"HANDY ANDY"

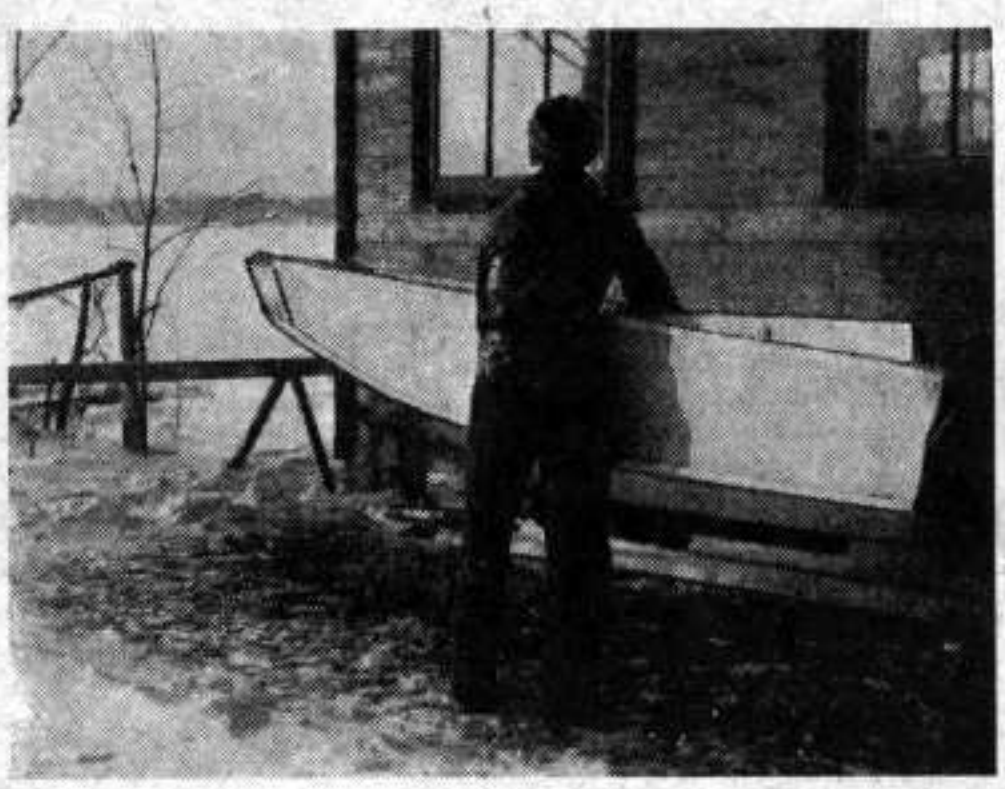
A 10-Foot Folding Boat

Craft Print Project No. 107

USES: Designed as a portable boat for camper, hunter, fisherman, and outdoor man who wishes a boat for use anywhere but without the bulkiness of the average rigid one-piece craft, it folds to a compact flat bundle that may be stowed aboard any cruiser, auto, airplane, loaded on a donkey, or easily carried to point of destination. It is suitable for those hard-to-reach places where conventional or rigid boats are difficult or impossible to transport or where boats are not available. Its Super-Harbord marine plywood construction makes for easy and strong fabrication.

LENGTH ..... 10 ft.
BEAM ..... 42 in.
DEPTH ..... 15 in. Amidships
WEIGHT COMPLETE ..... 80 lbs.
SEATING CAPACITY ..... 3 Passengers
CONSTRUCTION .....
...3/8" Super-Harbord Marine Plywood, over shape forms
TYPE ..... Flat bottom, canvas bound edges

When this fisherman wanted to practice his bait-casting even in winter, he folded up his boat, tucked it under his arm, walked down to the water, unfolded his boat, launched it—and there you are!



Carrying the folded boat down to the lake. Notice the folded bottom projecting above the side piece.

OUTDOOR sportsmen encounter numerous waterways or adverse conditions where it is impossible to use the ordinary rigid boat or where its use is restricted, making it more of a liability than a convenience on a trip. The portable folding boat is not meant to dispense completely with the rigid boat, but to supplement its uses and to offer a ready means of water transportation where conventional type boats are excluded.

Weighing only 80 lbs., costing about five to six dollars for materials, simple and easy to construct, easily rowed or propelled with small outboard motors from 1 to 5 hp., this portable folding boat provides a lifetime of usage, under conditions unapproachable by conventional craft. The hull may be folded or unfolded in one minute's time. It will stow away inside any auto, airplane, house trailer, or it may be packed under the arm and carried easily.

