HOW PRAMS

with Plans for "*JENNIE*"

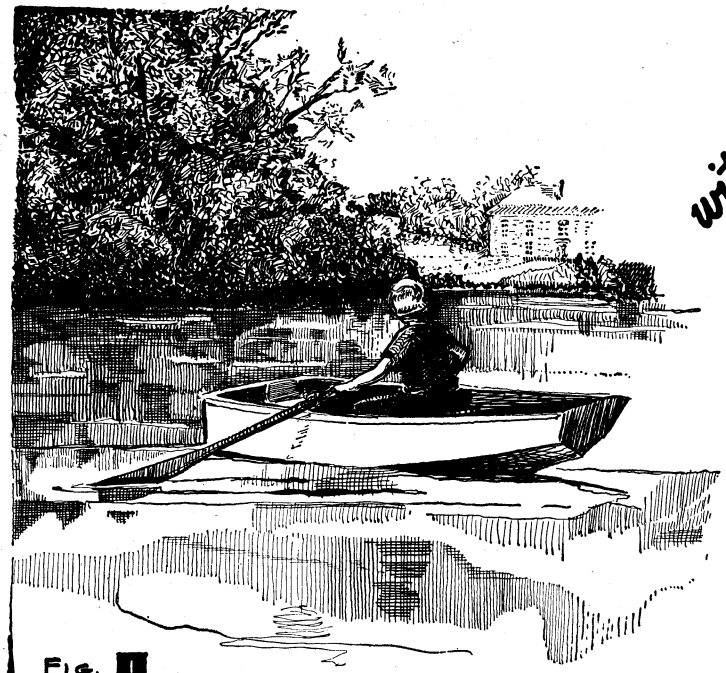
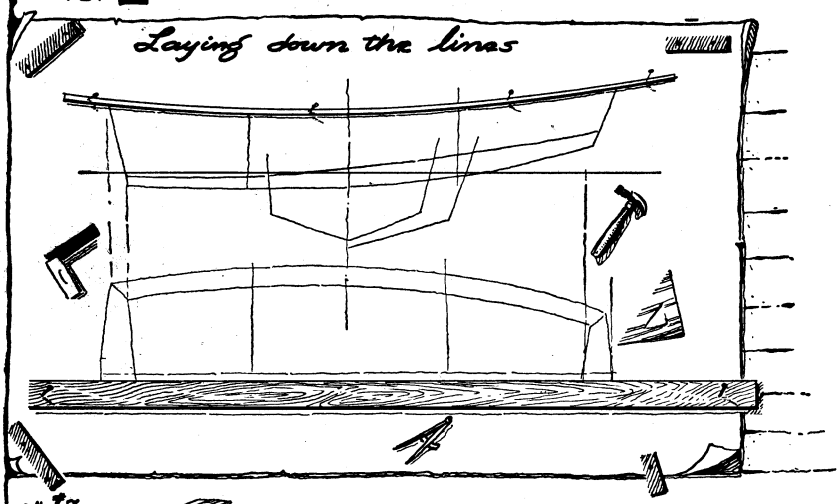


