FLOAT-A-HOME

CRAFT PRINT No. 369

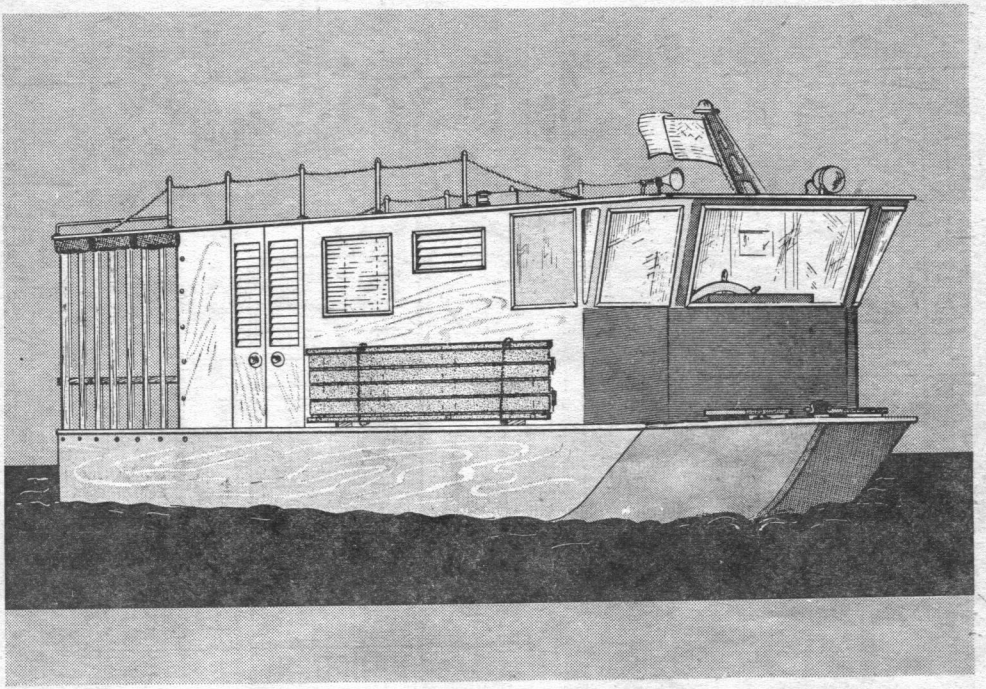


Figure 1

A luxurious 21-footer, this houseboat is very stable, relatively easy to build and interior arrangement can be varied to suit your needs

Designed by Ernst Lanzendorfer

A HOUSEBOAT is a unique water craft in that it combines most of the comforts of home with the mobility of a boat. Of course, use is limited to sheltered waters, and speeds are slow in comparison to more seaworthy vessels.

Float-A-Home is a 21-footer that provides plenty of living space for three or four persons. An extremely simple houseboat to build, it features a strong hull with a heavy keel and close-spaced framing. This, coupled with a relatively low profile, makes it a very stable craft.

FLOAT-A-HOME SPECIFICATIONS	
Length	21'
Beam	7'3"
Power	120 hp max.
Cost	$850 approx.

Features include a conning room designed to provide an unobstructed view forward and to the sides through glare-proof, swing-away windows. The settee behind the helm extends to make a full length berth, and in the main cabin, steps at the companionway can be removed to make way for a fold-away berth. Of course, the entire interior arrangement can be worked out to best suit your individual needs. Shown is an arrangement where a section of the after deck is left open to provide a patio effect on the starboard side, while the galley is to port.

