SEA GAL

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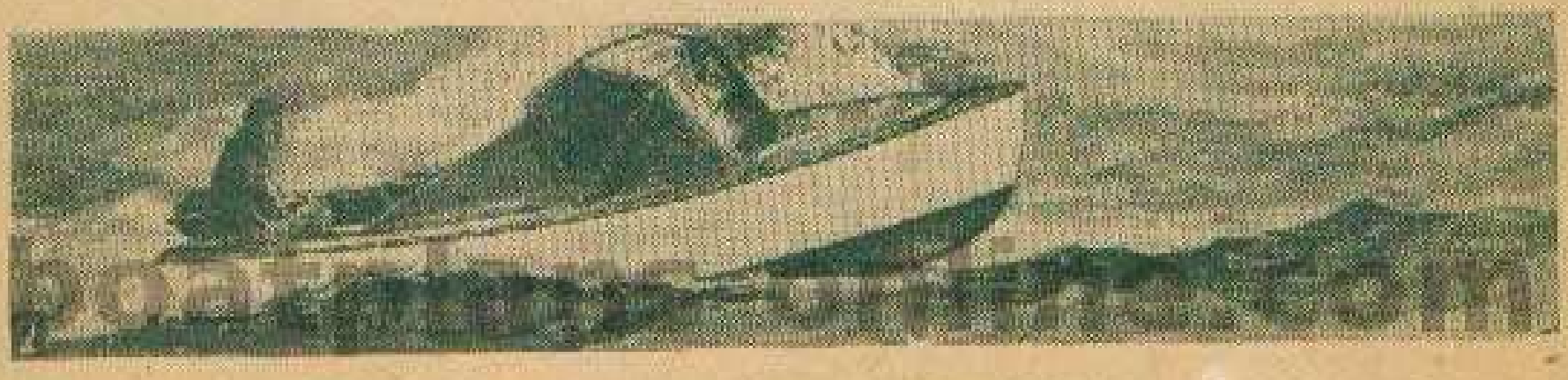
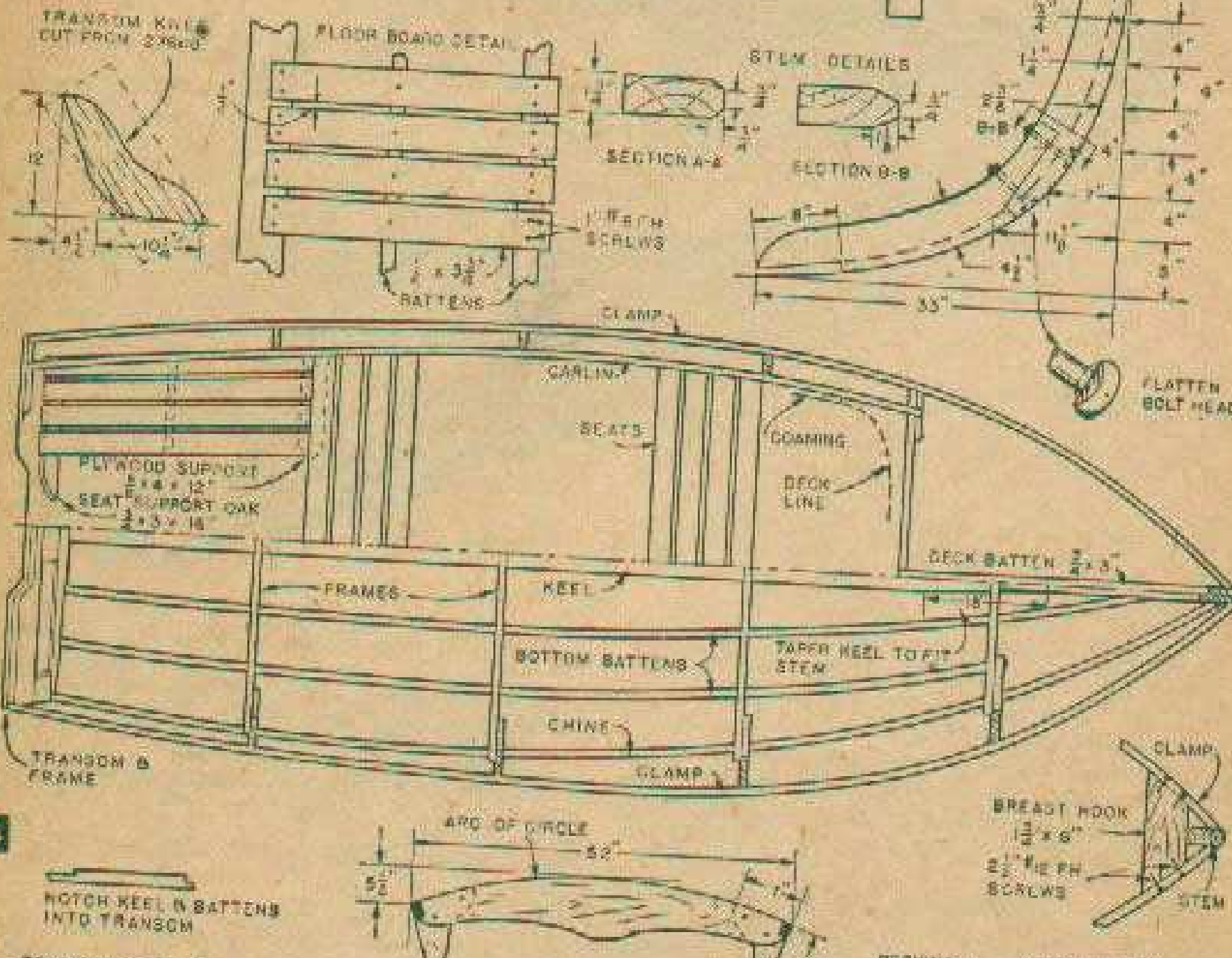
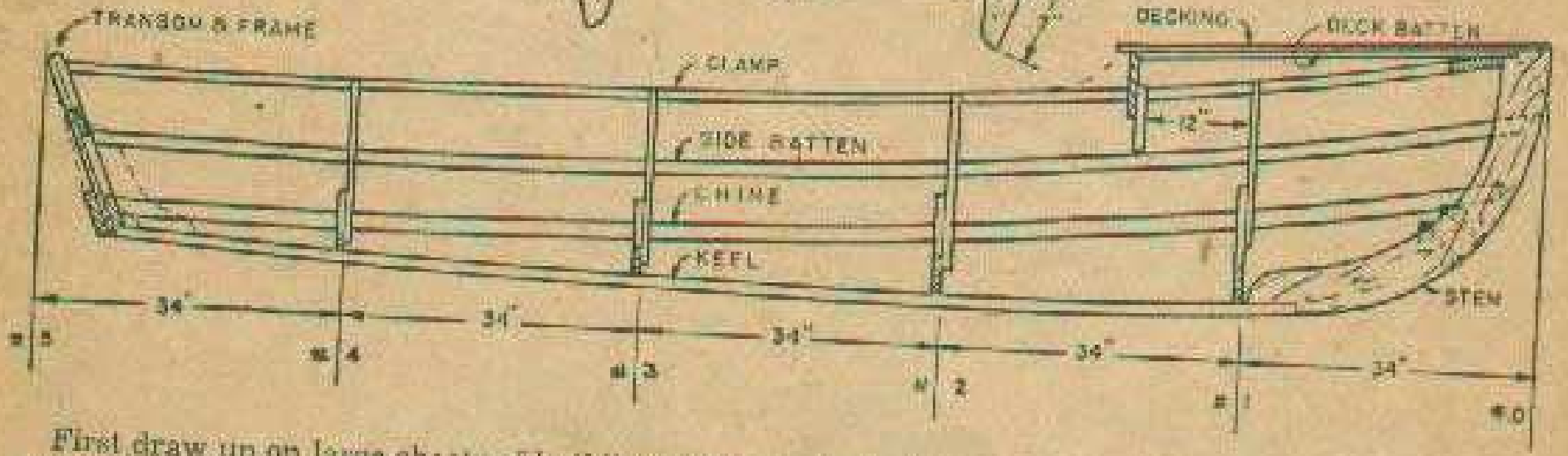
TRADITION has it that it's the strong, broad-beamed heavyweights who are more stable when the going gets rough. *Sea Gal's* ample beam and 300 lb. weight make her ideal for the rough waters along the east or west coasts, the Gulf or inland lakes. With a 14 hp Evinrude Fastwin, this versatile utility outboard boat will do 25 mph with one aboard and plane with 3 persons aboard.

