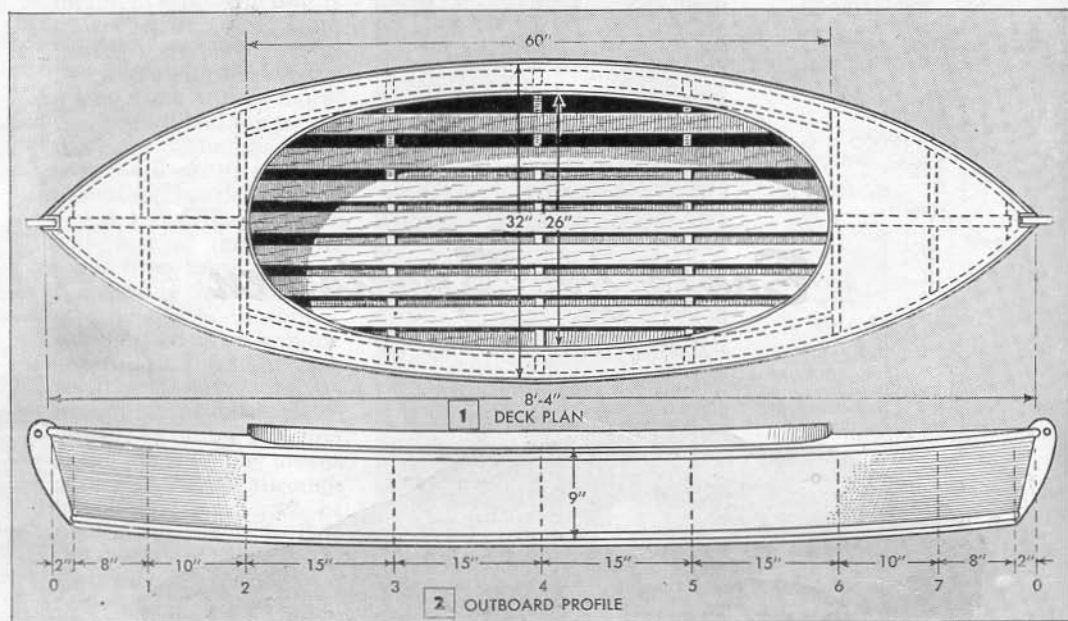


Featherweight

An Eight-Foot Duckboat



LIGHT ENOUGH to carry on a car or even on your shoulders, this boat will enable you to reach hideaways that are inaccessible with heavier craft. It is sturdy enough to push through dense weed growths and light enough to navigate the shallowest waters. Although only 8 ft. 4 in. long, Featherweight has a capacity of well over 300 pounds. Its construction of $\frac{1}{4}$ -in. waterproof plywood over light pine framing gives it the well-proportioned lines that are shown in Figs. 1 and 2.

Featherweight is built upside down on an erecting frame as shown in Fig. 8. Construction begins with the boat frames, Fig. 4. These are made of $\frac{3}{4}$ -in. (net) pine or other light wood that will not split easily. Full-size patterns drawn on heavy wrapping paper will aid in laying out the pieces to exact size and serve as a guide for assembling them after they are cut. Waterproof glue and No. 8 brass screws are used to join the parts as indicated in Fig. 3. Temporary braces are installed on the open frames 3, 4 and 5.

The strongback of the erecting frame, Fig. 11, is made from a 2 x 8-in. plank. A $\frac{7}{8}$ x $\frac{7}{8}$ -in. batten may be used to mark the 2-in. curve. Notches are cut to hold the boat frames in position and the ends are

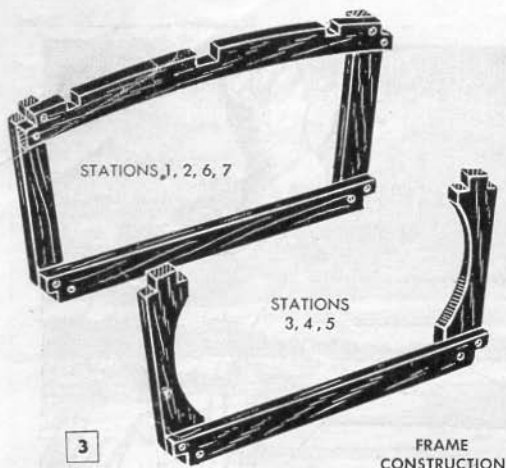




shaped to take a bow and stern knee as shown in Fig. 10. Almost any type of bracing on the erecting frame will be satisfactory provided it is rigid and does not interfere with the work. The framing lumber should be well-seasoned so it will not warp and cause the boat to become lopsided. The perspective view, Fig. 8, shows the entire assembly in full detail. Note in Fig. 6 that the framing is built so that the strongback can be lifted off with the boat frame when the work is completed in this position. When assembling the frames on the strongback be sure the uprights, or side members of the frames, are on opposite sides of their cross members, beginning amidships