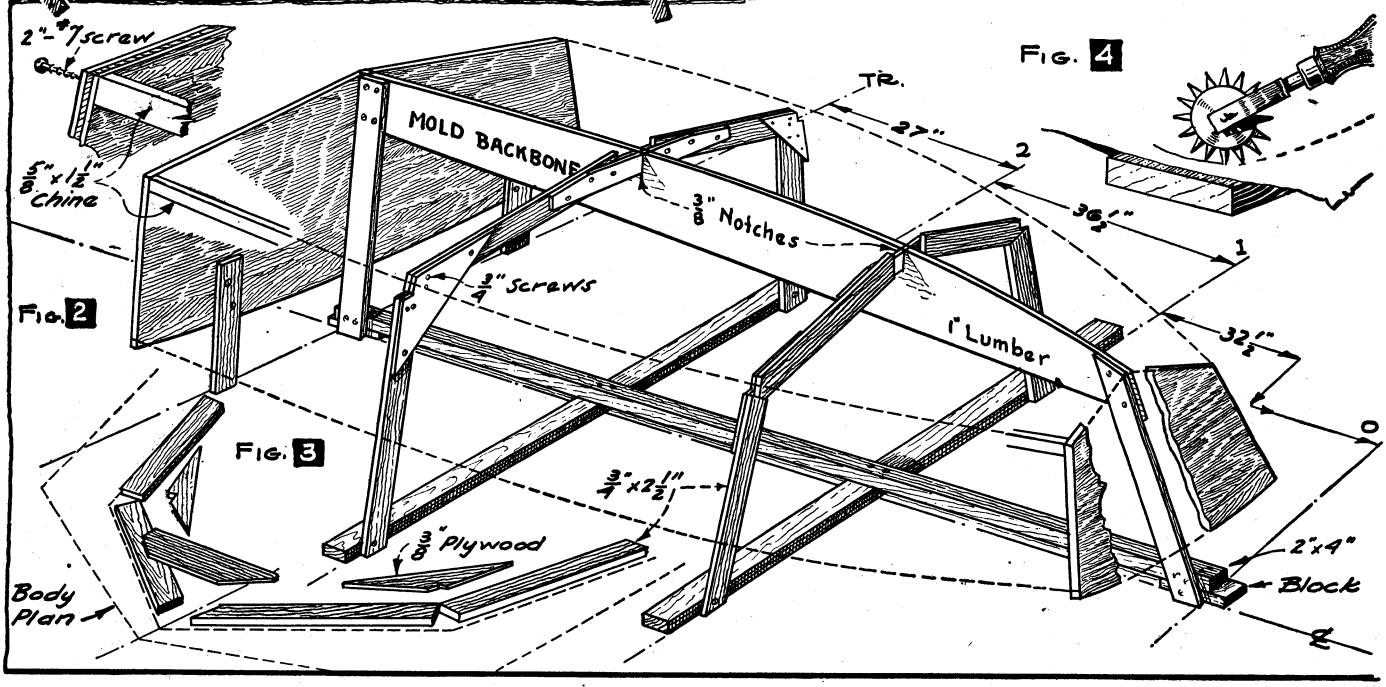
Fig. 1

All prams are pretty much alike. Here is how they are built, showing by example how to build your own

YOU SEE PRAMS everywhere. They are numerous as lily pads. Why? They're duck soup to build, and they're light, useful, and fun. Here is the dope on them, with plans for a good one. I've named her *Jennie* because she is plump, and plain—a little wren in the boat family.

The pram may seem a new type, but actually they are old, being English in derivation. Until plywood got itself waterproof and gave everybody a cheap hull covering, the only prams you would see were rather





The first step in building prams is the same as for any boat. Lay down the lines first. Fig. 1 shows how to lay out paper on the shop floor—straightedge, square and other tools will be needed. As shown in Fig. 2, a false strongback is set up on which to erect the molds and the bow and stern transoms. All molds are made to size on the shop floor, over body plan as at Fig. 3.

ARE BUILT

an 8-ft. Pram

By WESTON FARMER



heavy. So they were used chiefly abroad, mainly as mooring tenders to pint-sized British singlehanded sailing yachts. The first pram design published in this country was the *Wee Pup,* designed, if I recall correctly, by Edson B. Schock, a friend of mine and naval architect, father of our Edson I. Schock. Her plans appeared at least 40 years ago.

I built one, taking 80 hours, because those were peaceful days, and *Wee Pup* was cross-planked, clinker topsided—all the befoodlements of old-time boatbuilding, for which