Make up full-size patterns for the stem,

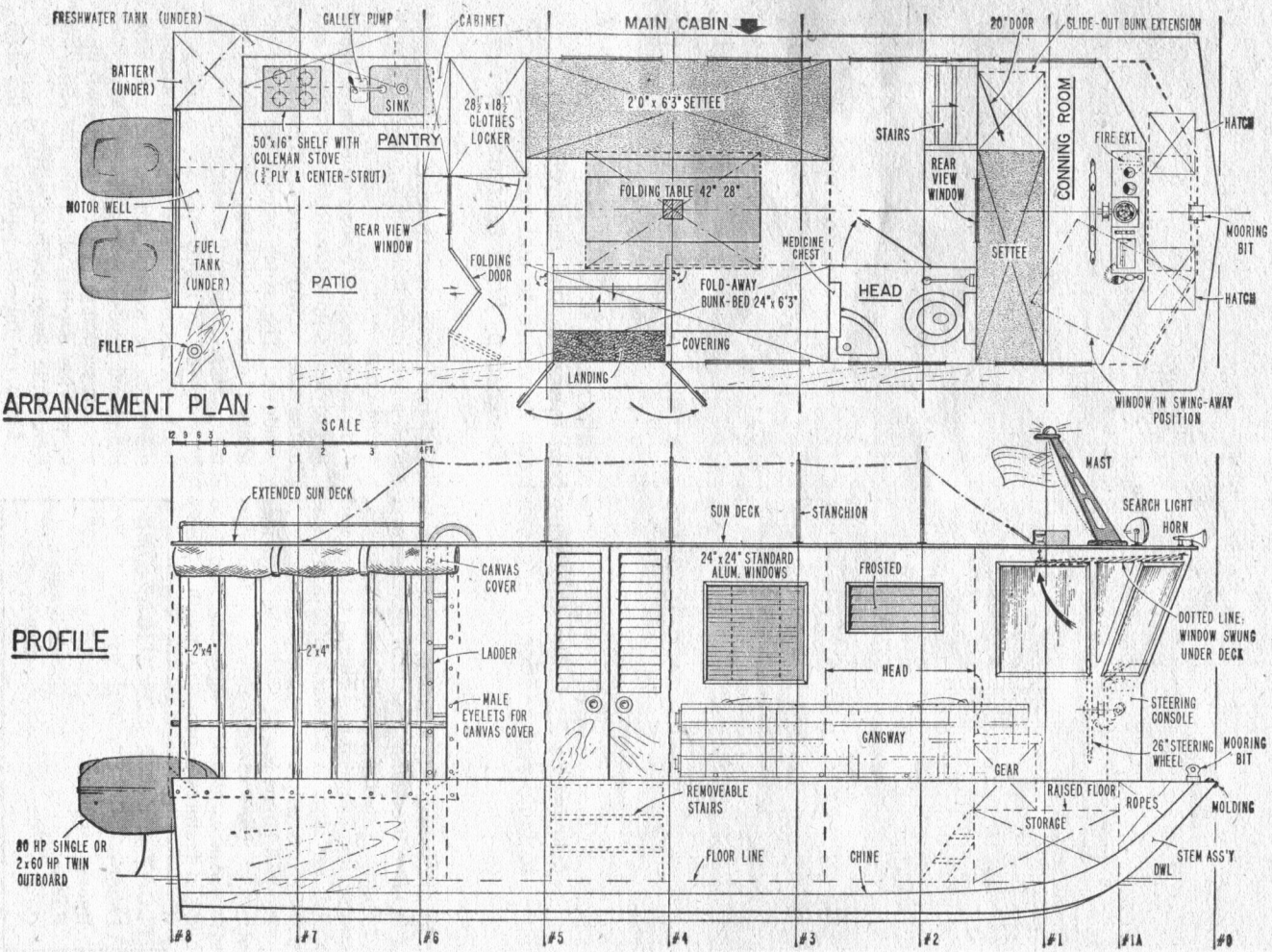

FRESHWATER TANK (UNDER)
GALLEY PUMP
CABINET
MAIN CABIN
20" DOOR
SLIDE-OUT BUNK EXTENSION
BATTERY (UNDER)
SINK
28½ x 18½ CLOTHES LOCKER
2'0" x 6'3" SETTEE
STAIRS
CONNING ROOM
FIRE EXT.
HATCH
50"x16" SHELF WITH COLEMAN STOVE (¾ PLY & CENTER-STRUT)
PANTRY
FOLDING TABLE 42" 28"
REAR VIEW WINDOW
MOTOR WELL
REAR VIEW WINDOW
MEDICINE CHEST
SETTEE
MOORING BIT
FUEL TANK (UNDER)
PATIO
FOLDING DOOR
FOLD-AWAY BUNK-BED 24"x 6'3"
HEAD
HATCH
FILLER
COVERING
LANDING
WINDOW IN SWING-AWAY POSITION
ARRANGEMENT PLAN
SCALE
12 9 6 3 0 1 2 3 4FT.
EXTENDED SUN DECK
SUN DECK
STANCHION
MAST
SEARCH LIGHT
HORN
CANVAS COVER
24"x24" STANDARD ALUM. WINDOWS
FROSTED
DOTTED LINE: WINDOW SWUNG UNDER DECK
PROFILE
2"x4"
2"x4"
LADDER
HEAD
MALE EYELETS FOR CANVAS COVER
STEERING CONSOLE
GANGWAY
26" STEERING WHEEL
MOORING BIT
GEAR
REMOVEABLE STAIRS
RAISED FLOOR
ROPES
MOLDING
STORAGE
80 HP SINGLE OR 2x60 HP TWIN OUTBOARD
FLOOR LINE
CHINE
STEM ASS'Y
DWL
#8
#7
#6
#5
#4
#3
#2
#1
#1A
#0