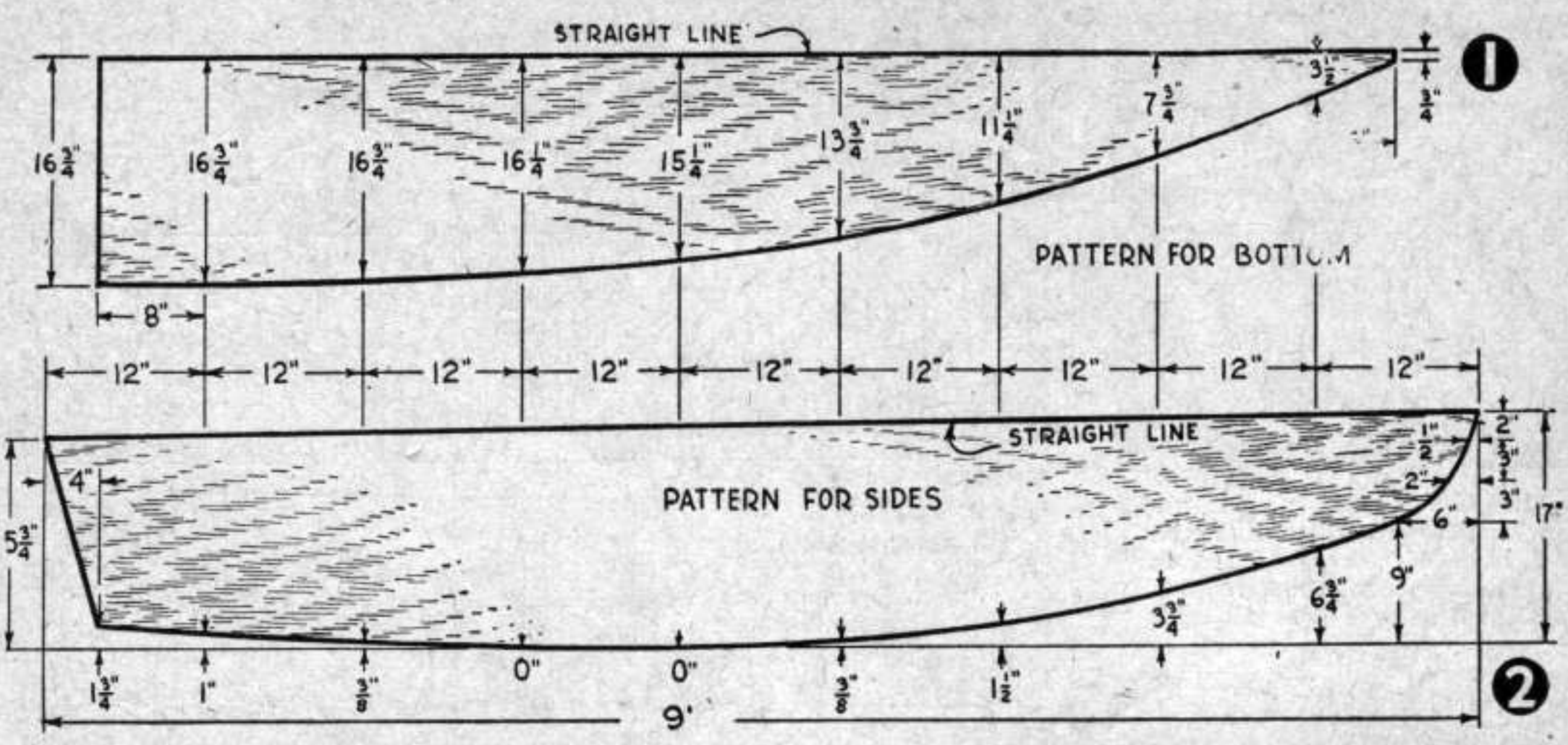
Another very important service this folding boat can render is its use as a yacht dinghy on larger boats where the usual dinghy must be towed or where space is not available. The folding boat is simply stowed aboard until occasion for its use arises. Many other uses will be found for this portable boat. Despite its folding, portable properties, the hull will support three persons and remain stiff and sturdy and seaworthy.

Construction of the portable boat is extremely simple. Begin by scanning the material list. Collect the various items. Be sure to use resin-bonded marine plywood for the planking.

With the sheets of 3/8" marine plywood at hand, transfer the side and bottom plank patterns as indicated, mark and saw to shape. With one side sawed to shape, use it as a pattern for the other side. There are two identical side pieces and two identical bottom pieces. Lay these aside, and saw to shape the transom, transom seat, center section, seat, and seat support from 3/4" marine plywood.

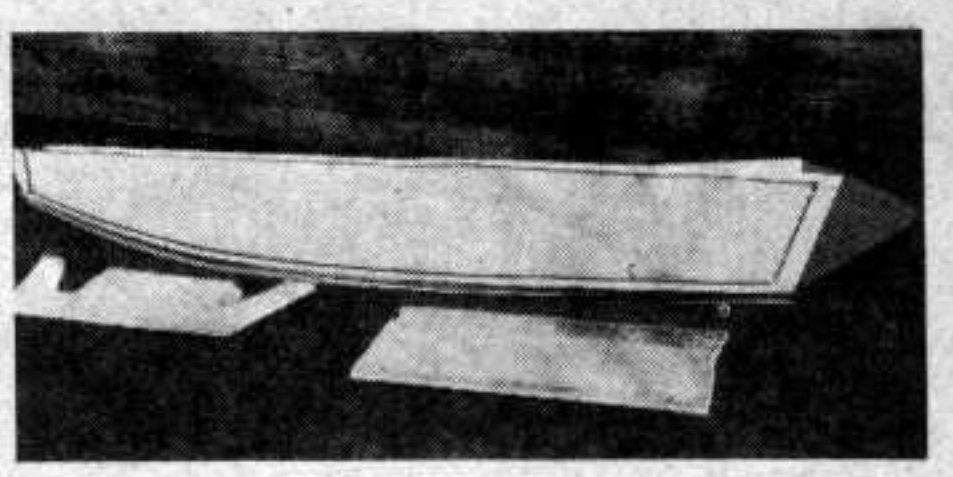
Putting the Bottom Together

The assembly begins by attaching the two bottom pieces or bottom planks together. Align