That reserve stability and safety built into the Sea Gal depend in part on how well you build her. If you use good white oak framing, exterior A-A plywood sheathing, and, after it's finished, coat the entire hull with two coats of Kuhl's Three Way Preservative, this fine hull will serve you for many years to come. Sea Gal uses the minimum number of both transverse and longitudinal framing members but they must be somewhat heavier than the type used on planked boats whose closely spaced frames prevent the plank edges from flexing.

USES: General purpose outboard utility runabout adapted to use on rough open waters. Strong, stable, seaworthy construction. Generous proportions for carrying loads at high outboard speeds.
LENGTH: 15 ft. 0 in. over-all (measured around sheer).
BEAM: 5 ft. 4 in. measured to outside of plywood at widest point.
DEPTH: At bow: 33 in.; amidships: 23 in.; aft transom: 20 in.
WEIGHT: 300 lb. (dry).
SEATING CAPACITY: 6 to 8 persons.
SPEED: 15 to 25 mph—use with outboard motors such as Evinrude or Johnson. Test speed—25 mph with Evinrude 14 FASTWIN.
CONSTRUCTION: ¾ in. waterproof or exterior plywood over minimum number of frames with longitudinal framing for greater all over strength. Combination of convex and vee-bottom (convex produces greater speed while vee presents easy entrance lines). Alter sections molded for better stability and improved appearance.