Figure 2

Figure 3

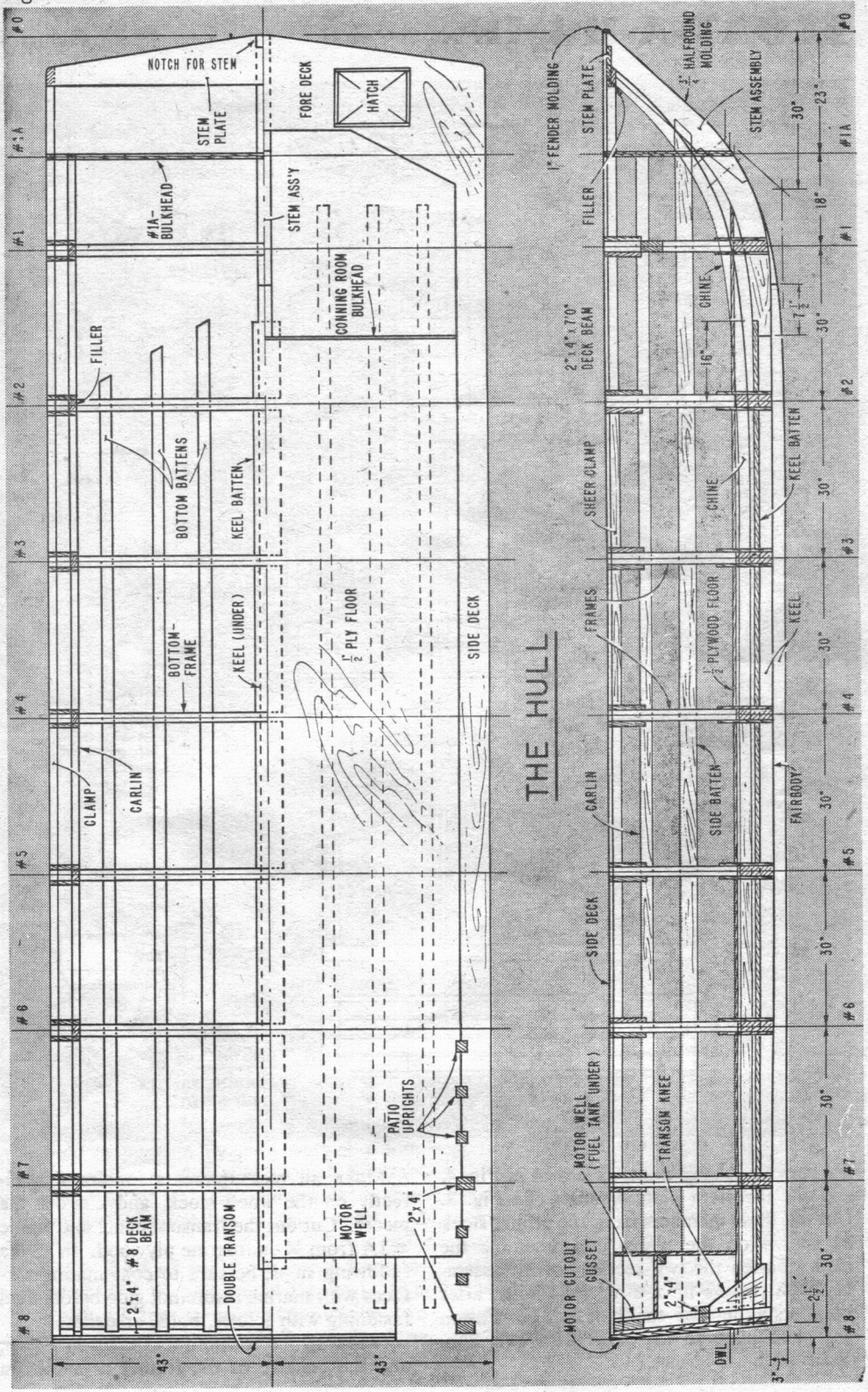
