OUTDOOR LIFE

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In this Issue

8 FINE HUNTING STORIES

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MEMBER AUDIT BUREAU OF CIRCULATIONS

This Shallow Draft Outboard Boat

Tunnel stern and flared sides are typical of "Light Dew" —other details are optional. This is a one-piece model

By ROB F. SANDERSON

HAVE you ever longed for an outboard boat that would run freely under power in eight inches of water? A boat that would navigate shallow sloughs, marshes, coves, without running through your shear-pin supply or making your hands blister on the oars?

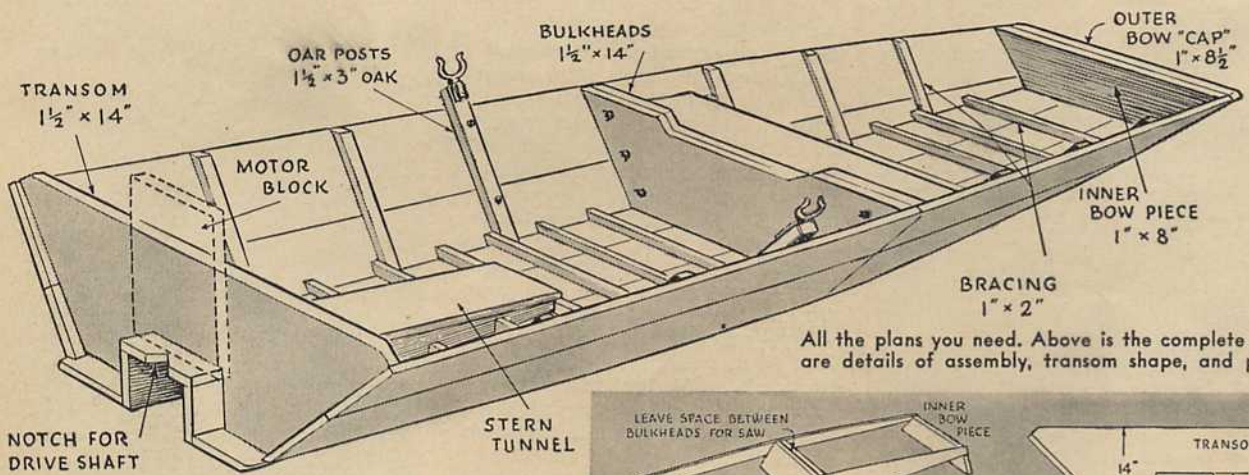
Well, here it is — the "Light Dew!"

For years I've been hunting and fishing in shoal waters that are a nightmare for the outboard boatman. I've sheared hundreds of pins, had to row hundreds of miles, and spent hours cleaning silt and sand from the cooling systems of the motors I've operated. After building a couple of light shallow-draft boats to my own ideas, after planning paddle wheels and airplane-propeller drives, I've at last realized a little fourteen-foot dream boat that, with a lightweight motor, you can run anywhere.

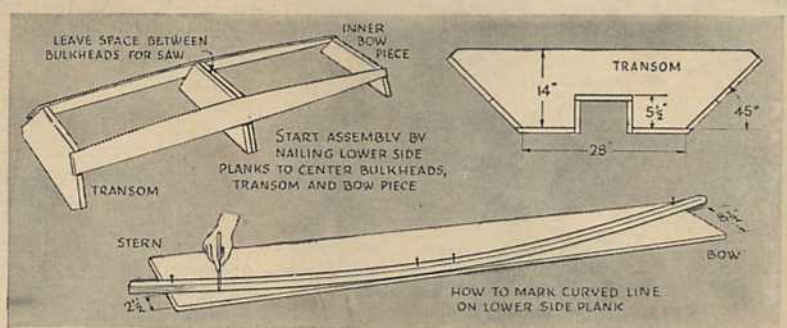
You'll take to this boat with special enthusiasm if, like me, you have neither served four years as a carpenter's apprentice nor spent your evenings in a vocational night school studying manual training. I built the original in my front yard with a couple of packing boxes for sawhorses. I followed none of the blueprints, drawn up by naval architects, that lie in the bottom drawer of my desk. There was no steam-bending nor complex chine-beveling on this job. And when I was through, I had a good, practical craft I could adapt to almost any need. I use the original as a sectional car-top boat, with and without a motor, and it has worked out perfectly in every way. Its cost was low, too—about $16 for lumber, hardware, paint, and all supplies.