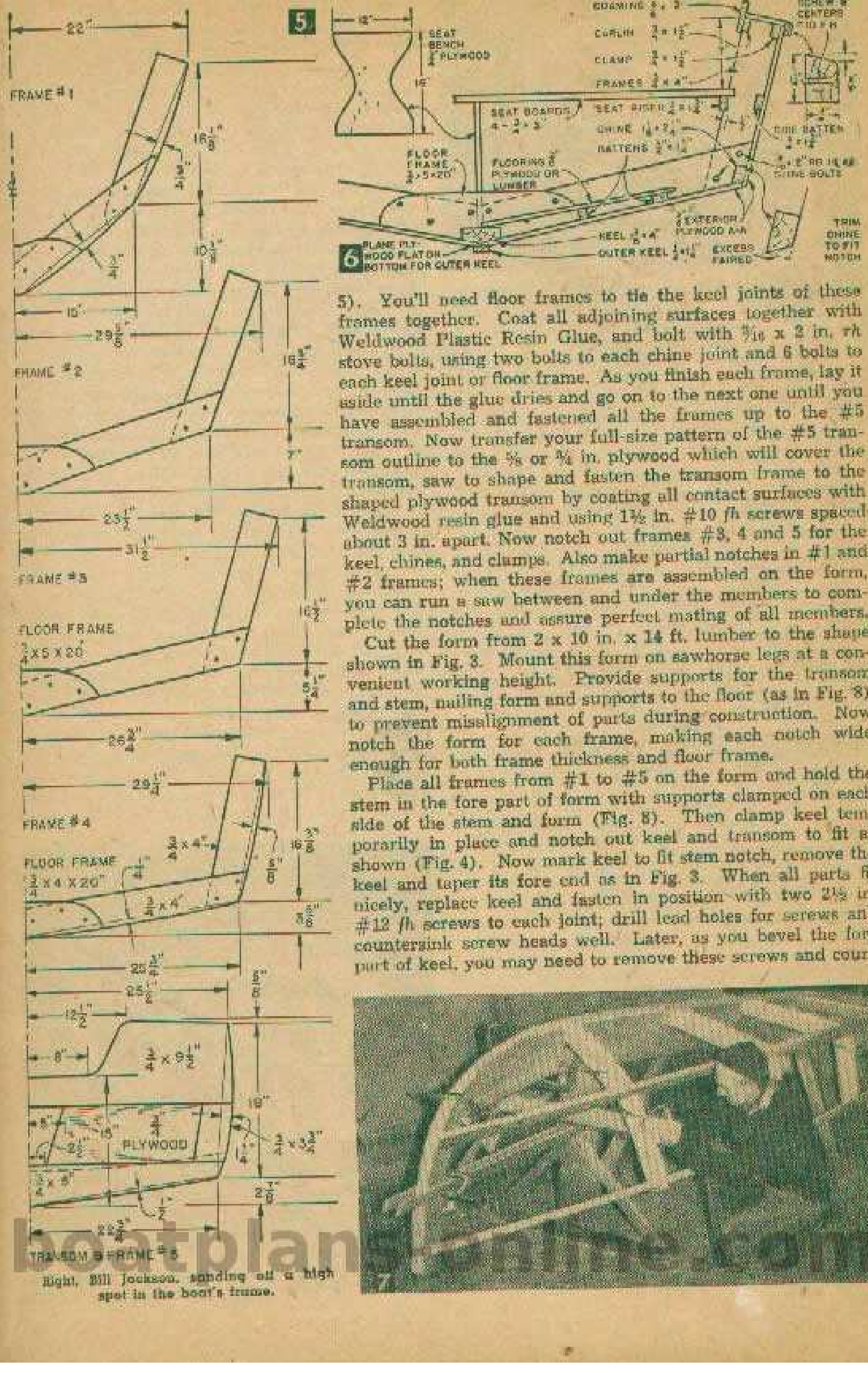






First draw up on large sheets of building paper, full-size patterns of the stem, and frames #1, 2, 3 and 4, and #5 transom and frame. Starting with the stem pattern, lay these full-size patterns on the lumber you'll use for each, prick outline through onto the lumber, and saw out each part, following the pricked outline. Then join stem parts together with two 5/16 x 4½ in. carriage bolts, flattening heads of bolts as shown in Fig. 3. Next, bevel the stem to match the section bevels and notch it for the keel.

Lay the full-size patterns for frames #1 to #4 on top of the frame material and saw ends to coincide with keel and chine joint markings (Fig.



5). You'll need floor frames to tie the keel joints of these frames together. Coat all adjoining surfaces together with Weldwood Plastic Resin Glue, and bolt with 5/16 x 2 in. *fh* stove bolts, using two bolts to each chine joint and 6 bolts to each keel joint or floor frame. As you finish each frame, lay it aside until the glue dries and go on to the next one until you have assembled and fastened all the frames up to the #5 transom. Now transfer your full-size pattern of the #5 transom outline to the 5/8 or 3/4 in. plywood which will cover the transom, saw to shape and fasten the transom frame to the shaped plywood transom by coating all contact surfaces with Weldwood resin glue and using 1½ in. #10 *fh* screws spaced about 3 in. apart. Now notch out frames #3, 4 and 5 for the keel, chines, and clamps. Also make partial notches in #1 and #2 frames; when these frames are assembled on the form, you can run a saw between and under the members to complete the notches and assure perfect mating of all members.

