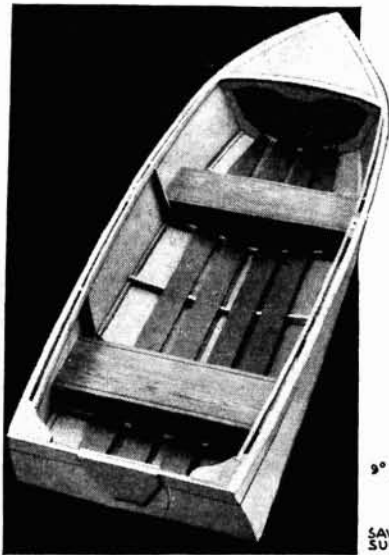
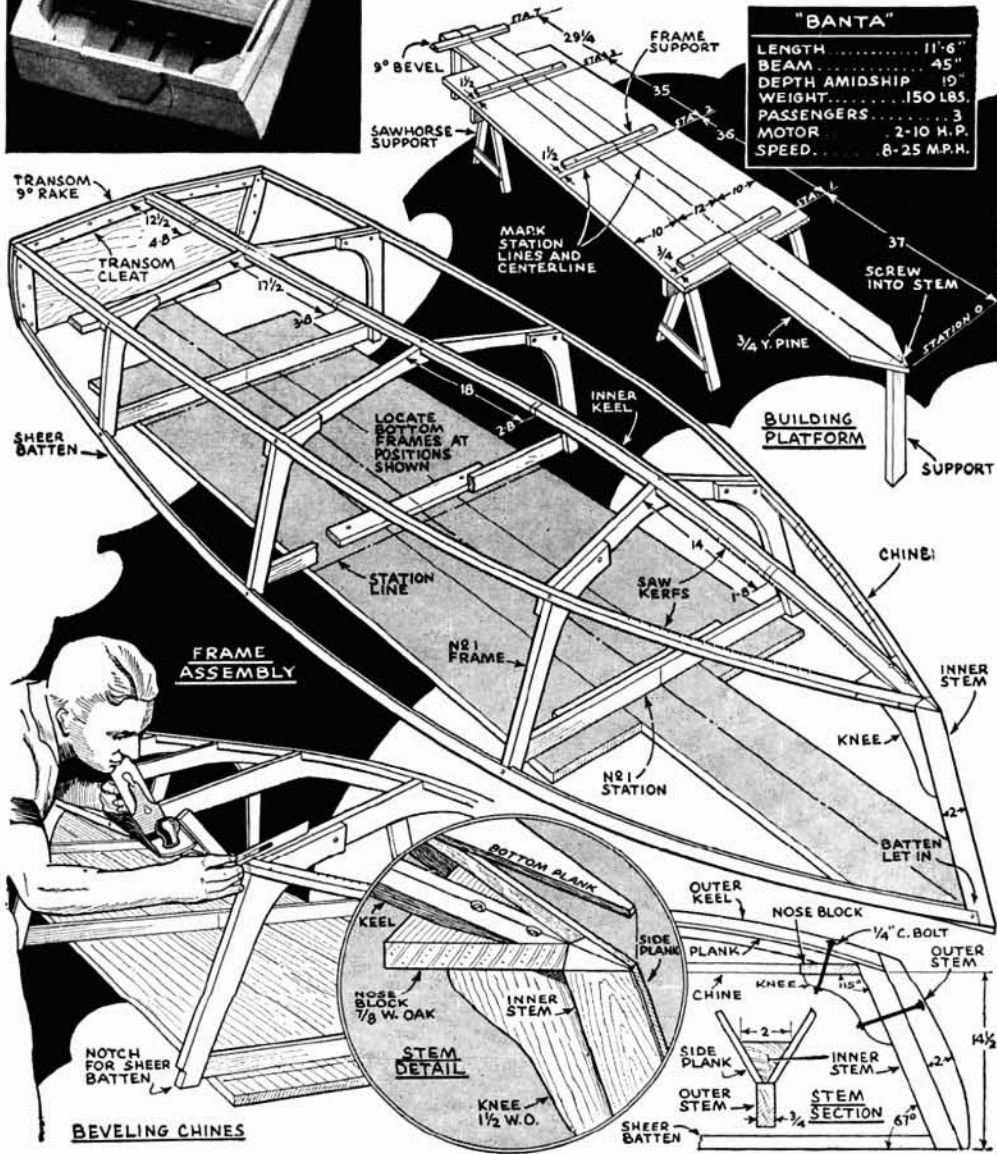


Build "BANTA"



IF YOU want a lightweight utility boat with a nice turn of speed and easy handling, build "Banta." A boat like this has a lot to recommend it—simple, inexpensive construction, a one-man weight of less than 150 lbs., practically leakproof—she's a smooth, easy sailor on any man's river. Good for rough water, too. The vee-bottom of "Banta" makes her a much better rough-water boat than conventional flat-bottom plywood construction. She'll ride 'em!