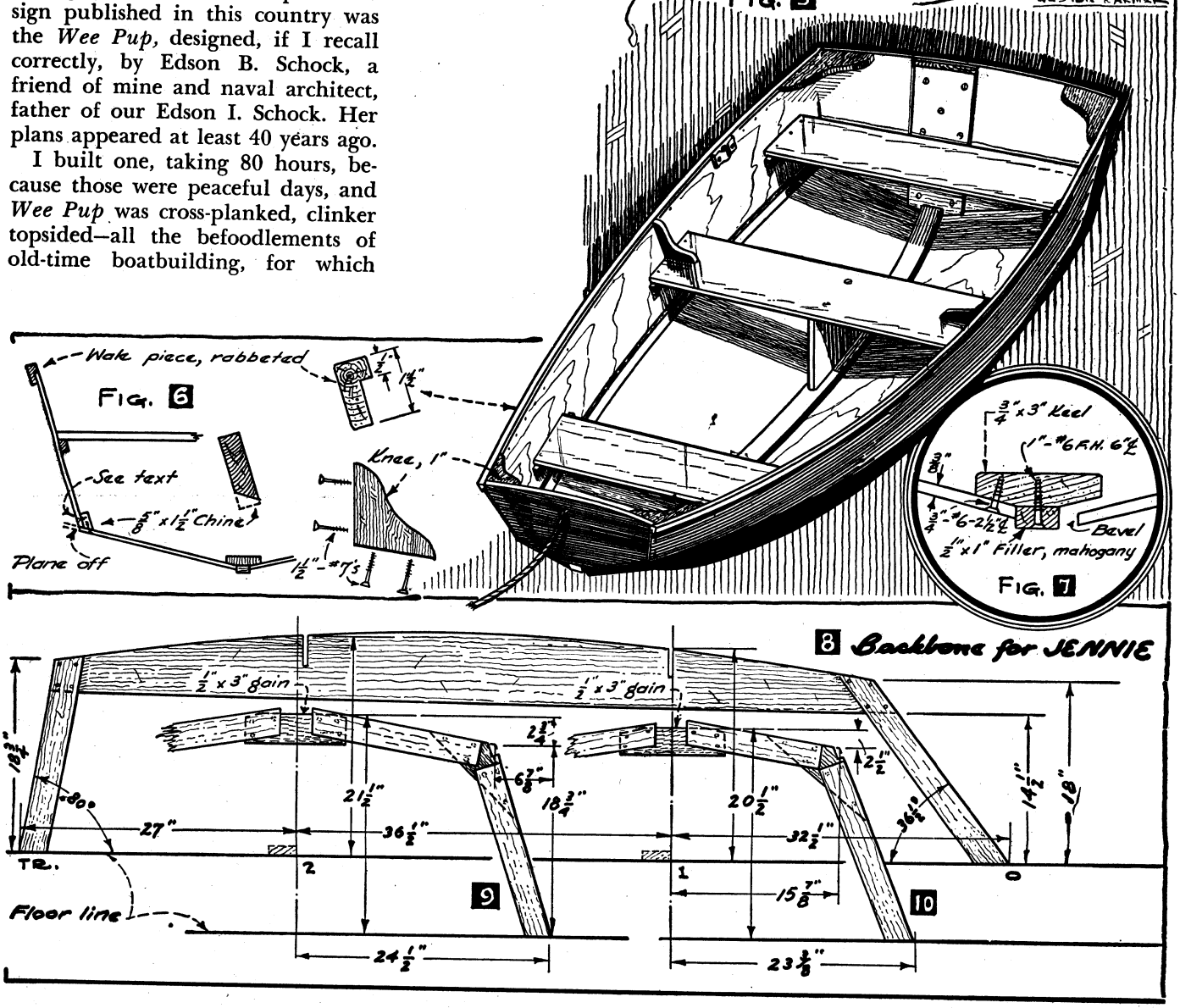
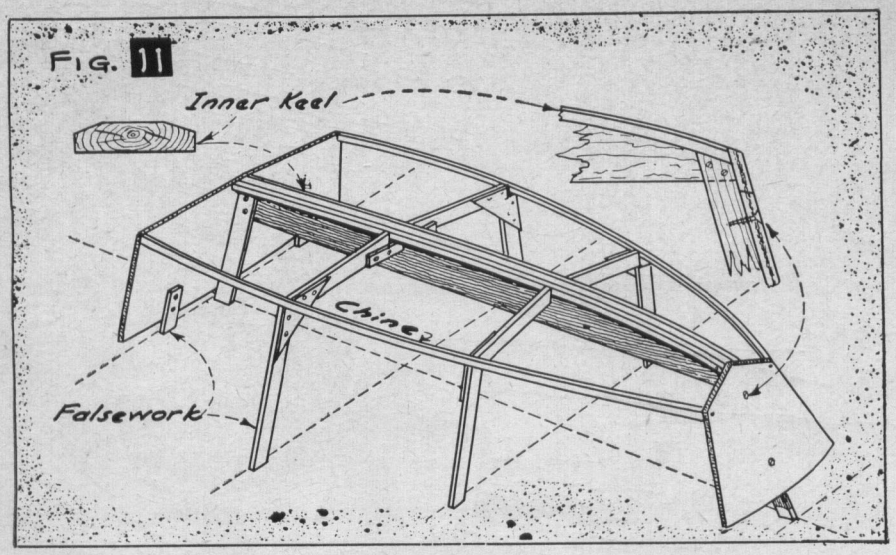
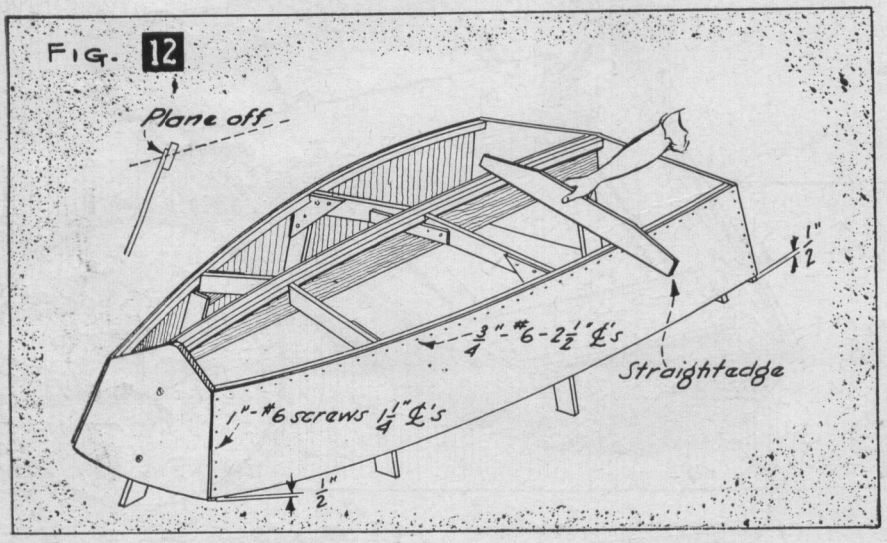