Cut the form from 2 x 10 in. x 14 ft. lumber to the shape shown in Fig. 3. Mount this form on sawhorse legs at a convenient working height. Provide supports for the transom and stem, nailing form and supports to the floor (as in Fig. 8) to prevent misalignment of parts during construction. Now notch the form for each frame, making each notch wide enough for both frame thickness and floor frame.

Place all frames from #1 to #5 on the form and hold the stem in the fore part of form with supports clamped on each side of the stem and form (Fig. 8). Then clamp keel temporarily in place and notch out keel and transom to fit as shown (Fig. 4). Now mark keel to fit stem notch, remove the keel and taper its fore end as in Fig. 3. When all parts fit nicely, replace keel and fasten in position with two 2½ in. #12 *fh* screws to each joint; drill lead holes for screws and countersink screw heads well. Later, as you bevel the fore part of keel, you may need to remove these screws and coun-

Right, Bill Jackson, sanding off a high spot in the boat's frame.

Bottom and side battens of framework in place, ready for planking.

MATERIALS LIST—SEA GAL

Exterior Plywood Required

3 pcs.	¾"x4'x10'	Sides and Bottom
1 pc.	¾"x24"x3'	Transom
1 pc.	⅝"x4'x8'	Decking
1 pc.	⅜"x4'x4'	Flooring
1 pc.	¾"x24"x24"	Seat Benches

Other Lumber Required (use Oak for framing)

2 pcs.	1⅛"x2¼"x14"	Chines
1 pc.	1¾"x4"x12'	Keel
2 pcs.	¾"x1½"x15'-6"	Clamps
2 pcs.	¾"x1¾"x15'	Side battens
4 pcs.	¾"x1¼"x14'	Bottom battens
1 pc.	1⅜"x8"x4'	Stem
2 pcs.	¾"x1½"x12'	Cariins
2 pcs.	¾"x1¼"x15'-6"	Mouldings
1 pc.	2"x10"x14'	Form
4 pcs.	¾"x4"x8"	Frames side and bottom
1 pc.	¾"x8"x8'	floor frames
1 pc.	¾"x9½"x54"	transom
1 pc.	¾"x6"x54"	transom
1 pc.	¾"x10"x24"	transom
1 pc.	¾"x8"x48"	Deck Beam
8 pcs.	¾"x3"x10'	Seats
2 pcs.	¾"x1⅜"x14'	Seat risers
1 pc.	1⅜"x8"x18"	Transom knee and Breast Hook
30 pcs.	½"x4"x24"	Floor boards (optional)
2 pcs.	⅛"x3"x12"	Coaming

Fastenings Required

1½ gross 1" #8 flathead screws (for decking)
3 gross 1¼" #8 flathead screws
4 doz. 1½" #10 flathead screws
4 doz. 2" #10 flathead screws
1 doz. 2½" #12 flathead screws
4 doz. ⅜" x 2" roundhead stove bolts
4—⅜" x 5" carriage bolts (for stem and transom knee)
4 doz. 1¾" #8 flathead screws (for mouldings)
2 qts. Kuhl's bedding composition
1 qt. Weldwood or Cascophen resin glue
1 gal. paint (two coats inside)—Firzite
1 gal. paint (two coats outside)—Firzite
2 qts. semi-gloss enamel (bottom and sides)
1 qt. spar varnish (for seats, decking)

tersink deeper, replacing screws afterwards.

Make sure stem and transom are squarely aligned with form and then clamp chines in position temporarily; run a saw between each chine and its frame notch to make sure it fits chine notches perfectly. Then measure and taper chines to fit stem and after aligning all frames with the form fasten chines with one 2 in. #10 *fh* screw to each joint. Work from the stem aft until you reach the transom, where the chines are notched all the way through the transom. Next, fasten clamps in position, trimming notches to fit closely, beveling ends of clamps to fit stem and fastening with one 2 in. #10 *fh* screw to each joint.