There is ordinarily plenty of deep water around for the pleasure-cruising fan to operate his boat. But the best hunting and fishing is often found in and around the shoals—in sloughs, bayous, behind bars, in small streams, and like places. To get to these spots with the ordinary boat you have to tilt the motor, turn off the gas, roll up your sleeves, and man the oars. The first trip out with the "Light Dew" was a three-day affair on a river filled with shifting sand and mud bars. The main current was too swift to travel up, but by sneaking along the shoal water behind the bars, we walked upstream at four to five miles an hour, never using the oars at all. And since I began using my 2 horsepower motor on this boat I haven't replaced the shear pin once.

Made sectional, the "Light Dew" fits nicely atop a car, but if you prefer a trailer, or don't care about portability at all, it can be built in one piece. The tunnel is very easy to build into the stern, but can be left out if you don't have to cope with extreme shallows. While there is a slight loss of motor efficiency with the tunnel, you can generally more than compensate for this by running in the shallows to avoid wind and current, or by running in a beeline to your destination without having to follow the twists of the main channel. Moreover, this very loss of efficiency permits lower speeds without throttling down the motor too far. And by making the motor mount adjustable, you can set the propeller deeper in the water for greater speed when you expect to run any considerable distance in



All the plans you need. Above is the complete boat; below are details of assembly, transom shape, and plank-cutting



Navigate shoal waters to good fishing and hunting in your own homemade copy of the unique "Light Dew"

Is a Cinch to Build

deeper water, and make better speed.

You can see from the illustrations that the sides have a steep outward flare. When lightly loaded she floats high on her narrow bottom and runs exceptionally easily, while if tipped, the side forced down has great buoyancy because of its flare. She may rock, but she's mighty hard to tip over. She'll fill and sink before she'll dump you.

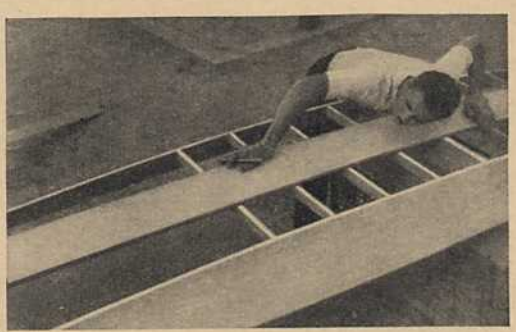
The bow is John-boat style for greater carrying capacity and stability. It appears to have no more water resistance than a pointed bow with less rake, and only causes trouble when you try to nose through flooded willow growth or other above-water vegetation. However, if you have to negotiate such obstructions frequently, you can either add a V-shape false front to the bow, snowplow fashion, or modify the plans to include a pointed bow, although the latter will reduce carrying capacity and stability in the given length.

The materials being listed elsewhere, I'll start right in with a step-by-step explanation of how to saw the parts and fit them.

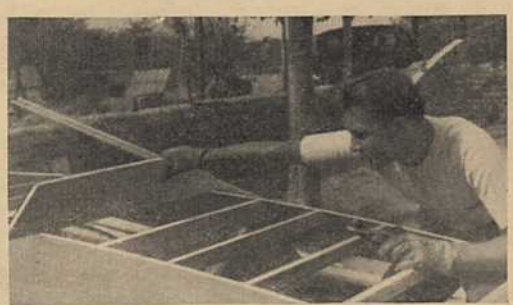
First parts to be cut are the bow and stern pieces and the twin bulkheads, and their dimensions are dictated by the width of bottom and side planking. Since I used three 10-inch-wide boards on the bottom, I made the bottom lines of stern transom and bulkheads all 28 inches, so that the bottom planking would extend out 1 inch on each side to overlap the side planks and leave a little to spare for trimming. To taper the bow section slightly, I made the inner bow piece 25 inches across the bottom—the outer piece being a little wider and deeper, of course, to overlap the planking.