Fig. 5 is a perspective drawing of Jennie complete for small outboard power. Fig. 6 is a scantling section of this pram's construction. Fig. 7 is a section through keel, planking and filler. Fig. 8 shows the rough lumber plan in the building backbone. Figs. 9 and 10 show how the temporary molds are scabbed together by plywood gussets. Note backbone slots for gussets.



Here's the initial setup. The strongback is centered, the bow and stern transoms are temporarily screwed to the cant pieces. Temporary frames are erected, the keel and chines then streamed.

After the chine stringers are bevelled, the topside plywood is put on, using fastenings as stated in the drawing here. To accommodate the rabbeted wale piece (Fig. 6) the sheer is ½" shy of true line.



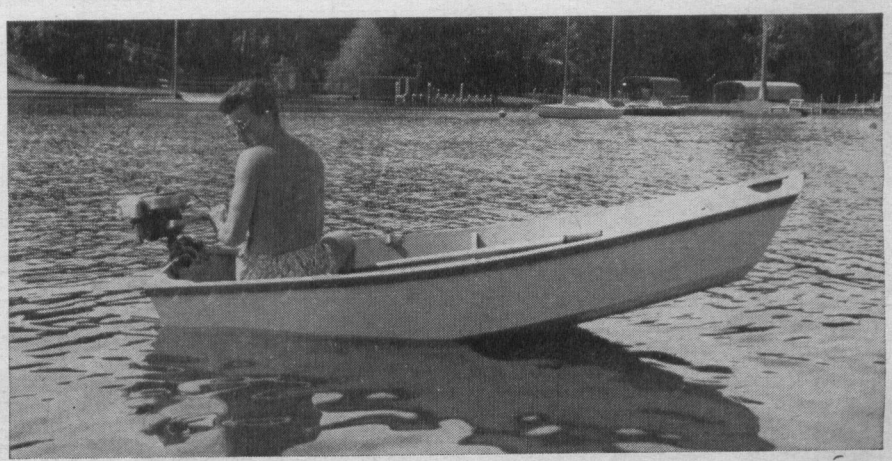
there is now little patience. Along in the late thirties when waterproof plywood was developed to a point where it wouldn't festoon about its fastenings, a good designer named Charles MacGregor—God rest his departed soul—latched onto the new material and started experimenting.

Among many designs in plywood, he published one of Sabot, a cute trick of a pram. Soon after this date Hagerty began putting out his famed Seashell kits, over 32,000 of which are now slopping about here and yon.

Other kit concerns like Chris-Craft, U-Mak-It, Roberts . . . nearly every kit boat supplier now has a pram kit in his stable. By now the practical length is standardized at around eight feet, and prams are all pretty much alike.

A pram's chief usefulness is as a cartop dinghy which will enable you to moor your larger craft in a safe roadstead. It next is serviceable as a tagalong dinghy. It is useful for gunkholing, and might conceivably have some value as a "lifeboat" in expert hands. They *can* be rigged with sail, but are poor sailors, to my notion, and scarcely worth the extra cost of building the rudder, mast, dagger board and trimmings. The same money on a different hull shape will give you better satisfaction. Still, plenty of people are flapping about like little butterflies, driven by a pocket handkerchief for a sail.

For agile kids, who can flip about when ready to tack, they'll be fun. But adults will have small patience making one foot of leeway to every two feet of headway. To me this is not sailing. Nor is hunkering about on the bottom, flat-fannied on every tack and getting beaned by the



Here is Jennie as designed by naval architect Weston Farmer. Shown on her stern is a lightweight Johnson of 1½ hp. Little mills like the Elgin outboard or a "malted milk mixer" like Elto Cub are all she takes.

hard-hitting boom, any fun either.