LIST OF MATERIALS

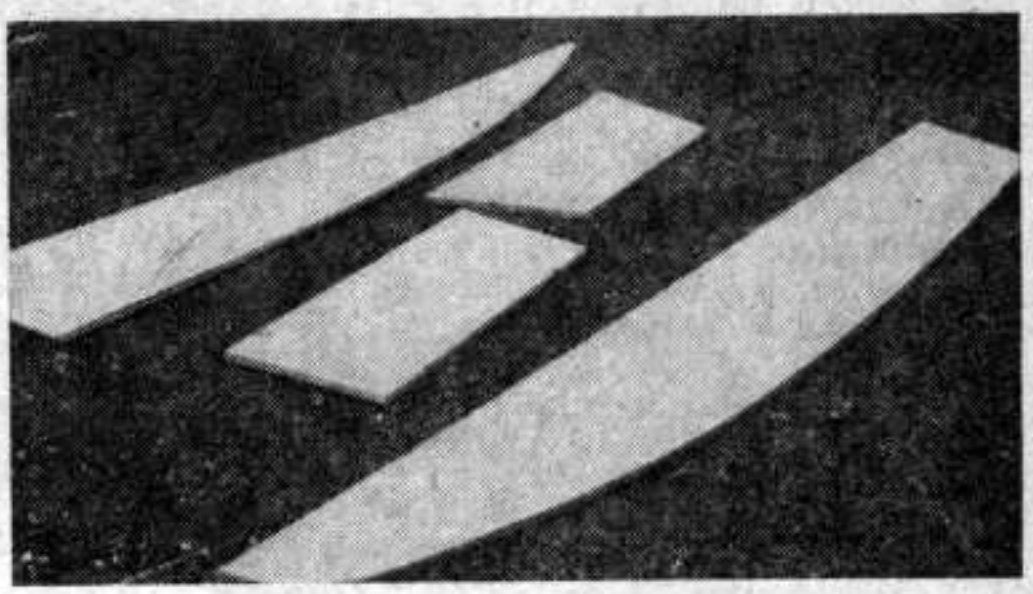
Parts	Pieces	Finished Sizes
(Super-Harbord Marine Plywood)		
Sides	1	⅜" x 36" x 9'
Bottom	1	⅜" x 36" x 9'
Transom and Seat	1	¾" x 30" x 48"
Center Section and Foot Rest	1	¾" x 30" x 48"
Bottom Lock Strips, Seat Supports Nose and Transom Blocks	1	¼" x 24" x 36"
Lock Strips and Mouldings—fir, oak, yellow pine	8	¼" x ¾" x 9'



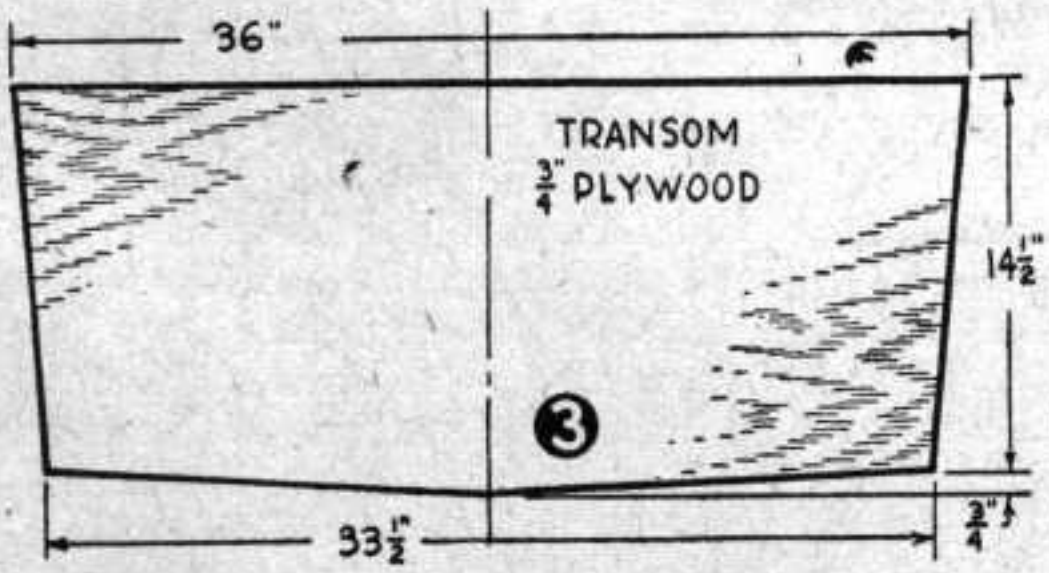
Center piece and transom are removed when the rest of the boat is folded up.