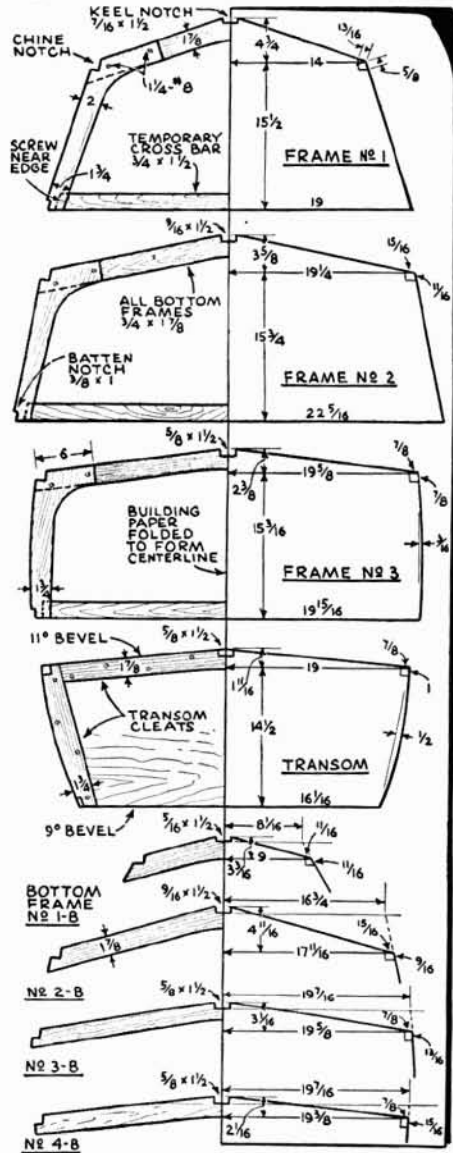
Making the frames: Make the frames first, using

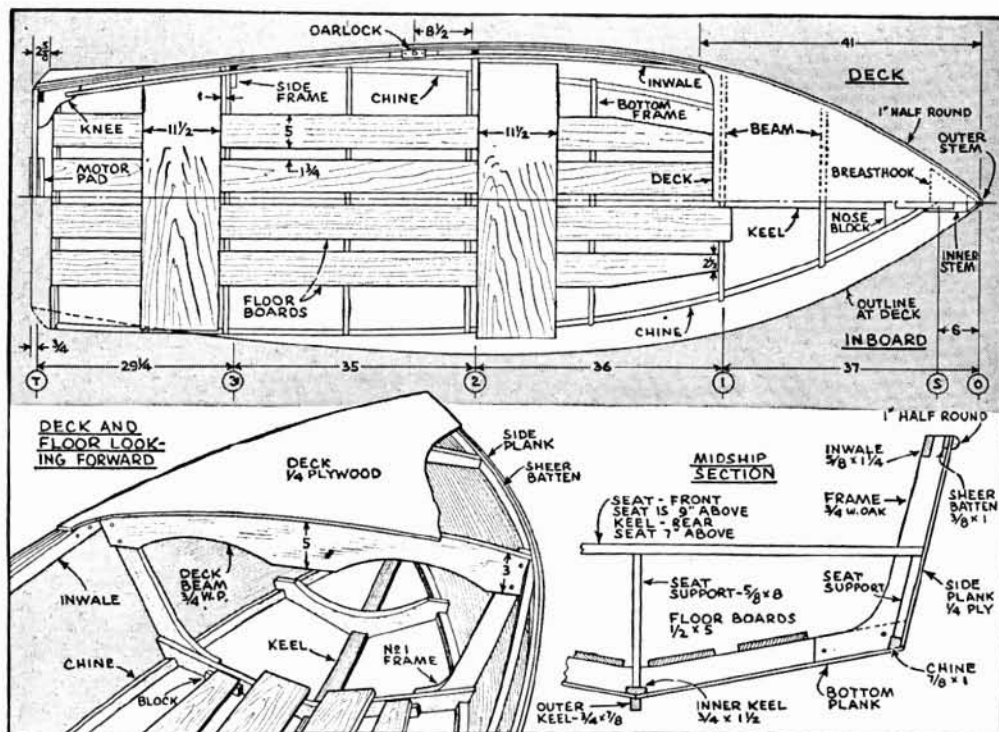


12-Foot Plywood Outboard

oak, elm, pine or mahogany. Draw each frame carefully on a piece of building paper and make the assembly over this after cutting the parts to shape on the bandsaw. The side frames are curved out at the bottom to produce a good landing on the bottom frames. An optional method of construction is to butt the side and bottom frames together and tie them with $\frac{1}{4}$ -in. plywood gussets on either side. The transom is band sawed from $\frac{3}{4}$ -in. marine plywood to the dimensions given. It is cleated at the edges and bottom with the frame stock. The transom is raked 9 degrees, which amounts to $2\frac{5}{8}$ in. in the height given. The top and bottom bevels can be cut at the time of sawing out.