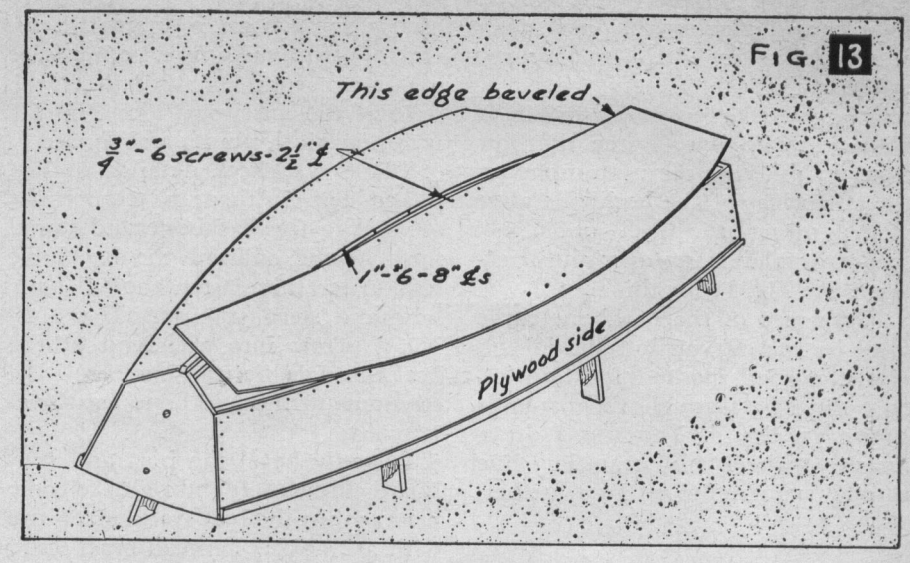
Still, for those who like to dream, and need to be shown, I have sketched the ideal dream of a sailing pram usually held in the beginner's eye, and have suggested a sail placement and suitable area. This is done without going into too much detail, because anyone expert enough to sail one of these rigs can supply his own dagger board installation, mast and rudder from experience. Others shouldn't try it.

Jennie, as a standard pram, will be within an inch or two of being about what all prams are. How are these little crafts built? Take a look at Fig. 1.

This shows how the lines are laid down and faired up on the workshop floor. Your guide for this work is the drawing of the lines as shown in Fig. 17. It is best to fair to full size. Then all things jibe.

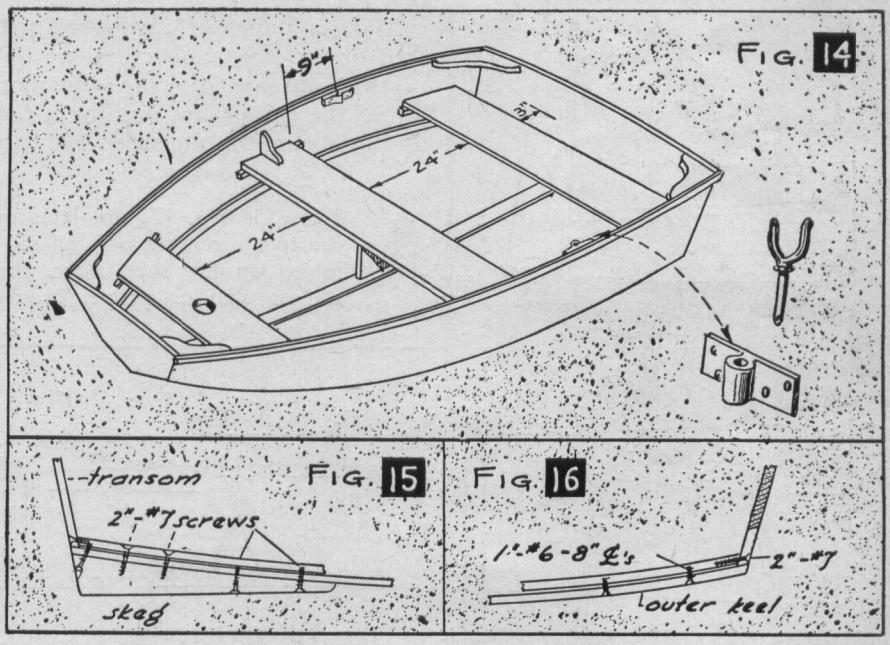
The idea is to erect a framework, or backbone, as shown in Fig. 2. To do this, you lay down a center line on the shop floor. Then at stations 0, 1, 2, and TR (transom), run lines at right angles to the center line. Next construct the backbone for *Jennie* as shown in the drawing at Fig. 8. This drawing shows also frames one and two (Fig. 9 and 10). They are put together either from the dimensions shown in Fig. 8, or are more neatly and carefully erected on the flat from the body plan which would be your third step, or as shown in Fig. 3. Note in Fig. 3 that the body plan has been laid down full size, and that *planking thickness must be subtracted.*