FASTENINGS AND OTHER MATERIALS

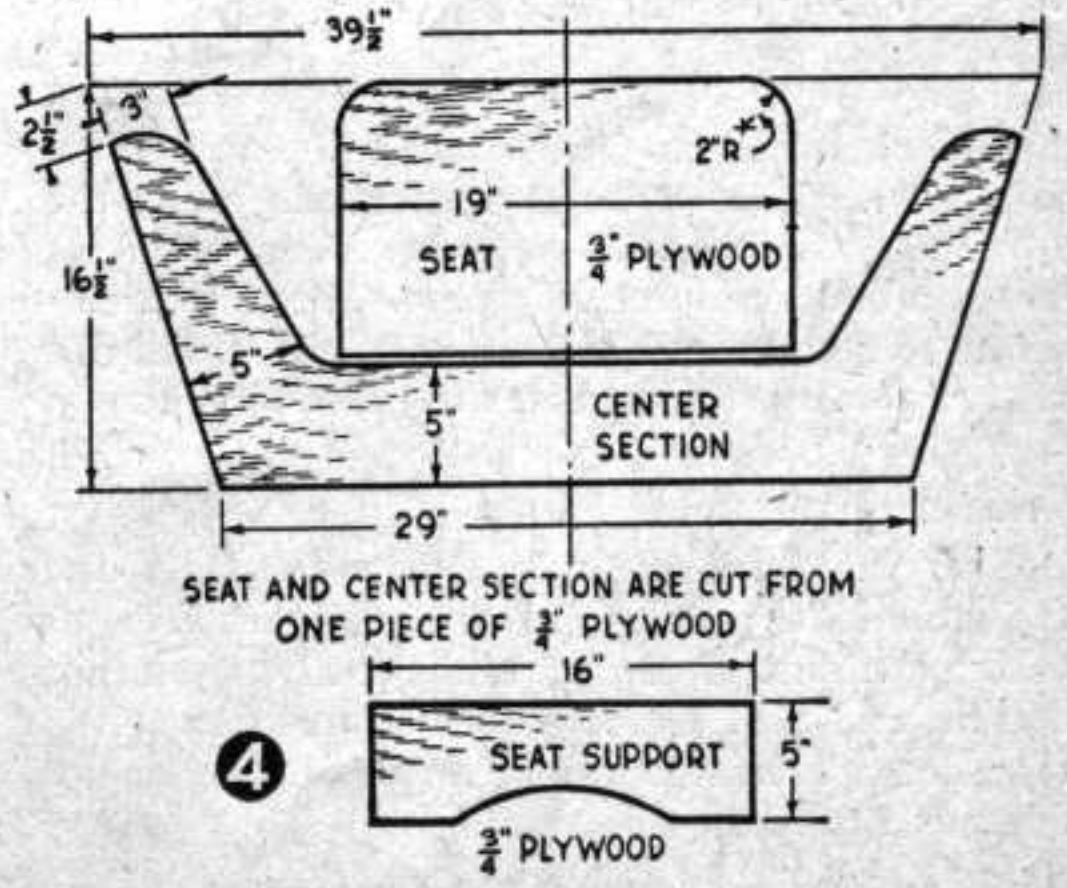
3 yds.	30" or 36" width, 12-oz. waterproofed canvas
2	Oar locks side mounting
1 pr.	5½' spruce oars
12	3" strap hinges
2	3" "T" hinges
2	¼" x 1" r.h. stove bolts and wing nuts
2 lbs.	1" clout nails, or 4 gro. ¾" No. 6 f.h. screws
3 doz.	½" No. 9 copper rivets for hinges
1 pt.	"C" quality marine glue

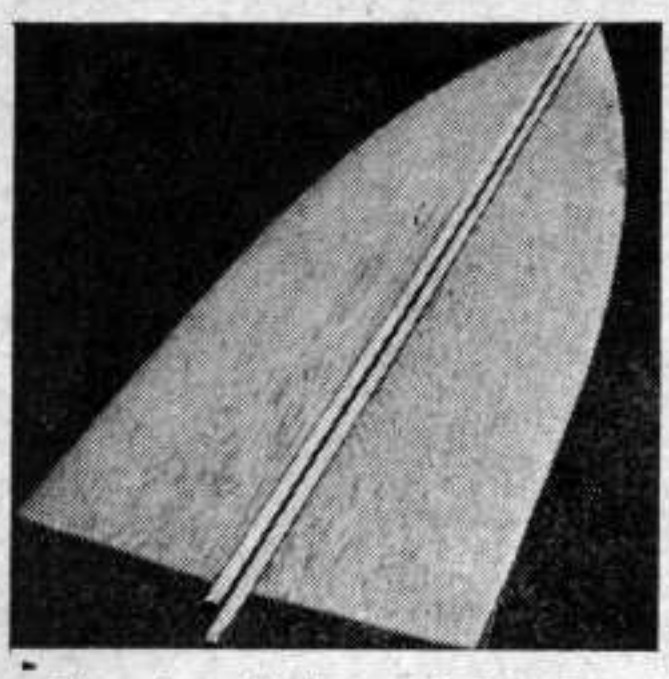


Just a few pieces of marine plywood go into the making of "Handy Andy," the folding boat.