Frame assembly: Banta is built upside down on a level surface, the most convenient method of working being to make a building platform, as shown in the drawing. On the surface of the platform, run in a pencil centerline and mark the station lines. Cleats fastened parallel to the station lines as shown will provide a support and locate each of the main frames. The keel is now fastened to the frames and transom, checking carefully to maintain each frame true and square with the building platform. The stem is a triangular piece of white oak, mounted at the extreme nose of the building platform at an angle of 67 degrees. It is a good idea to make a full-size drawing of the assembly at the stem since this will show exact lengths, angles, etc. As can be seen in the stem detail and section drawings, the forward end of the keel fastens to a nose block, the nose block being held to the stem by a knee. The chines go on easily, the assembly at the stem being to either side of the nose block. All joints are screw-fastened. The carriage bolt fastenings at the stem are not put in until the boat is complete. It will be noted in the drawing that the forward end of chines and keel are saw kerfed. This makes bending easier and also helps to maintain a full curve. The kerfs can be cut on the band saw, $\frac{1}{8}$ in. deep and 1 in. apart for the chines, and $\frac{3}{16}$ in. deep by $1\frac{1}{2}$ in. apart on the keel. All frames must be beveled to carry out a smooth line, and the keel and chines are planed down to come flush with the frame shape. The sheer batten goes on without much trouble, being let into the stem. The whole frame assembly should be made dry and is knocked down and reassembled with cold resin glue after the work of fitting has been





finished and found completely satisfactory.

Planking: Planking for Banta is 1/4-in. fir plywood of the waterproof, resin-bonded type. Two standard 4 by 12-ft. sheets are required. One sheet will make the two side planks, while the other sheet will cut the two bottom planks and the deck. The side planks are applied first. Fitting is quite simple since the half sheet of plywood can be bent to the frames and held with clamps while the shape is being marked with a pencil. The planks are cut off square at the stem and will provide a flat of about 3/4 in. on which to land the outer stem piece. The bottom planks butt together at the keel and extend over the side planks. All fitting should be done dry, after which the permanent assembly can be made with cold resin glue. The outer keel is vee-cut on the circular saw to fit the angle of the bottom planking.

Floor and deck: The fitting of floor boards is quite simple and clearly shown in the drawings. The deck is 1/4-in. marine plywood bent to a crown of about 2 in. The main deck beam is spanned across frame No. 1. There is an intermediate deck beam about 15 in. forward of this, and a breasthook at the extreme forward position behind the stem. Notches are cut on the

inner edge of No. 2 and No. 3 side frames to take the inwales. At frame No. 1 the inwale is beveled slightly and fastened directly to the sheer batten, as can be seen in the drawings. At the transom the inwales are let into wooden knees. Seats are spanned across the hull and butt against the planking. Each seat is supported with a riser at the center and at either end, the end risers extending down to the chines.

Finishing: The hull can be finished natural or painted as desired. In either case, the fir planking will take a much better finish if given a first coat of special plywood sealer and primer. This will prevent hairline checking and the typical fir fault of showing the ridges of the grain structure even under two or three coats of paint. The use of oak for any member which is to be finished bright should be avoided since it tends to blacken on contact with fastenings and glue. A typical finish would be red or green bottom up to the chine; red outer stem and half round moulding; interior natural wood varnished or painted buff brown; floor boards dark green. Minimum hardware would include lifting handles fore and aft, kapoc-filled cushions, and oars or a paddle. In addition to minimum equipment, Banta must com-

ply to government regulations for Class A power craft if operated on Federal waterways.