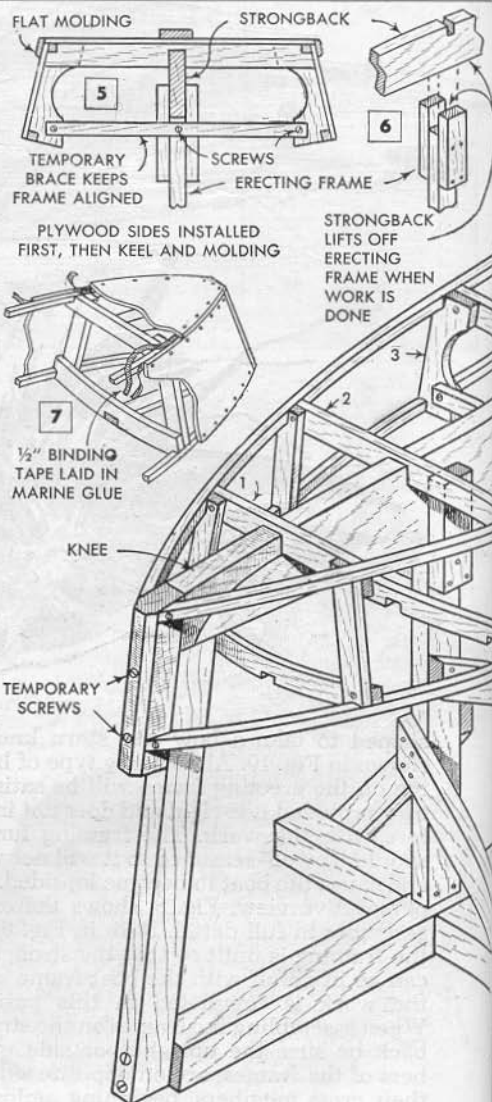
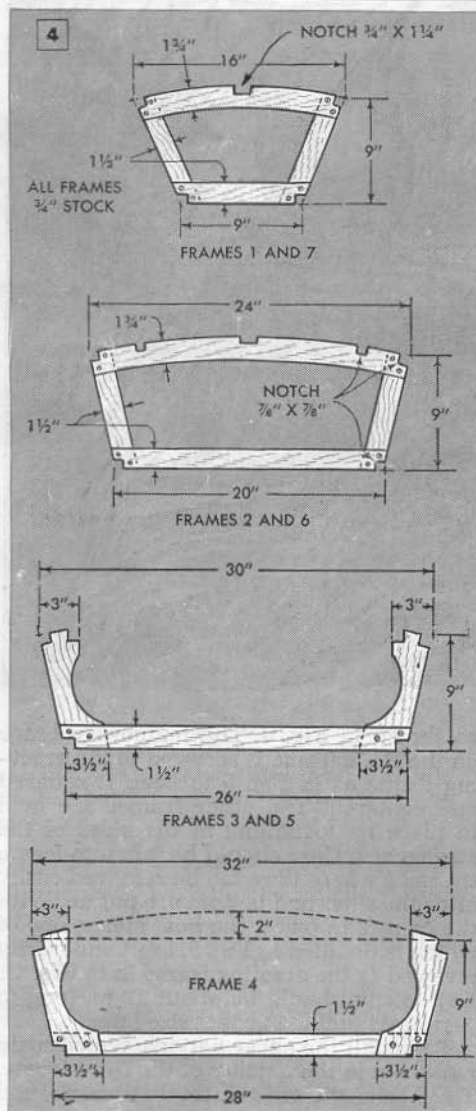
as shown in Fig. 8. The temporary brace on the No. 4 frame is screwed to the erecting frame as in Fig. 5 to keep it squared and centered. The other frames are held in place by toenailing at the sides of the strongback. Care should be taken to locate the nails where they can be removed easily after the sides and bottom are put on. With the frames in place, the boat stems, one of which is detailed in Fig. 9, are temporarily screwed to the erecting frame as in Fig. 11. Both stems should be about 12 in. long to permit trimming to exact size later.