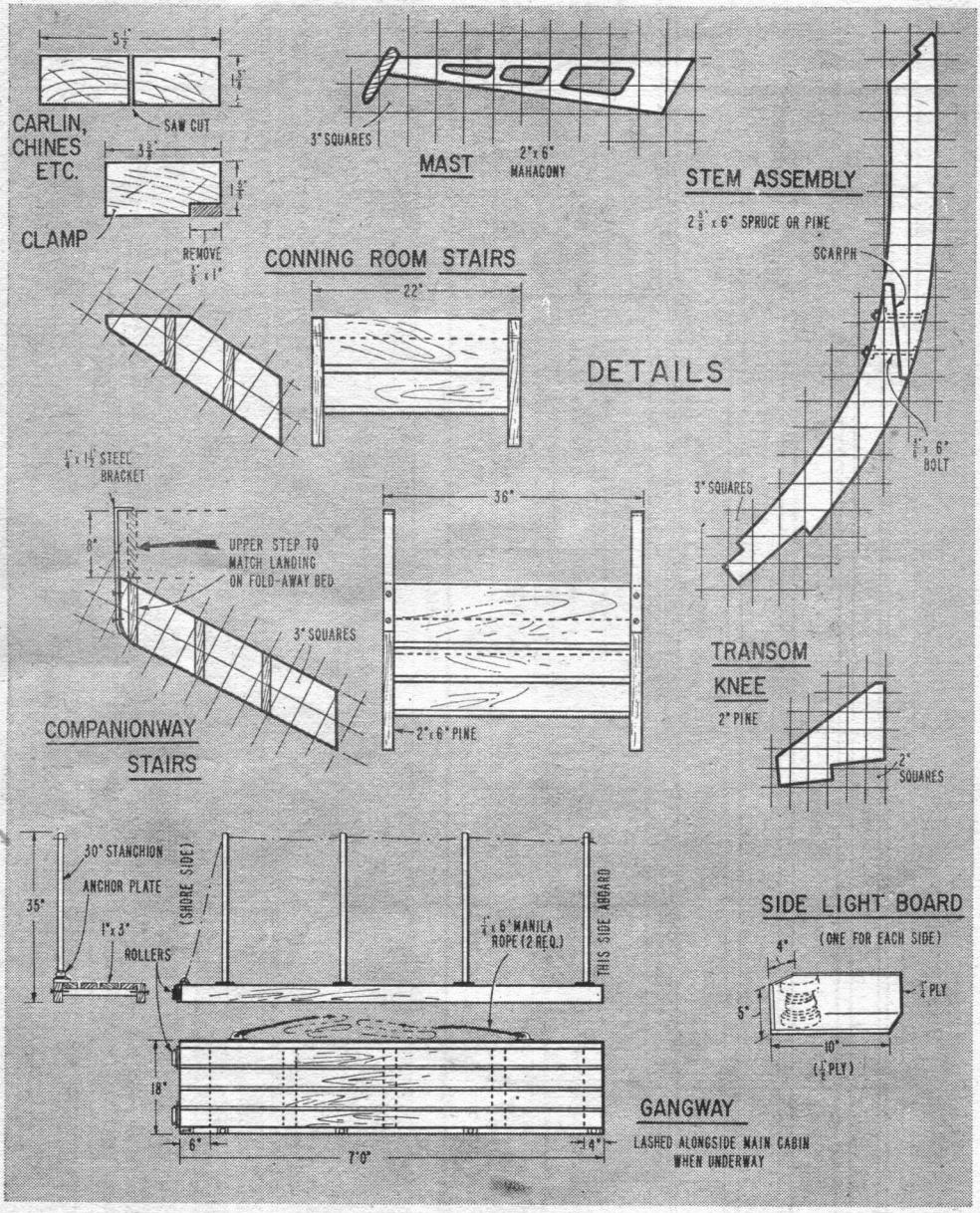

