth of cut, remember that the upper face of the breasthook will have to blend with both the inwale and gunwale and its lower face will have to blend with the gunwale. Next cut in from the apex of the stemson, parallel to the sheer and approximately 1¾ in. below it, over to the bottom of the vertical cut. Bevel the breasthook as required and screw it to the stemson with two 3 in., No. 14 screws. Also drive two of the same screws through the gunwale and inwale into the breasthook. Next cut the forward edges of the side planks and keel flush with the leading edge of the stemson and then cut and bevel the cutwater and fasten it with 2 in., No. 9 screws spaced 6 in. apart.

The transom block is fitted with the lower face flush with the lower edge of the

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[*Continued from page* 158]

inwale. Drive two 3 in., No. 14 screws horizontally through the gunwale and inwale and into the block and four of the same screws horizontally through the transom and into the block.

Finally, shave off all excess material so that the entire hull is trim and smooth. Putty over all screw heads, sand the hull down and paint it. Every surface should have three coats of marine paint, sanded lightly between coats. •

BILL OF MATERIALS

QUANTITY	*SIZE*	*USE*
EXTERIOR FIR PLYWOOD		
1 piece	1/4"x4'x16'	Side planks
1 piece	3/8"x4'x12'	Bottom plank, stern seat and bow seat.
CLEAR, EDGE GRAIN FIR		
2 pieces	1"x3"x12'	Chines
2 pieces	1"x2"x14'	Seat risers
2 pieces	1"x2"x16'	Gunwale
2 pieces	1"x3"x16'	Inwales
1 piece	1"x3"x12'	Keel
OAK OR FIR		
1 piece	2 1/4"x3 1/4"x3'	Stemson
1 piece	1 1/4"x1 1/4"x3'	Cutwater
1 piece	2"x10"x14"	Breasthook
1 piece	1"x8"x8'	Transom
1 piece	1"x3"x5'	Transom frames
1 piece	1"x6"x30"	Transom block
FASTENINGS		
2 gross	1 1/4", No. 8	FH brass wood screws
1 gross	7/8", No. 7	FH brass wood screws
4 dozen	1", No. 8	FH brass wood screws
3 dozen	1 1/2", No. 8	FH brass wood screws
1 1/2 dozen	3", No. 14	FH brass wood screws
1 dozen	2", No. 9	FH brass wood screws