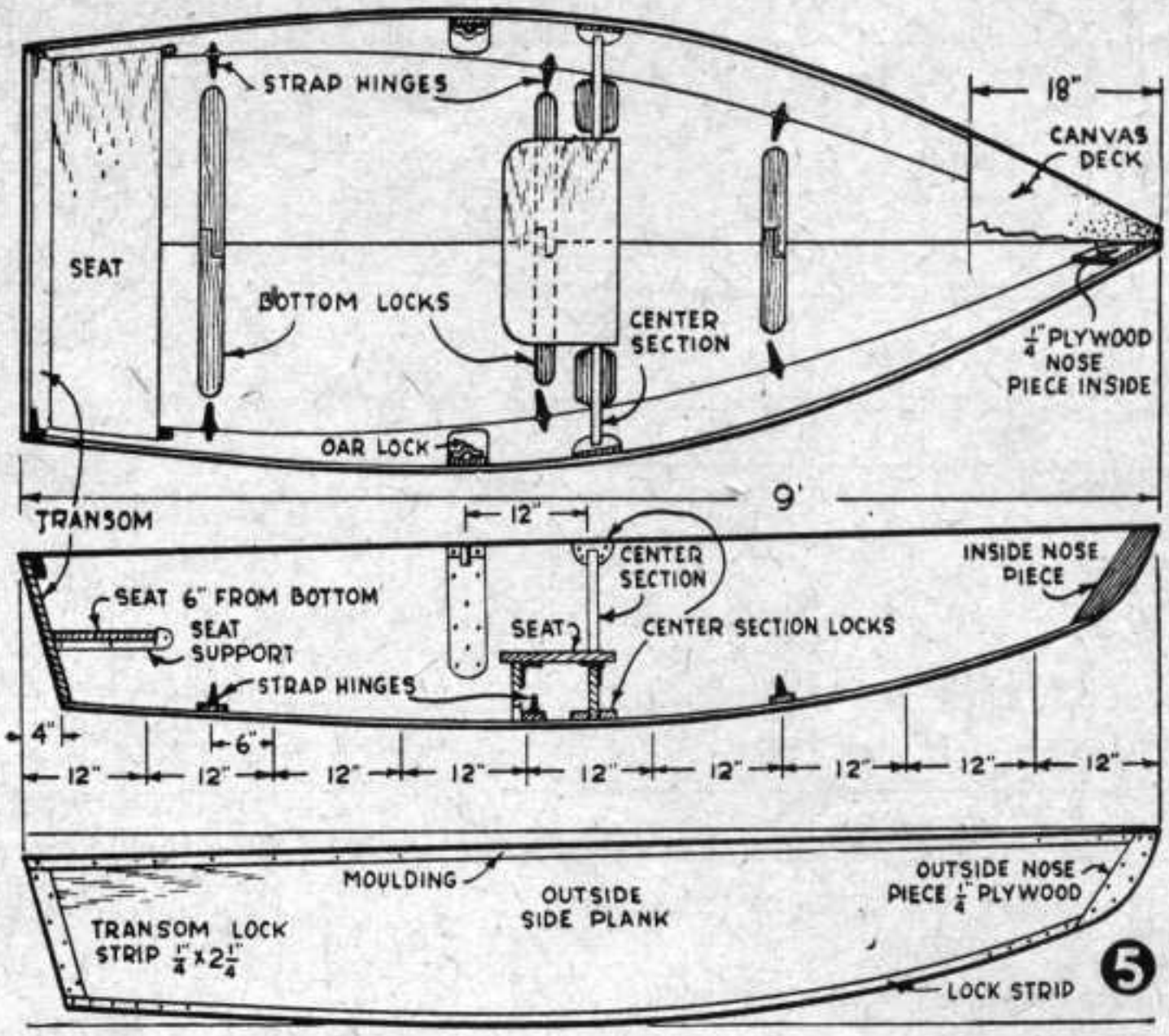
them side by side, edges touching and with a strip of canvas two inches wide the full length of bottom pieces; coat face of plywood where canvas is to be attached with "C" quality marine glue. Lay the canvas in position in the exact center of the two bottom pieces and proceed to secure canvas to bottom pieces each side with ¼"x¾" lock strips. These strips are to run the full length of the bottom pieces. Leave a ½-inch space between strips and fasten strips to bottom with screws or clout nails. The easiest and quickest way to fasten

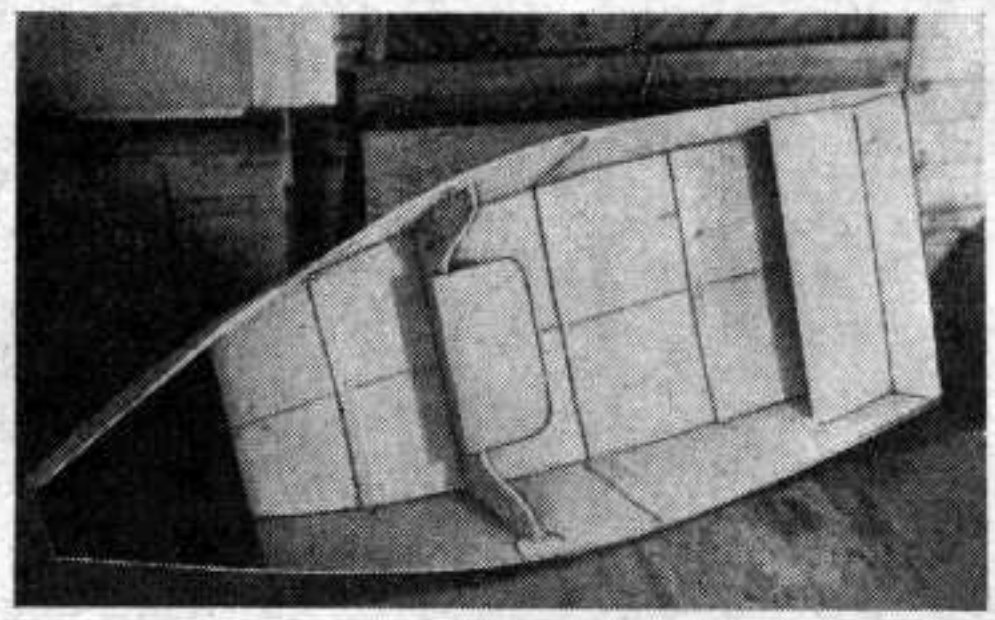




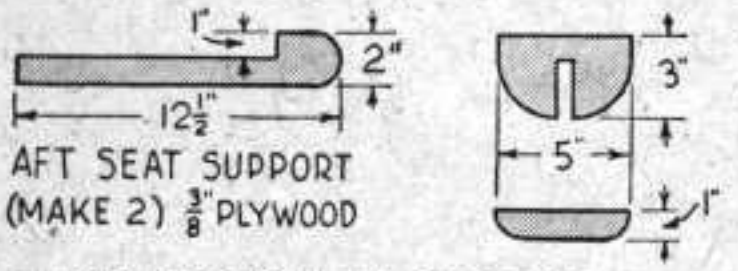
The two bottom pieces are joined along the keel line with a strip of canvas locked in place with two wooden strips. Marine glue makes it tight.