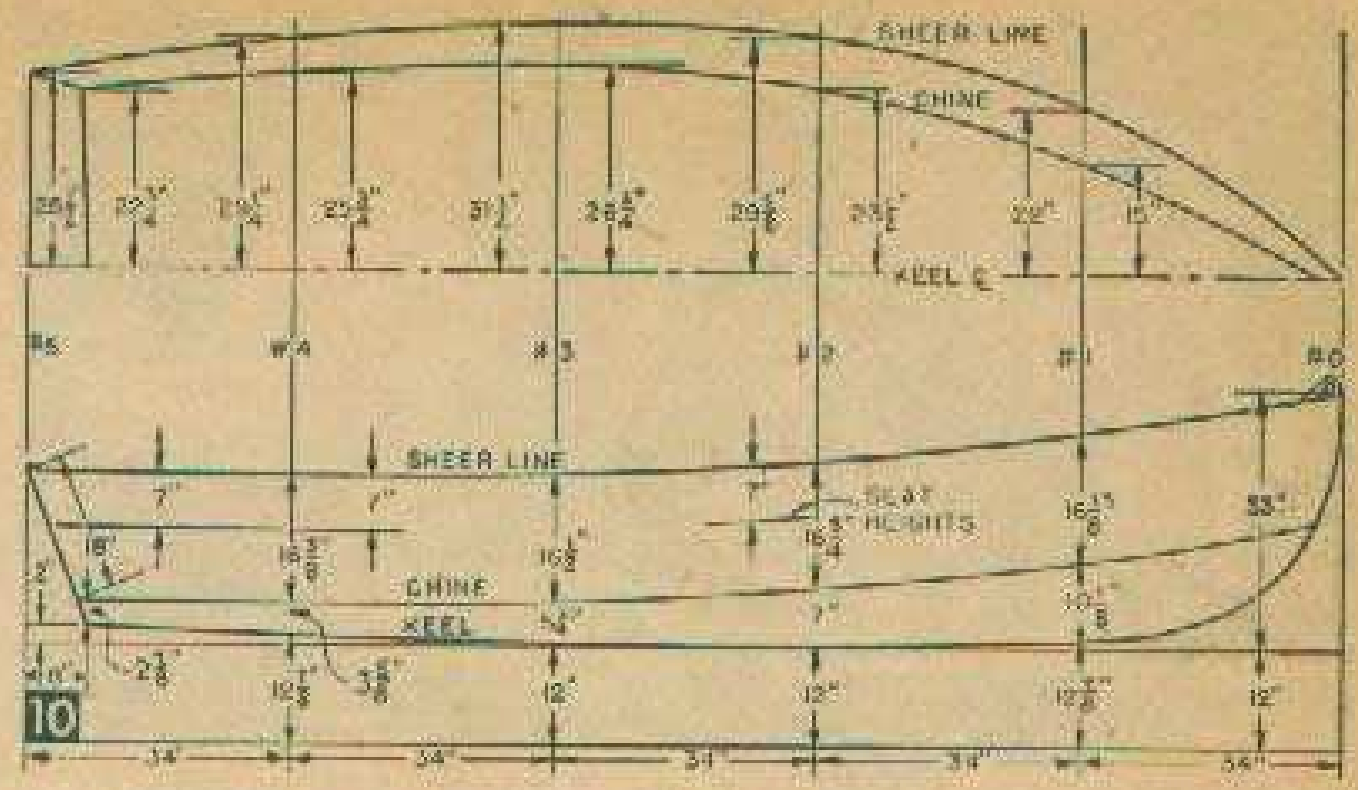
You have one longitudinal framing member or batten on each side of the boat, and two battens on each side of the keel. Position the side battens halfway between clamp and chine and position the bottom battens at equal intervals between the keel and chines. Lay the side battens flat. Set the 2 bottom battens nearest the keel on edge for greater strength and to enable the flooring to set level, but lay the 2 outer bottom battens, nearest the chines, flat. Notch the frames for all the battens so that outside edge of frame and batten are flush in each case; then fasten with one 1¾ in #8 *fh* screw to each joint.

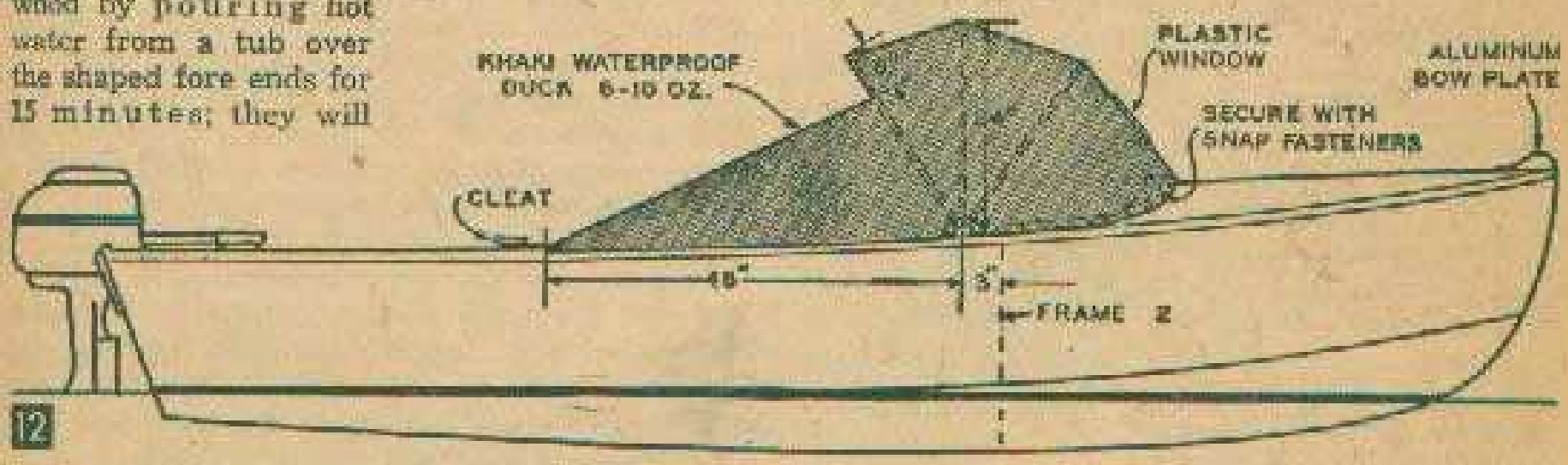
Now trim and fair the entire framework so the plywood to be applied lies evenly at all points. Lay about a 4 in. thin plywood strip or batten, 36 in. long, over the keel and chines to show you how much fairing is needed, and trim with a heavy jack plane, planing off high spots and testing with the strip or batten until contact surfaces are true and fair. Next, saw to shape the after transom bottom frame coat contact surfaces with Kuhl's bedding composition (to prevent leaking at transom notches of keel and chines) and fasten it to the transom with 2 in. #10 *fh* screws. This after bottom frame piece provides a much greater holding area for planking fastenings.