To install the sheer battens, temporarily nail them in the notches of the No. 4 frame. Then bend the ends of the battens around



FRAME
CONSTRUCTION

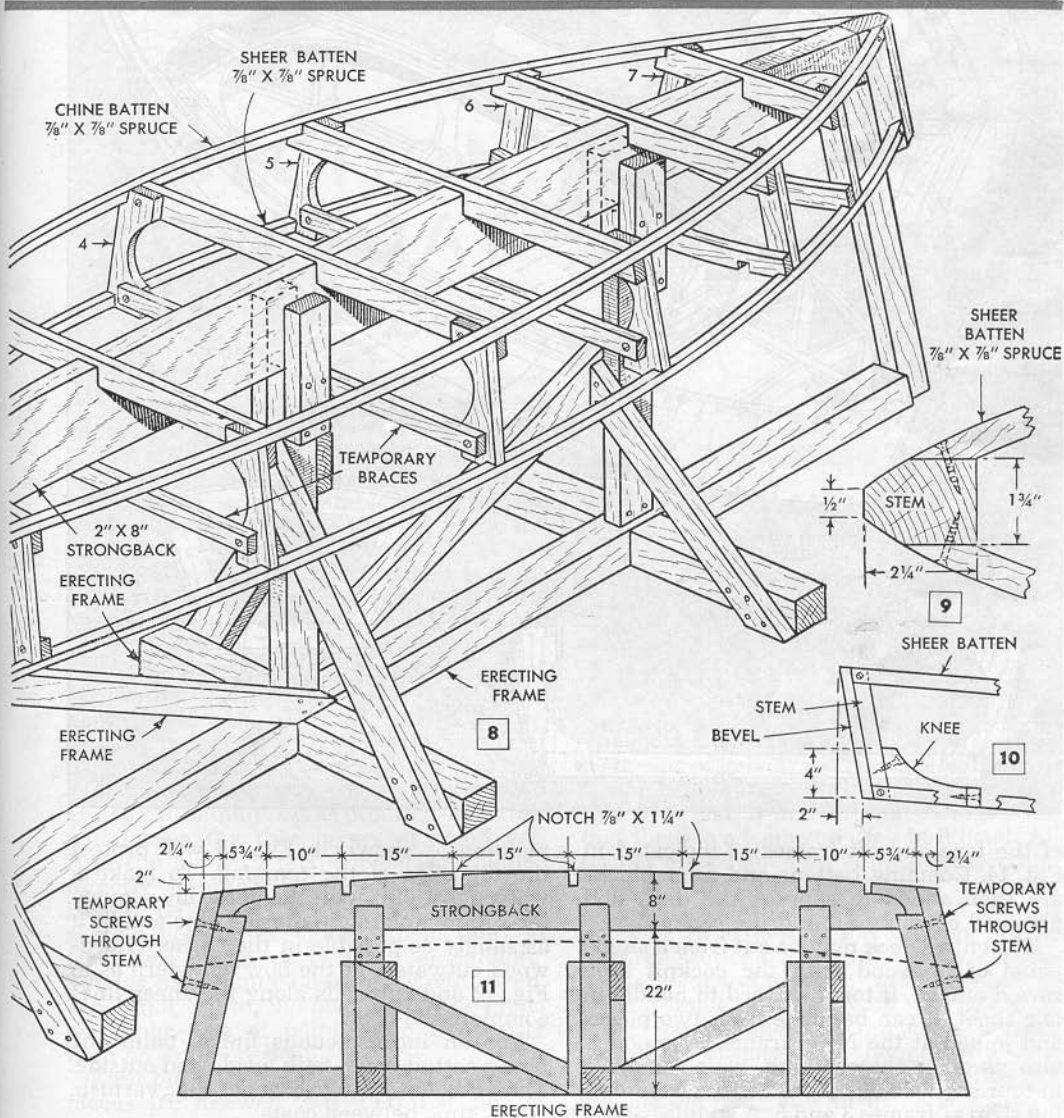
to the stems and mark so they will fit just back of the bevels as indicated in Fig. 9. After cutting to size, install the battens permanently with screws and waterproof glue. Fasten them to frame No. 4 first, and then work progressively toward the stems, securing both sides alternately. Check all the frames for squareness before fastening the sheer battens. Chine battens are installed in the same way. To assure a watertight hull, screws must be countersunk and the battens planed flush with the frames. The plywood covering must be in snug contact with the sheer and chine battens and bevels of the stems. To install the sides, bend and