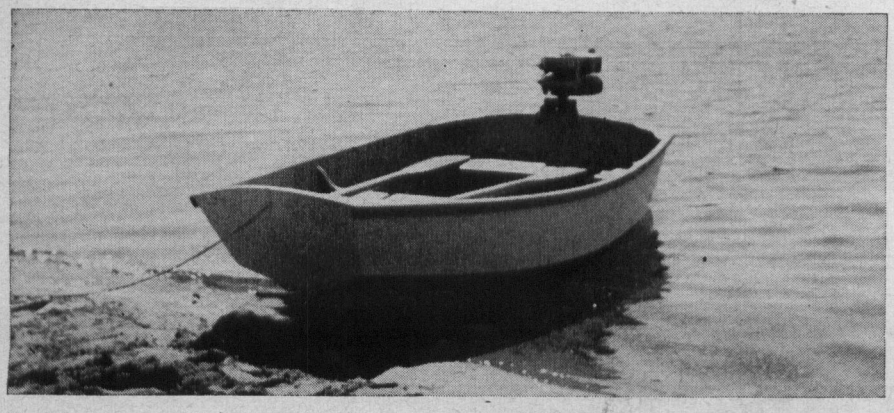
It is usual in prams without frames to use ⅜" exterior grade plywood. So members 1 and 2 (Fig. 9 and 10) in such case would be *temporary* and *not* part of the boat. If you use ¼" plywood, I would suggest leaving the frames in perma-



Fit the edges of the bottom panels by bevelling keel edges as in Fig. 7. Then start fastening amidship at keel and chine and work forward and aft with screws (see text) and laying seams in compo.

Fig. 14 below shows seat spacing. Note panting bench under middle thwart. Flat strap rowlocks are screwed to the wale piece. Fig. 15 shows fastenings at stern end on skeg. Fig. 16, screws at bow.





Jennie just after launching. A hole in the bow transom with knotted line run through provides a bow line. Five-foot oars stow well. Note quarter and seat knees and motor.

nently, and placing the seats on a suitable riser, say 5/8"x1¼" mahogany.

With the preliminary frame or backbone erected as shown in Fig. 2, your first step is to fasten the bow transom and the stern transom on the down legs of the backbone after *first* bending the keel of ¾"x3" spruce or mahogany over the backbone. See Fig. 11 for this step.

The sweep of the backbone curve must be fair. If you loft the job on paper, a good method for transferring the line through the paper is shown in Fig. 4. You use a dressmaker's wheel to transfer line through paper. Before I go further, and before you get into any difficulties following the simple steps, please make sure your floor is quite *level,* or that the falsework (See Fig. 11) is symmetrical, plumb and square.

The ¾"x3" keel, detailed in Fig. 6 and Fig. 7, then, is temporarily secured to the backbone and sawed flush at the ends of the backbone legs. After this, fasten the ¾" 5-ply bow and stern transoms. Use a 2" No. 7 screw into each end of the keel through the transom. Screw the transoms to the backbone legs—*temporarily.*

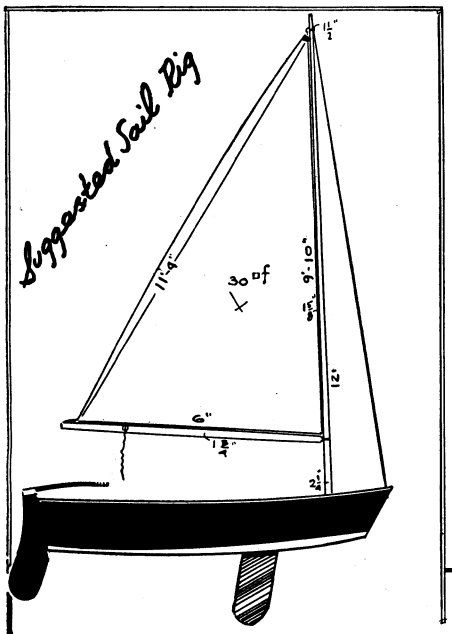
Properly bevel the port and starboard chines (left and right) to come neat against the bow transom. Secure with a 2" No. 7 flathead brass screw into each chine. Stream the chines into the gains or notches at each frame station as shown in Fig. 11 and as suggested in Fig. 2. The plywood gussets used on the frames *face* each other. This will facilitate bending the chines. With a saw, and careful cutting, chop the chines at the stern transom and fasten with 2" No. 7 screws.