To plank the hull, first lay a sheet of ¾ in. x 4 x 10 ft. plywood in place so that aft end covers transom and keel edge of plywood lands directly on the center line of the keel. Mark this plywood along the chine, then remove and saw to shape. The plywood piece that is left from the shaped bottom pieces will plank about ⅝ of each side. Next fit planking on the opposite side of the boat's bottom and then remove plywood and coat entire framework with Kuhl's preservative. When dry apply Kuhl's bedding compound to the chines, transom, keel, frames and battens to keep out rot at these points and insure watertight joints. Now clamp shaped plywood in position and fasten it securely with 1¼ in. #8 *fh* screws spaced about 2½ in apart. Plank both sides in

Clamp battens, planking on form, drill, screw-fasten, trim.

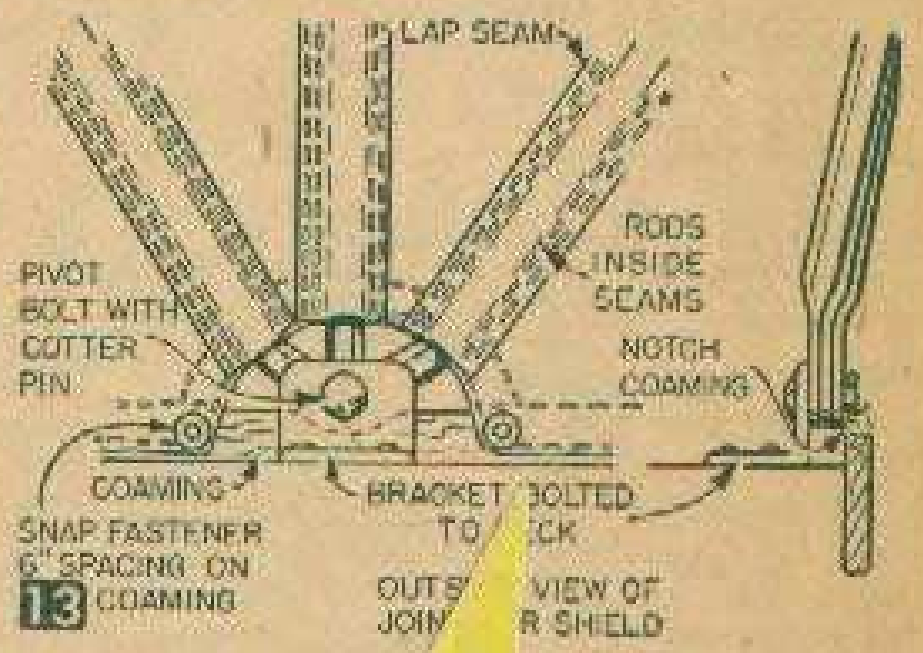
this way. (Along the keel joint, you'll find some fitting is needed.) Coat the keel joint liberally with Kuhl's bedding composition before fastening in place. For the extreme fore ends of the bottom planking, cut out a paper pattern of the space to be covered, and transfer this pattern to ⅜ in. plywood, allowing about an inch over the side for trimming later. Glue and screw-fasten ¾ x 3 in. plywood battens to fore edge of bottom planking, fitting short lengths of battens between longitudinal members so planking joints fall on centerline of each batten. You'll need to soften the extreme fore ends of plywood by pouring hot water from a tub over the shaped fore ends for 15 minutes; they will