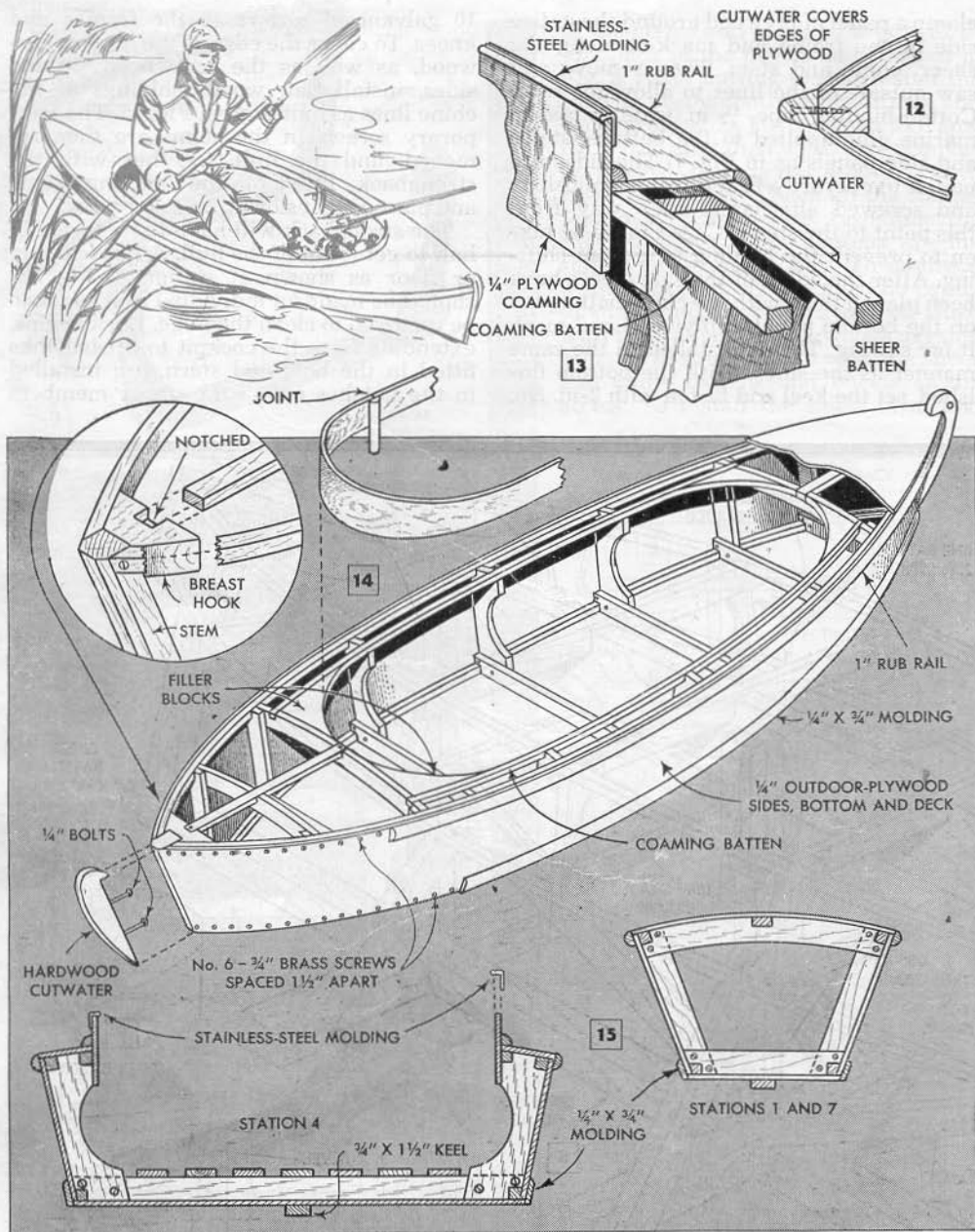


clamp a panel of plywood around the entire side of the frame and mark it along the sheer, chine and stem. Then remove and saw outside of the lines to allow for trim. Cotton binding tape, 1/2 in. wide, is laid in marine glue applied to the battens, stems and side panels as in Fig. 7. The sides are nailed temporarily to the frame amidships and screwed alternately each way from this point to the stems. Care should be taken to prevent the binding tape from shifting. After the edges of the side pieces have been planed flush with the chine batten, lay on the bottom panel of plywood and mark it for sawing. This is installed in the same manner as the sides. With the bottom finished, set the keel and fasten with 2-in. No.