Make a paper or cardboard pattern of the sides, and cut these out on the band saw, allowing some margin at the chines, but holding a fair and final curve to the sheer. See that the sheer is set ½" *above* the transom edges to accommodate the 7/8"x1½" rabbeted mahogany wale piece as detailed in Fig. 6. The extension of the transoms to accommodate this ½" rabbeted dimension is marked in Fig. 12, which clearly explains it.

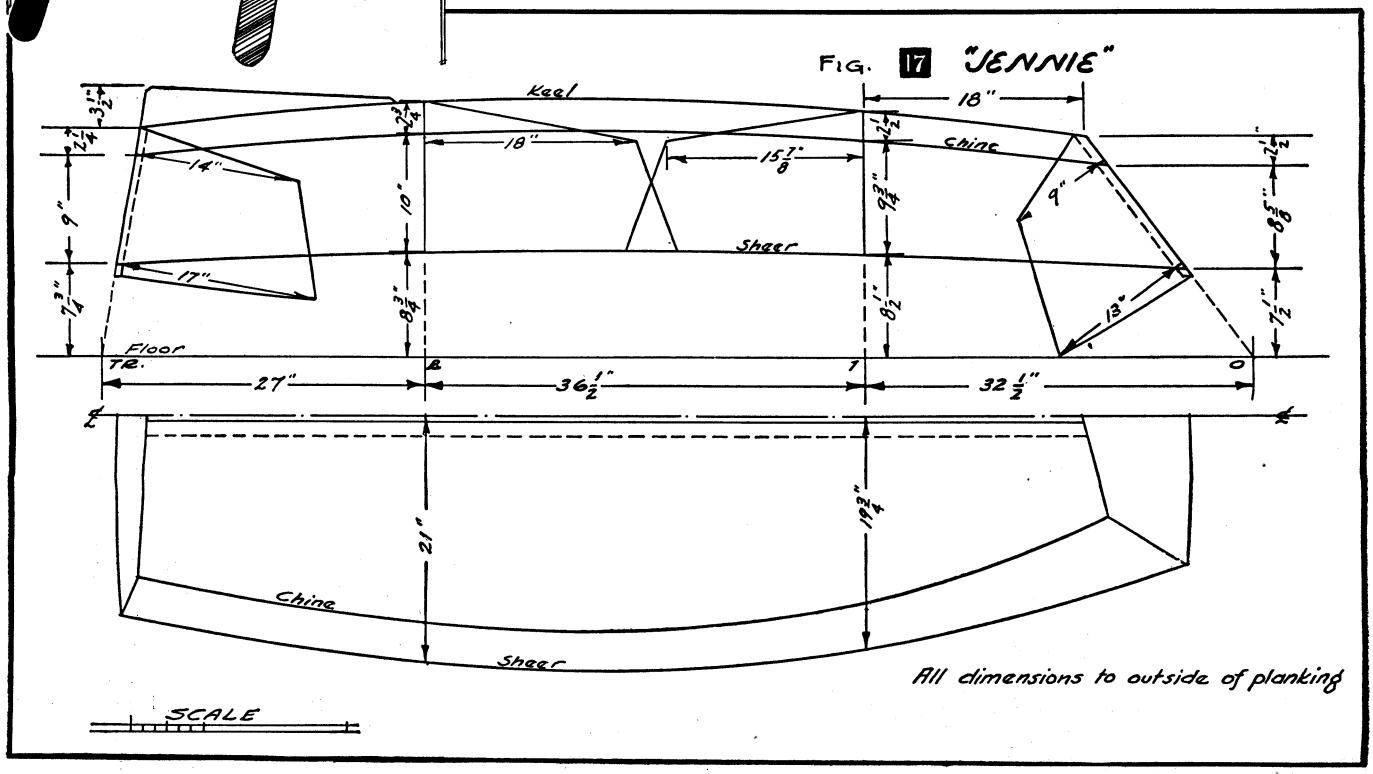
Use 1" No. 6 flathead brass screws on 1¼" centers on the bow and stern transoms through the plywood sides. And for securing the plywood sides to the chines, use ¾" No. 6 flathead brass screws on 2½" centers. Drive the screw heads flush, or sink them but very little, after which they will have to be puttied.

Next, trim the sides flush with the transom faces and the chines. A ripsaw will handle this detail at the chine edge. Then the flat on the keel and the bevel of the chine must be planed off (Fig. 12) using a straight edge for the purpose of getting a good, flat, faying surface. Don't plane off any stock below the inside face edge of the chine piece or the flat of the keel. In other words, no hollows or bumps in a fore and aft direction.