THE HULL
NOTCH FOR STEM
STEM PLATE
FORE DECK
HATCH
#1A BULKHEAD
STEM ASS'Y
FILLER
CONNING ROOM BULKHEAD
BOTTOM BATTENS
KEEL BATTEN
BOTTOM-FRAME
KEEL (UNDER)
1/2 PLY FLOOR
SIDE DECK
CLAMP
CARLIN
MOTOR WELL
PATIO UPRIGHTS
2"x4"
#8 DECK BEAM
2"x4"
DOUBLE TRANSOM
43"
43"
#8
#7
#6
#5
#4
#3
#2
#1
#1A
#0
(1" FENDER MOLDING
STEM PLATE
3/4" HALFROUND MOLDING
STEM ASSEMBLY
FILLER
2"x4"x70" DECK BEAM
CHINE
16"
7 1/2"
30"
18"
23"
SHEER CLAMP
FRAMES
CHINE
KEEL BATTEN
1/2 PLYWOOD FLOOR
KEEL
SIDE BATTEN
FAIRBODY
SIDE DECK
CARLIN
MOTOR WELL (FUEL TANK UNDER)
TRANSOM KNEE
2"x4"
MOTOR CUTOUT GUSSET
2 1/2"
DWL
3"
30"

Figure 4



transom knee, and mast, as shown in Fig. 4, and for the stem plate as shown in Fig. 3. Cut out these members from the proper stock as shown on the plans, and assemble the stem. Fasten the two sections of the assembly with two 3/8-in. x 6-in. #10 bolts, after countersinking for the bolt heads. Fasten the stem plate to the stem with two 2-in. #10 flat head screws.

Make all measurements for framing directly on the wood stock, and cut out the pieces. Cut out the transom panel and frame #1A from 3/4-in. marine plywood. In all the following steps, be sure to coat mating surfaces with marine resorcinol glue before final fastening with screws, bolts, or nails.

Make up the transom as shown in Fig. 6, and the balance of the frames as shown in