Here's the bow end, showing the use of canvas which serves as hinges for the bottom and sides.





The completed boat with a canvas "deck" stretched across the bow. Removable center section with seat, the plywood transom, and the transom seat hold the boat rigid when it is opened up. The parts named can be taken out or installed quickly.



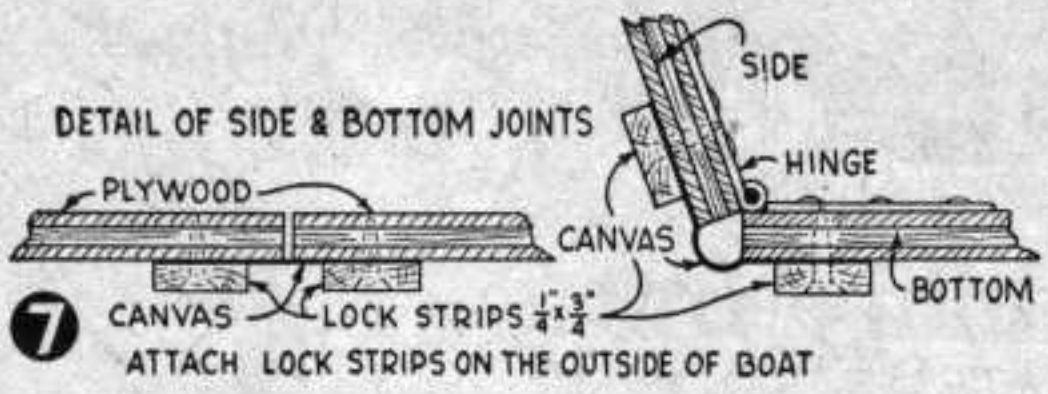
these lock strips in position to all parts of the boat is with 1" clout nails, but lacking these use ¾" No. 6 f.h. screws. Space either nails or screws about two inches apart. For an ultra-strong job, copper rivets are best, but either the nails clinched or the screws are quite satisfactory.

Attaching the Side Planks

With the two bottom pieces locked together the hull side planks are next attached to the bottom planks. Begin by temporarily assembling bottom and side plank pieces to transom with a few screws located so they can be easily removed later and the holes plugged.

Measure for the correct placement of the center section and fasten this part temporarily to sides and bottoms with a few screws. Starting aft, bottom and sides are secured with small strap hinges riveted in place. Use ½" copper rivets on each side, first drilling lead holes for them. Measure for these hinges at points indicated upon plans and continue forward. Before the pair of hinges is installed forward of the center section, pull the ends of side and bottom planks together with a rope or clamps and then secure these forward hinges. Allow about ⅛ of an inch clearance between plank edges when fastening hinges. Fasten the ¼" plywood nose pieces to inside of side pieces with nails or screws.

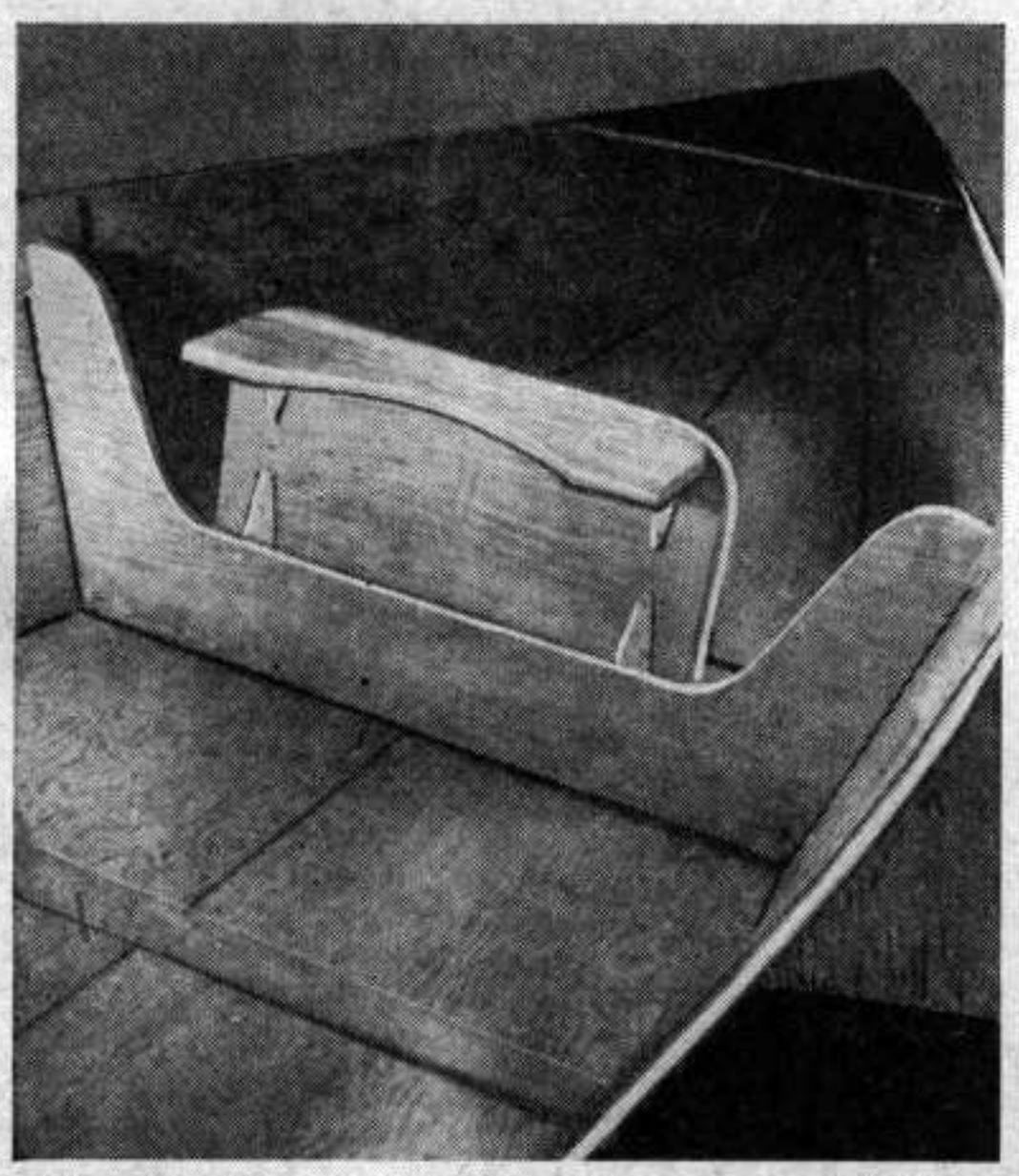
Starting at the transom, coat edges along sides and bottom with marine glue. Lay a 2½" full-length strip of waterproof canvas over the side-and-bottom joint allowing some looseness of the cloth for folding and proceed to fasten two ¼"x¾" lock strips to canvas surface along side and bottom edges. Use clout nails or ¾" No. 6 f.h. screws, spaced two inches apart. Fasten both sides similarly, working towards bow and let the lock strips extend over bow to be trimmed later.