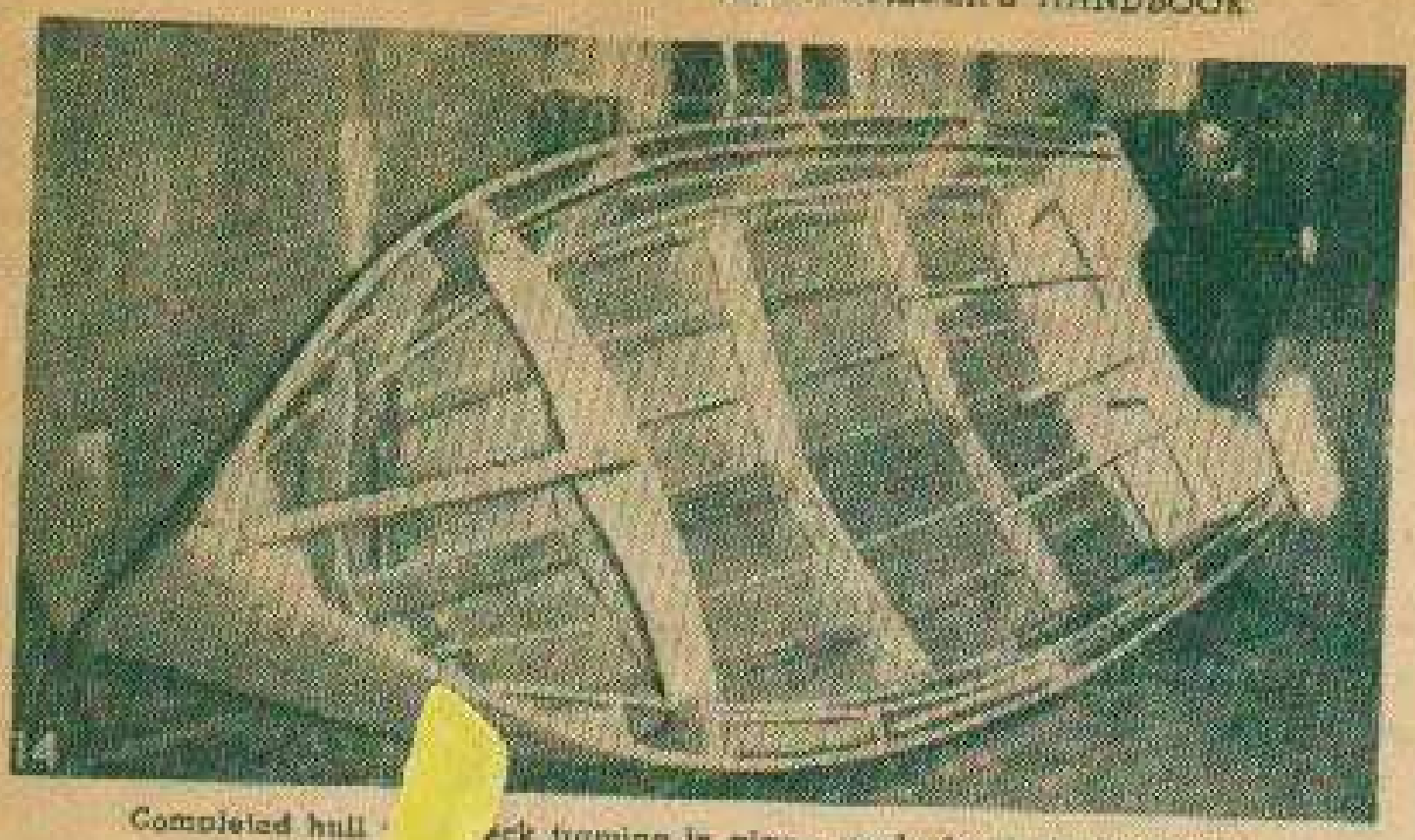


then be pliable enough to bend easily when clamped in place. Coat surfaces where framing will contact bottom planking with Kuhl's bedding composition and screw-fasten fore planking in place as you did the after planking. With both bottom sides of plywood fastened in place, trim plywood evenly along chines. Next, start planking the sides with the leftover cut-off portion of plywood from the bottom. Clamp this plywood piece in place and, starting from the stem and working aft, mark it to shape. Then remove plywood and saw it to shape. Coat chines liberally with Kuhl's bedding composition and add a thinned coating along side batten and clamp. Then attach shaped side planking to framework with 1⅛ in. #8 fh screws spaced about 2½ in. apart. Glue and screw-fasten a batten for the side joint (as you did the bottom joint) to the plywood planking. Complete the side planking with plywood out to the transom, coating with composition and screw-fastening along all contact surfaces, spacing screws 2½ in. apart.

When the side planking is finished, trim plywood evenly along chines and stem and plane a flat area over the keel center for an outer keel