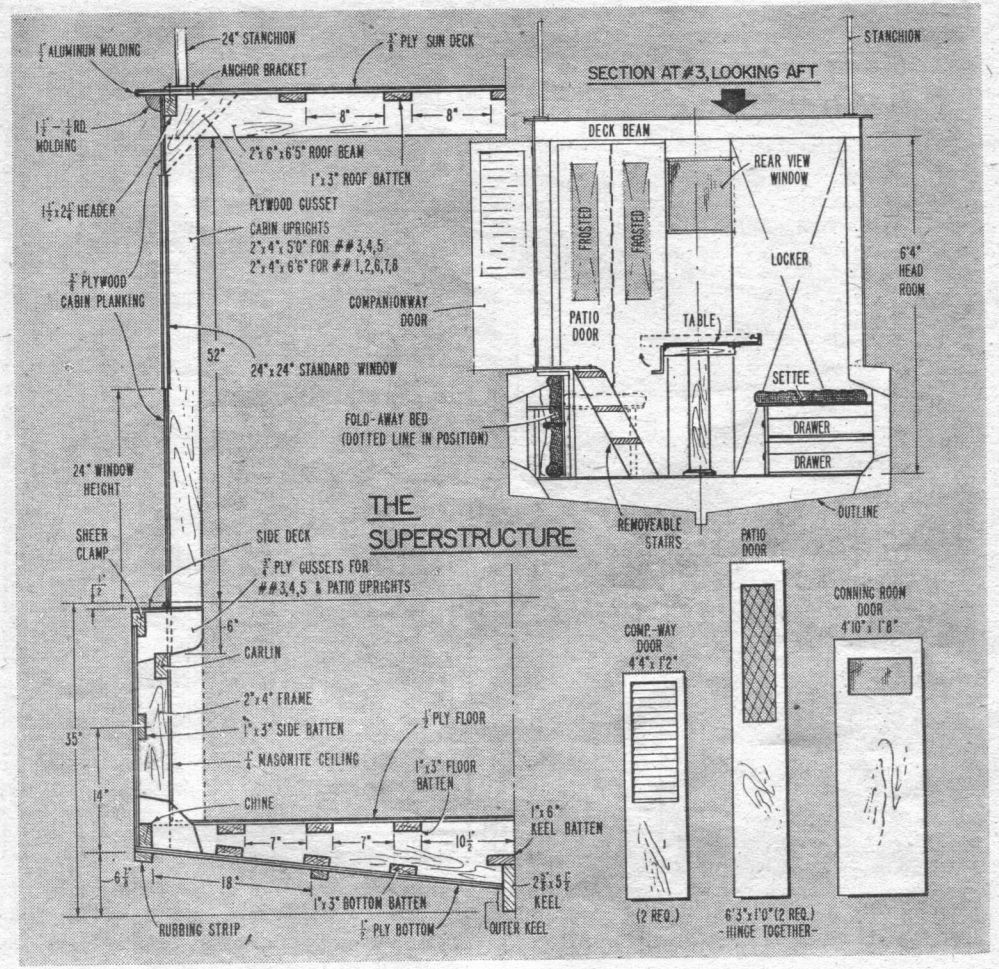


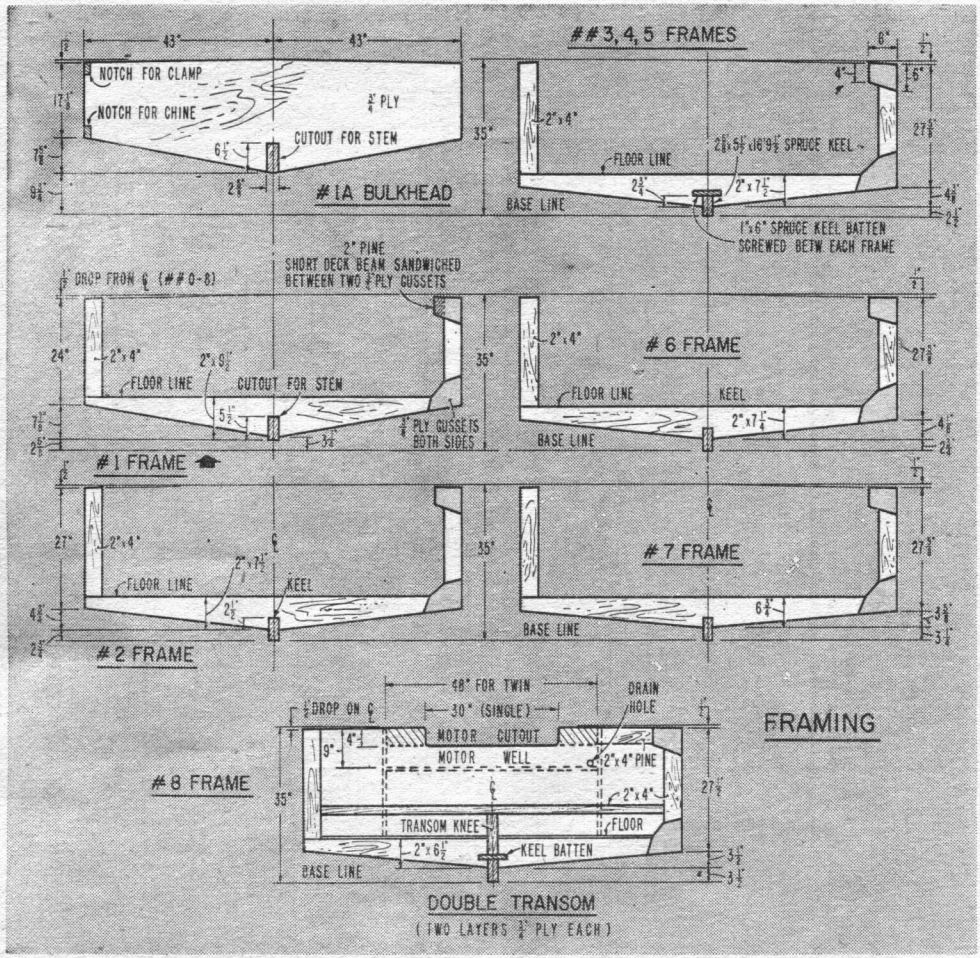
Fig. 6 and Fig. 3. Use plywood gussets to reinforce the frame corners. Notch all frames for keel, chines, and clamps, and notch frames #1 and #1A for the stem assembly.