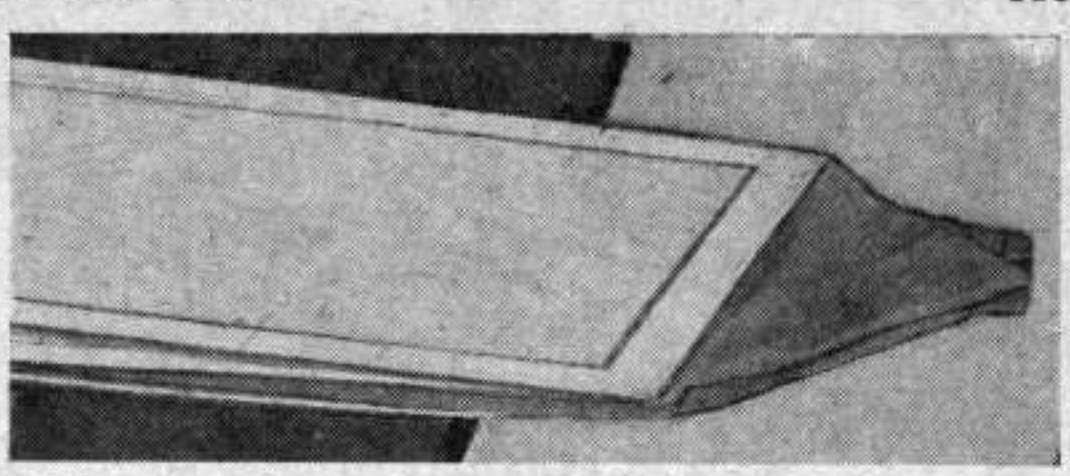
The bow ends of side pieces and bottom pieces are held together by a piece of waterproof canvas, making literally a canvas bow stem. This piece of canvas will measure about seven inches wide, to let it lap over ends of side planks, allowing enough separation between bow ends for folding. Coat bow ends of side planks with marine glue and place canvas bow stem in position, lapping over sides and securing with shaped ¼" thick plywood nose pieces screw fastened to side ends. The bottom of canvas stem piece is slipped under the bottom lock strips and fastened. Trim the lock strips to fit the nose blocks.

Now return to the transom and remove the temporary fastenings. Clamp or rope the sides to hold them securely against transom. Coat sides and bottom of planking along transom edges with marine glue. Stretch a piece of the heavy waterproof canvas in place against the transom and lap over sides and bottom about three inches. Fasten over-lapped canvas to side and bottom planks with ¼"x2" plywood strips nailed or screwed in position. This canvas outer transom is not fastened at any point to the ¾" plywood transom, as the plywood transom is removed when the boat is folded.

The ¾" plywood transom is held securely in place and reinforced especially where outboard motors are used by the installation of small T-shaped hinges, one to each side (long end of hinge screw fastened to transom and the short ends held securely to sides of hull with ½"x1" r.h. stove bolts and wing nuts). These bolts are removed when the hull is folded. The 3" thick plywood transom fits into two rests which are simply ⅜" shaped and notched plywood pieces screw-fastened to sides of hull with ¾" No. 6 f.h. screws. Place these notched seat rests so the transom will be held securely against the transom canvas with enough tension to prevent loosening.



The hinged seat folds up and is removed with the center section, which is "locked" in place when the boat is in use.



Canvas encloses the transom end of the boat. It is stretched tight when the plywood transom and transom seat are in place.

Finishing Details

The center seat is now attached to the center section with strap hinges as indicated and the seat support is similarly hinged. This allows the entire assembly—section, seat, and seat support—to fold compactly together. The center section is held securely in place with a notched lock piece of ⅜" plywood as indicated. This piece is fastened to sides with ¾" No. 6 f.h. screws.