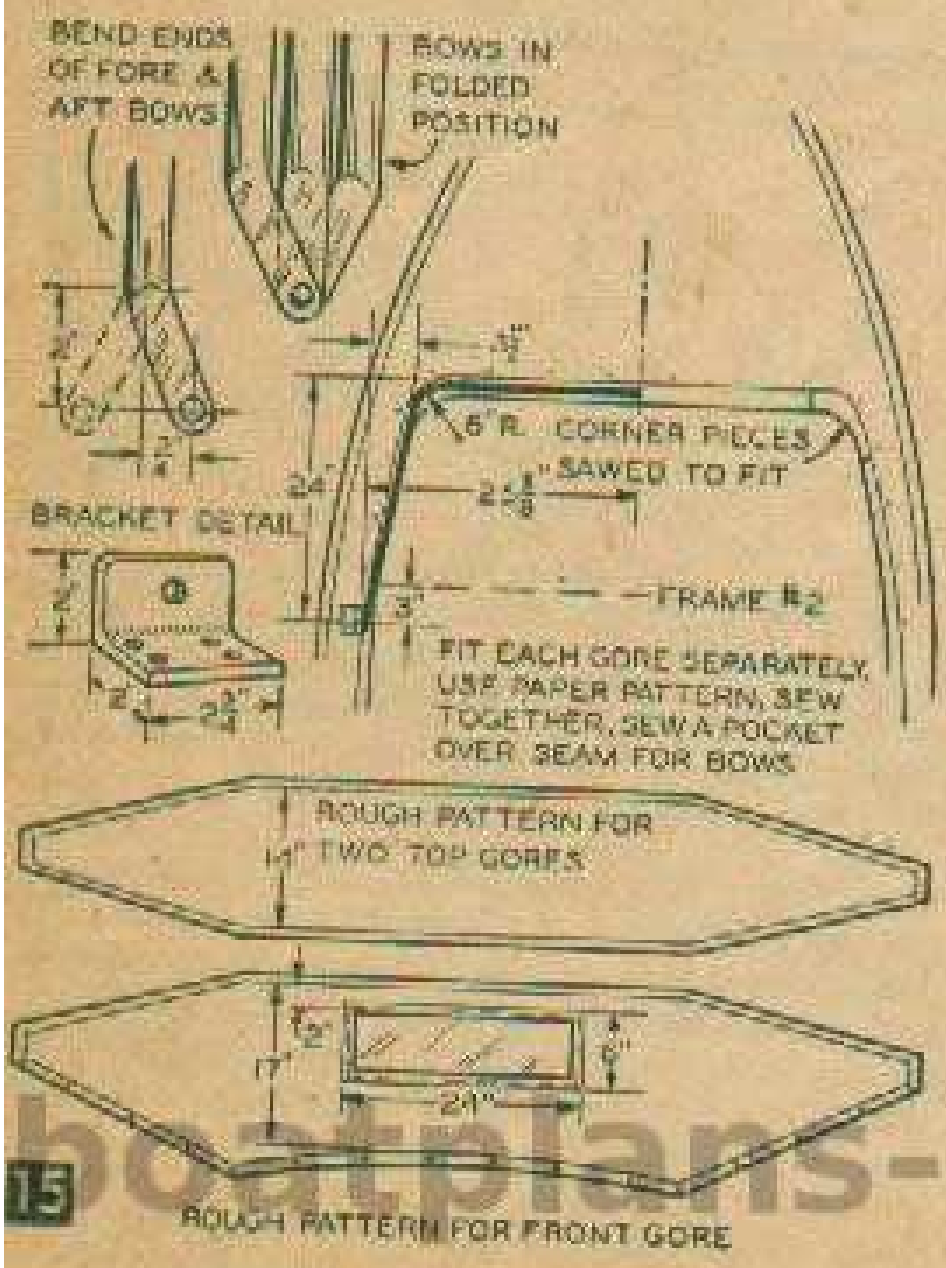
to rest on. This outer [illegible] may be in one piece, reaching from top of st[illegible]ong stem and back to the transom or you may use two pieces. But in either case the outer stem piece fitting over the stem must be softened in hot water to bend readily. Coat stem and keel joint with Kuhl's bedding composition, place the softened outer stem piece in position and screw-fasten with 1⅛ in. #8 fh screws spaced about 6 in. apart.



Completed hull with deck framing in place, ready for deck and seats.

Now remove the hull from the form and turn it right side up. Trim the plywood along the sheer evenly and then attach the single deck beam to sides of hull with knees cut as in Fig. 3. Screw-fasten the knees to the hull sides, using three 2 in. #10 *fh* screws to each knee and attaching the beam to the knee with two 5/16 x 2 in. *rh* stove bolts to each knee.

Notch one carlin on each side flush into tops of frames and halfway into the deck beam and transom, and fasten this carlin with one 2 in. #10 *fh* screw to each joint. The seat risers extend from the transom forward to the #1 frame and serve to secure the thwarts or seats. Note in the lines drawing (Fig. 10) the proper distance from sheer to seat. Using this measurement add to



this dimension the thickness and then n a ½ in. deep notch low seat location in frame for the seat ri Then fasten riser frames with one 2 #10 *fh* screw to e joint.

At this point make framework support the after-seats adjac to the motor (Fig. and screw-fasten it place. Cut out the se to shape, using strips shown (or you can ma them solid if you pref and lay these aside varnishing. Before plying the ¼ or ⅜ in. fir or mahogany plywo fore and side decking, notch a ⅝ x 3 in. b ten into stem and deck beam and screw fast the breast hook in place. Then place plywo decking in position, mark it to shape, and remo and cut it to size. Fasten both fore and side pl wood decking in position at all joints with 1 #8 *fh* screws spaced about 3 in. apart. Tri evenly along sheer and carlin joints. Next i stall the coamings, and fastening them to t carlins with 1¼ in. #8 *fh* screws spaced abo 4 in. apart. Now secure one molding on eac side along sheer, attaching moldings with 2 i #10 *fh* screws spaced about 8 in. apart.

Drill lead holes in moldings and counte sink for the screw heads. Next trim the tra som knee to fit between keel and transom an bolt it in place with two 5/16 x 5 in. carriage bolt inserted through *outside* of transom and on through outside of keel with nuts inside.

Paint the entire interior and outside of th hull with Kuhl's Three-Way Preservation and or 3 coats of white *Firzite* (which may be color tinted if you prefer). Finish with a good grad of semi-gloss enamel, and paint or varnish you decking to suit your taste.

Then fasten seat boards in position with 1½ in. #8 *fh* screws and, to prevent undue flexing in such wide seats, provide plywood seat benches and screw-fasten them to the keel and seats as in Fig. 6. For flooring, use either plywood or lumber cut in strips as in Fig 3. If you want a rough water spray hood which may be folded flat when not needed, see the one suggested in Fig. 12. Details on the folding construction and rough patterns are given in Figs. 13 and 15.