Line up the assembled frames, upside down, spaced as shown in Fig. 3. They can be held in position by temporary 2 x 6-in. battens nailed to each side. Attach the transom knee to the transom, and install the stem assembly in its notches in frames #1 and #1A.

Notch the keel for the transom knee, as shown in Fig. 6, and install the keel. It is fastened to the transom knee with two ⅜-in. x 6-in. #10 bolts, and to each frame with a similar bolt long enough to go through the keel and frame (and through keel, stem, and frame at #1). Countersink for all bolt heads, and fill the holes with wood putty. It's a good idea to cut a rabbet groove along each side of the keel at the fairbody (the line where bottom paneling meets the keel) to take the edges of the bottom panels. If this is not done, you should fiberglass this joint to make it watertight and strong.

Next attach the clamps. These and the chines and carlins are cut from lengths of 1⅝-in. x 5½-in. stock, as shown in Fig. 4. Cut a notch along the bottom edge of each clamp, as shown. The top edge of the plywood side panels will lie in this groove. In fastening the clamps, start at the transom and work forward, alternating from one side of the boat to the other at each frame. This helps to keep stress on the framework even.

Figure 6



Add the chines in the same manner; trim the ends of the clamps and the chines so the chines will fit flush against the forward ends of the clamps, and against the stem plate. Fasten clamps and chines with two 1¼-in. #10 flat head screws at each joint. Now the temporary side battens can be removed.

Tack bottom and side battens temporarily in place, and mark all the frames for their notches. Remove the battens, cut out the notches, and refasten the battens permanently with 2-in. #10 flat head screw at each joint. Fair all framework so planking will lie flat.

Use lengths of builders paper to make templates for side and bottom planking. It will be necessary to butt sections of plywood together to make up the required length for each panel. All butt joints should be backed along their entire length with 6-in. wide butt blocks of ¾-in. plywood.

Install the side panels first, and trim the edges flush with the chines. Use 1-in. #8 flat head screws, spaced about 2-in. apart, and fasten to each frame as well as to transom, clamps, and chines. Install the bottom panels in the same manner, trimming the edges flush with the sides. Rubbing strips can be added, and fiberglassing can be done at this time.

Give the finished hull at least three coats of a good marine paint, and allow to dry thoroughly. Follow the paint manufacturer's instructions carefully for best results. Turn the hull right side up, and paint all interior surfaces that will be difficult—or impossible

—to reach after flooring, bulkheads, cabinets, and other joiner work is done.

Install the floor battens in the same manner as the bottom battens were done. Install the carlins as shown in Fig. 3 and Fig. 5,

MATERIALS LIST

Amt. Req.	Size and Description	Use
1	3/4" x 4' x 8' plywood	transom, frame #1A
9	1/2" x 4' x 8' plywood	bottom & flooring
14	3/8" x 4' x 8' plywood	side planking, decks, gussets, patio bulkhead
5	1/4" x 4' x 8' plywood	interior bulkheads, motor well, settees
2	1/8" x 4' x 8' Masonite peg-board	ceilings
10	2" x 2" x 5' pine	patio enclosure
10	2" x 4" x 6'6" pine	cabin uprights
8	2" x 4" x 6'5" pine	deck beams
	2" x 4" x 35' pine	framing
8	2" x 7 1/2" x 40' pine	framing
	2" x 9 1/2" x 7'2" pine	framing
2	2" x 4" x 7'2" pine	transom & deck beams
1	2" x 6" x 7'2" pine	transom
1	2 5/8" x 6" x 16'9 1/2" spruce or fir	keel
	1" x 6" x 16' spruce or fir	keel battens
1	1 5/8" x 9" x 7'2" pine	stem plate
2	2 5/8" x 6" x 3'6" spruce	stem assembly
6	1" x 3" x 18' pine	floor battens
6	1" x 3" x 16' pine	bottom battens
4	2" x 2" x 18' pine	lift rails
	1 1/2" x 50' 1/4-round molding	sun roof
3	2" x 6" x 21' pine	chines, clamps, carlins
1	2" x 6" x 3' mahogany	mast