MATERIAL LIST

LUMBER

- Frames, oak, elm, mahogany, white pine, 3 pcs., $\frac{3}{4}$ x 8 x 8 ft.
 Transom, waterproof fir or mahogany marine plywood, 1 pc., $\frac{3}{4}$ x 17 x 39
 Inner Keel, oak, pine, spruce, yellow pine, 1 pc., $\frac{3}{4}$ x $1\frac{1}{2}$ x 11 ft.
 Outer Keel, oak, yellow pine, 1 pc., $\frac{3}{4}$ x $\frac{7}{8}$ x 11 ft.
 Chines, pine, oak, mahogany, 2 pcs., $\frac{7}{8}$ x 1 x 12 ft.
 Sheer Battens, oak, mahogany, 2 pcs., $\frac{3}{8}$ x 1 x 12 ft.
 Nose Block, oak, 1 pc., $\frac{7}{8}$ x 5 x 6
 Stem Knee, oak, 1 pc., $1\frac{1}{2}$ x 5 x 8
 Planking, waterproof fir or mahogany marine plywood, 2 pcs., $\frac{1}{4}$ x 4 ft. x 12 ft.
 Deck, waterproof fir or mahogany marine plywood. This item will cut from planking stock on sheet used for bottom planking
 Deck Beams, white pine, spruce, 1 pc., $\frac{3}{4}$ x 8 x 4 ft.
 Breasthook, white oak, yellow pine, 1 pc., $1\frac{1}{4}$ x 5 x 8
 Inwales, oak, yellow pine, mahogany, 2 pcs., $\frac{5}{8}$ x $1\frac{1}{4}$ x 9 ft.
 Inner Stem, oak, yellow pine, 1 pc., $1\frac{3}{4}$ x 2 x 18
 Outer Stem, oak, yellow pine, 1 pc., $\frac{3}{4}$ x 2 x 18
 Floor Boards, white pine, cypress, redwood, 4 pcs., $\frac{1}{2}$ x 5 x 9 ft.
 Seats, white pine, mahogany, 1 pc., $\frac{3}{4}$ x 12 x 8 ft.
 Seat Supports, white pine, 1 pc., $\frac{3}{4}$ x 8 x 4 ft.
 Motor Pads, $\frac{1}{4}$ fir plywood, 2 pcs., $\frac{1}{4}$ x 5 x 12.
 This item will cut from planking stock
 Transom Knees, yellow pine, white oak, 1 pc., $1\frac{1}{4}$ x 8 x 8
 Sheer Moulding, yellow pine, white pine, 2 pcs., 1 inch half round, 12 ft. long

FASTENINGS

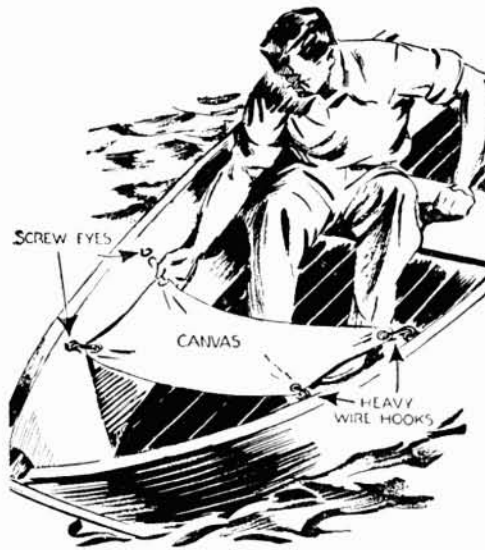
(galvanized, cadmium plated or brass)

- Planking, flat head wood screws, 1 inch No. 6, 34 doz.
 Frames to keel, chines to frames, $1\frac{1}{4}$ inch No. 10, 4 doz.
 Deck, $\frac{3}{4}$ inch No. 6, 4 doz.
 Transom cleats, frame assembly, $1\frac{1}{4}$ inch No. 8, 4 doz.
 Floors, seats, inwales, $1\frac{1}{4}$ inch No. 8, 4 doz.
 Outer keel to inner keel, outer stem to inner stem, 2 inch No. 10, 2 doz.

MISCELLANEOUS

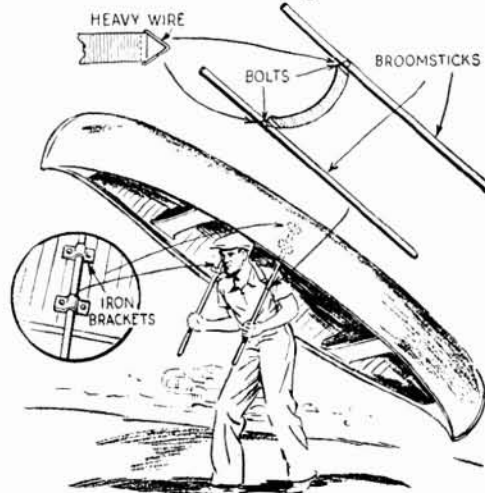
- 1 pint cold resin glue
 1 quart plywood sealer and primer
 1 pint undercoat paint, enough for 1 coat
 1 quart finish paint, enough for 2 coats
 3 lifting handles, 1 at stem, 2 at transom
 Class A equipment if boat is operated on federal waterways

Detachable Canvas Seat in Boat Accommodates Extra Person



This boat seat, which is made from heavy canvas, comes in handy when carrying an extra passenger. It hooks into screw eyes driven into the boat sides and is quickly removed and rolled up when not in use.

Canoe Carried Single-Handed



Sportsmen who employ a light canoe on their hunting or fishing trips are often obliged to carry it around rapids or shallows. If two pieces of broomstick are provided with a canvas shoulder strap, as shown, they may be used to carry the boat much more conveniently. The ends of the handles fit into iron brackets screwed to the inner surface of the canoe.