10 galvanized screws to the frames and knees. To cover the edge of the bottom plywood, as well as the screwheads in the sides, install flat, wood moldings at the chine lines as indicated in Fig. 15. The temporary screws in the stems are then removed, and the hull, together with the strongback, lifted off the erecting frame and placed right side up on saw horses.

The strongback will have to be sawed in half to get it out of the hull. A false bottom or floor as shown at station 4, Fig. 15, should be made an individual unit so it can be removed to clean the bilge. Deck beams, extending from the cockpit to breasthooks fitted in the bow and stern, are installed in the notches cut in the upper members





of the fore and aft frames as indicated in Fig. 14. Coaming battens and filler blocks are then added to support the deck and plywood coaming around the cockpit.

The entire deck may be cut from a single panel of plywood with the cockpit area sawed out, or, if too awkward to handle in one sheet, it can be made from two pieces and joined at the No. 4 frame. Plywood is also used for the coaming, which is made in four sections and joined with a reinforcing strip at frames 3 and 5. A stainless-steel

molding as shown in Fig. 13 will protect the top edge of the coaming. To make a watertight joint with the deck, lay a quarter-round molding in marine glue and fit it as snugly as possible in the corner. Hardwood cutwaters at the bow and stern as in Fig. 12 and rub rails along the sheer lines complete the boat.

For an inconspicuous finish, paint the boat a cattail green both inside and outside. Then follow with two coats of spar varnish. Allow time between coats.



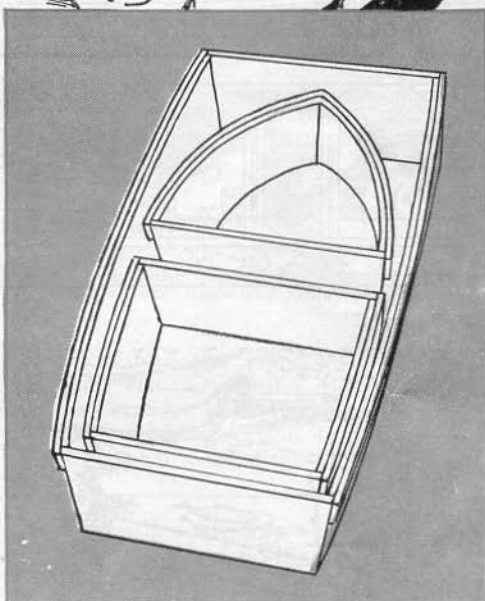
3-SECTION ROWBOAT

Fits Your Car

WHEN the three sections are taken apart and nested, this 12-ft. rowboat occupies a space only 6½ ft. long, and by virtue of its thin plywood construction is so light that one man can easily stow it on top of his car, using a suitable cradle to hold it. The boat is designed along standard lines, and construction differs only in the use of ¾-in. plywood for sides and bottom. In fact, it is built up as a single-unit rowboat, and then sawed between the two double bulkheads to form the three sections.

It is highly advisable to use waterproof plywood, if it is available. If not, the ordinary grade can be satisfactorily waterproofed by giving it three or four coats of paint or shellac, taking care to work it well into the exposed edges. If the wood is not thoroughly waterproofed, moisture will loosen the thin layers of wood and ruin the boat. In fact, all parts, whether directly exposed to the water or not, should be given two coats of paint or shellac before assembling them, and at least two more coats after assembling. Screws, also, should be sealed in white lead. When not in use, the boat should be given an application of paint more frequently than an ordinary boat.

First build the stem. Four wedge-shaped pieces are screwed to a central section of



¾-in. pine having grain at right angles. The stem is fastened to a knee and keelson by means of galvanized carriage bolts, with heads countersunk. Next make the frames Nos. 1, 2 and 3, and the bulkheads. Note that there is a frame on each bulkhead. All frames are notched for chines, keelson and inwale, and frames Nos. 2 and 3 for the seat rail. The bulkheads should not be notched. In assembly, the keelson will be in three sections. Fasten the frames, bulkheads, stem and transoms to the keelson in their relative positions with galvanized or brass screws, and nail the keelson, with assembled frames, etc., temporarily to a plank in order to hold it rigid while installing the chine and inwale. Strips should