Fasten the outer keel of ½"x1" mahogany in the center flat of the inner keel, using 1" No. 6 flathead brass screws: two at each transom, a few at 6" centers, the balance at



Below, in Fig. 17, are lines and measurements for Jennie. These are to the outside of planking and must be laid out full size and faired on the shop floor, then planking thickness deducted. A sail rig showing proper area and cut of sails looms off to port.





Jennie under way. Don't expect this little ship to be a speeder—her bottom is too highly rockered to drive fast. For one man operation a stick can be run into the steering handle to give extension of length. You'll have a lot of fun for the $25 she'll cost you!

8″ centers. It would be well to lay this in waterproof casein glue or light seam compo. This is detailed in Fig. 6 and 7.

Make a pattern sufficiently oversize to accommodate for the bend of plywood about the bottom, and get out the bottom panels.

By judicious fitting and fairing, bevel the edge of the bottom panel joining the inner keel until it fits closely. Pay on a little seam compo along the keel and chine edge, and commence fastening down the bottom panel with screws, as shown in Fig. 13, using ¾″ No. 6 flathead brass screws on 2½″ centers along the keel and chine. Use seam compo sparingly under joints—just enough to seal the joint. Into the transoms, drive 1″ No. 6 screws on 1¼″ centers. Plane off the bottom outer edge at the chine as indicated in Fig. 6. In Figs. 6 and 7, incidentally, you see sectionally every piece in the boat and this is the scantling section usually provided by the naval architect to show a boatbuilder what size members are and where they go.

Your pram is now ready to turn over. Simply free the backbone and frame jig from the cross members on the floor, or better yet, lift the whole thing from the floor and turn over. Install the middle seat before removing the jig. This is of 1″ spruce, redwood, or mahogany stock, and rests on 1″x1½″x12″ risers bolted through the plywood with flathead stove bolts, over washers. Such treatment keeps the boat in shape. Make a pattern for this seat length—don't jam a seat down: it will expand the hull, warp it, and cause you trouble.

Next fasten the skeg, using four 2″ No. 7 screws, two from inside, two from outside, as shown in Fig. 15. An additional canted screw may also be used at the very bitter end of the skeg. This skeg is of 1″ stock and shaped as shown. The skeg gives directional stability under oars and when towing.

Next, you should put in the stern seat and the bow seat. The cleats for these seats should be about 5½″ below the sheer. This will put the seats themselves at the proper level. Under the middle seat place a bench, or stiffener, as shown in Fig. 5. Fasten through the seat into bench with 1½″ No. 7 screws (two) and through the keel into the bench with two 2″ No. 7 screws. The small knees on the center seat as shown in Fig. 5 will help stiffen the boat immeasurably. Use 1½″ No. 7 screws here. Two to each leg of the knee.

Fasten the wale piece over the top edge of the side planking, using 1½″ No. 7 screw into the transoms, and ¾″ No. 6 screws on about 5″ centers through the side plank, inboard, out to the wale. Next install the knees, as shown in Fig. 6 and Fig. 7, using 1½″ No. 7 screws into the knees.

The rowlocks are of flat strap type, best fastened with flathead brass stove bolts, riveted over the nut. Use open oarlocks, as sailormen should. The landlubber, or pinned variety, are dangerous, and trouble makers. You can't feather your oars with them, and they require more dip and lift than open oarlocks. Use five- to six-foot leathered oars.

The whole hull must now be sanded. Don't try to handplane the plywood. The plane bit will dig into it and it will tear. Use a couple of coats of Firzite grain sealer, sanded off well, before applying two coats of good marine color of a shade that pleases you. Allow each coat to dry, bone dry. Nothing so assures boat longevity.

Step by step directions just as have been given are about as entertaining as reading about old lead pipe, so I have condensed them to grim adequacy. If any points are not clear, I suggest reading, and doing the necessary eye-jumping from drawing to drawing until the boat has been built in the mind's eye. Then the job will be simple. Anything fully understood is never complicated.

The sailing rig, as I have stated, is sketched for the amazement of those who would like to noodle the idea of sailing such a boat. If you want to sail a pram, you'd do better to buy a kit put out by a manufacturer who has worked the bugs out of his outfit. These little fellers are touchy. You cannot "balance" a sail plan on a boat this size with any accuracy, because the loads vary so much. Anyone who is a fair sailor can cook his own rig. And a novice, if sailing he would go, is better off spending his cash on a hull of different proportions than *Jennie*. As to costs, you can buy the materials for *Jennie* for a couple dozen dollars.

Figs. 16 and 17 and on are sufficiently clear to need no further explanations. Happy dunking!