FASTENINGS

2 gross 7/8" #7 flat head wood screws	gussets, bulkheads
6 gross 1" #8 flat head wood screws	planking, sides, cabin, sun roof
1 gross 1 1/2" #8 flat head wood screws	bottom planking
5 dozen 1 1/4" #10 flat head wood screws	chines & clamps to frame
2 dozen 2" #10 flat head wood screws	stem molding
3 dozen 2 1/2" #10 flat head wood screws	roof molding
1 dozen 2 1/2" #8 flat head wood screws	transom
Four 3/8" x 6" #10 bolts, nuts & washers	stem assembly, keel to transom knee
Six 3/8" x 10" #10 bolts, nuts & washers	keel to frames

and finish off the hull interior with Masonite or 1/4-in. marine plywood ceilings (interior side paneling).

Make up the superstructure by installing the uprights as in Fig. 5. Note that full-length uprights are at all frames except 3, 4, and 5, where the uprights reach just below side deck level. This allows installation of berths that extend slightly under the side decks, giving a little more floor room inside the cabin.

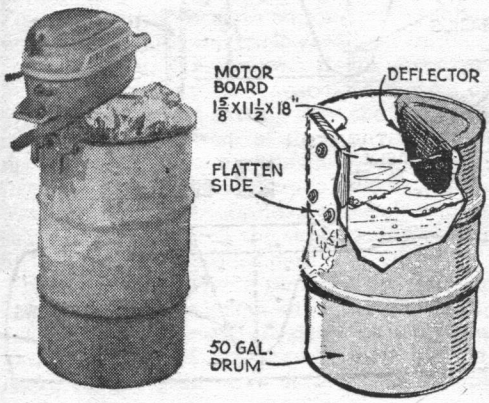
Install the roof beams across each pair of uprights, after notching them for the headers. Install the headers in the same manner as hull clamps and chines, then notch for the roof battens and install them. Fasten cabin panels and the sun deck in place, with 1-in. #8 flat head screws spaced about 2-in. apart, and add the finishing trim and molding after the narrow side decks and fore deck have been fitted.

Windows, doors, and other finishing touches can be added as shown in the plans, or the entire superstructure can be modified to suit your individual ideas and the availability of door and window units in your area.

Make up the motor well as indicated in Fig. 2 and Fig. 3, and a steering console of your own design. Install mast, lights, cabin fittings, and all hardware and furnishings. Mount a single motor or two motors totalling no more than 120 horsepower on the transom, and you're ready for the water. ■

• Craft Print No. 369 in enlarged size for building Float-a-Home is available at $5. SPECIAL DISCOUNT OF $1 OFF on this plan is available to readers of this issue of BOAT BUILDER. Order by print number, deducting $1 from the usual price of $5. To avoid possible loss of coin or currency in the mails, remit by check or money order (no stamps or C.O.D.'s) to Craft Print Dept., SCIENCE and MECHANICS, 229 Park Ave. South, New York, N.Y. See handy order form on page 112. Please allow three to four weeks for delivery.

Outboard Motor Test Tank



• If your outboard motor is given a periodic check before and after being laid up for the season, it will give many years of trouble-free service. The best way to make such inspection checks is by running the motor for short intervals in your own test tank. Then, too, if the motor was used in salt water, it should be flushed in fresh water, as the action of salt water on aluminum parts causes electrolytic corrosion and premature failure of underwater parts. A 25-*gal* metal drum with head cut out provides a satisfactory test tank for small motors up to 5 *hp*, while larger motors will require a 50-*gal* tank prepared as shown. Cut the head of the tank with a cold chisel and bend the lid down to serve as a deflector. Then attach a motor board to flattened fore side of the tank, and fill tank about 2/3 full of fresh water the cans in place.—V. H. LAMOY.