Notched bottom locks secure the edges of the two halves of bottom together and are fastened to bottom with ¾" No. 6 f.h. screws at points indicated.

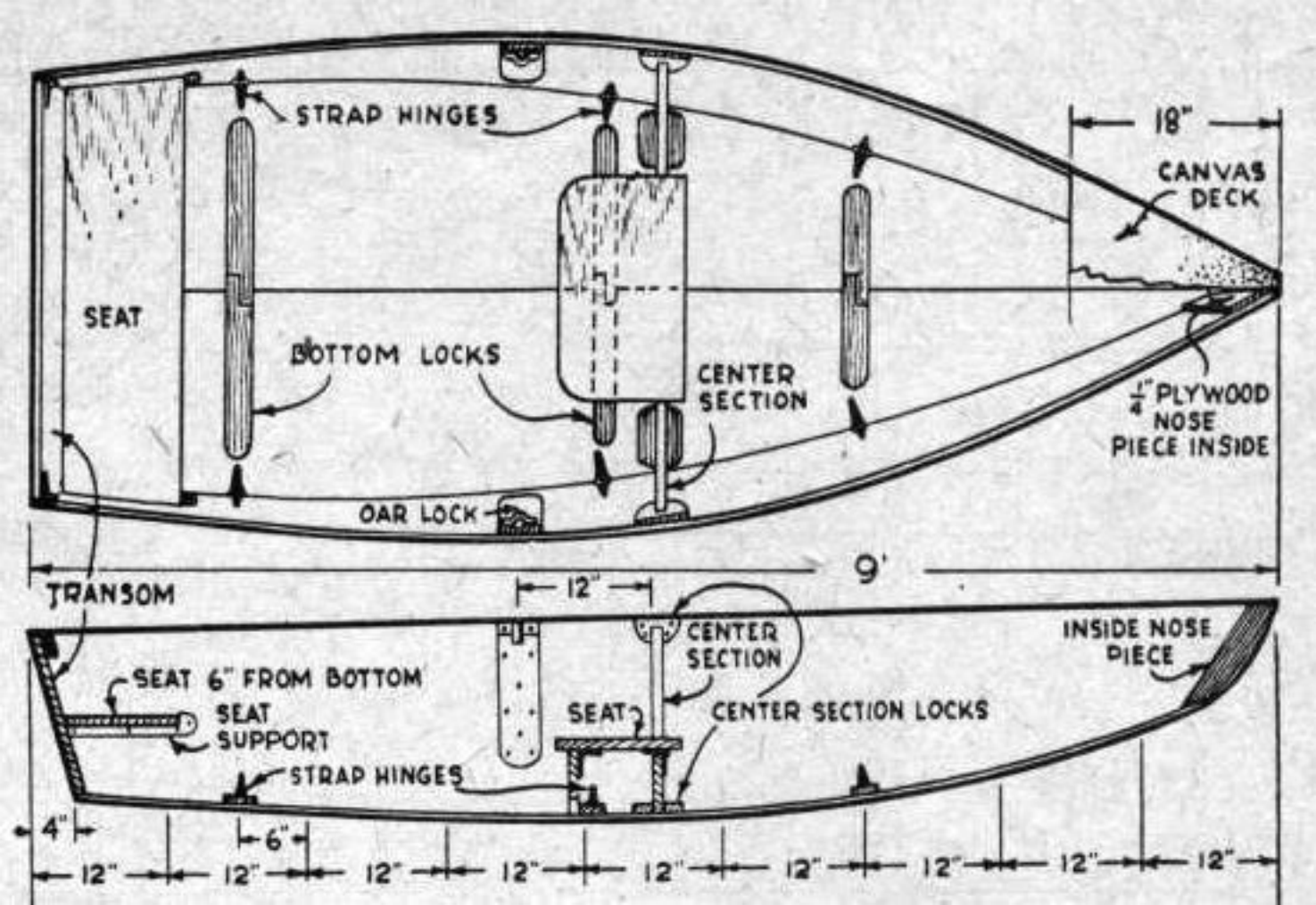
At the point where side-mounted oar locks are to be installed, ⅜"x5" plywood oar blocks are fastened to sides of hull with ¾" No. 6 f.h. screws.

The sheer moulding consists merely of two pieces, ¼"x¾" strips, which are nailed or screw-fastened to sheer edges, screws spaced about four inches apart. Before fastening the bow ends of mouldings in place stretch a piece of the heavy waterproof canvas in place for the deck and then secure this along edges with the well-fastened mouldings. Mount the oar locks.

"Handy Andy" is now ready for finishing. This should be a priming coat of equal parts linseed oil and turpentine, followed by three coats of spar varnish inside and out.

To fold the hull, simply lift transom and seat out first, then the center section and seat, and press the bottom inward—and the job's done. Provide a web strap for holding the folded hull closely together when carrying it.

• Craft Print No. 107 in enlarged size for building "Handy Andy" is available at 25¢ each. Address Craft Print Dept. B. 48, SCIENCE AND MECHANICS, 49 East Superior St., Chicago 11, Ill.


STRAP HINGES
18"
CANVAS DECK
SEAT
BOTTOM LOCKS
CENTER SECTION
¼" PLYWOOD NOSE PIECE INSIDE
OAR LOCK
9'
TRANSOM
12"
CENTER SECTION
INSIDE NOSE PIECE
SEAT 6" FROM BOTTOM
SEAT SUPPORT
SEAT
CENTER SECTION LOCKS
STRAP HINGES
4"
6"
12"
12"
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