Unbolted and nested, the sectional model makes a remarkably compact load for the car top, lashed to a vacuum-cup carrying frame. If you prefer a trailer, the boat can be built in one piece with heavier planking

Bottom bracing is put in (above) just after the lower side planks, with nails driven into their ends from the outside



Lining up the middle bottom plank on dead center is important, since the frame may have racked out of shape. Just below: Testing side planks for correct bevel by sliding a board along them from end to end



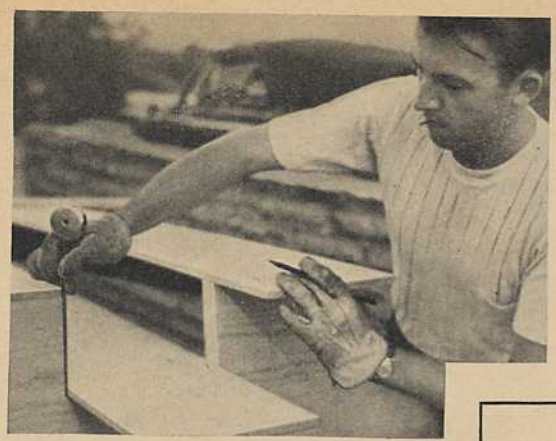
Applying bottom planks. Use both nails and screws in fastening them to the braces, but nails at one-inch intervals are enough along the junction with the side planks

As to height, two 10-inch planks on each side allowed bulkheads 14 inches high, figuring in the angles. Although the stern transom could have been lower, because the bottom rakes upward, I made it 14 inches too, then lopped off the top corners to meet the sides. My inner bow piece was 7¾ inches high, but I'd suggest that you cut it 8, then plane it down level with the side planking later.

To saw out these parts, lay out the bottom-line measurements along the edges of the 1¼ x 14-inch board. Then make a 14 x 14-inch square of tough cardboard, cut it in two diagonally from one corner to another, and use this as a pattern for the 45 degree angles of the ends. The two bow pieces are cut similarly from a plank 10 inches wide ripped to proper width, 1 inch thickness being enough since they are doubled.

The lower side plank is the only tricky bit to cut, because of its rake. To make smooth curves, take a strip of 1 x 1-inch wood, nail it lightly to the lower edge of the plank midway between bow and stern, then bend the ends up as shown in the smaller sketch and nail them temporarily while you mark the curves with pencil on the plank. After sawing out the first plank, use it as a pattern for its companion piece on the other side of the boat, then clamp the two together and plane their curved edges at the same time, to insure uniform rake. Be sure the whole curve is gentle, with no sharp humps, for a lengthwise board bottom won't adjust to these.

Now to fasten these planks to the crosswise members. Measure off 7½ feet forward from the stern end of each plank, and make right angles across each with a carpenter's square. Clamp the twin bulkheads together with small



Left: Measuring depth of the tunnel side walls, with "roof" already in place. If you cut the side walls extra deep, you can plane them away later to suit the curve of the bottom

Right: Screws being driven with a brace. Holes should be bored where screws are used, to prevent splitting, and all fastenings should be sunk flush with the surface

wedges between to keep them about ¼ inch apart, and fit them to center on the marks on the side planks, then fasten temporarily with a couple of nails, since they may have to be adjusted later.

The stern transom is more difficult to fit, as it has to slope at a slight angle to accommodate the motor bracket, and a little planing is necessary at each end to make the side planks fit flush. Then, in nailing the planks to it, set them a little way up from the bottom line of the transom, so that the latter can be planed later as needed to fit the bottom planks. Ends of the inner bow piece must be beveled to butt tightly against the side planking, but the other precautions aren't necessary since the bow is vertical, not sloped. The outer bow piece is left off until later.

Before adding the other planking, bottom braces are put in. I made mine of 1 x 2-inch fir (1 x 4 lumber sawed in two), but if weight is no consideration they could be thicker, and of oak, the same being true of transom, bow, and bulkheads. These braces stand on edge across the bottom, for greatest strength, spaced 8 to 9 inches apart, with their ends cut at a 45 degree angle to fit the sides. Since the width of the bottom is not constant from bow to stern, measure the space where each brace is to go before cutting it.

Next, the bottom faces of the side planks must be beveled to provide flat facings for the bottom planking. This can be done roughly by eye with the plane, then finished by running a straight-edged board back and forth along the bottom, holding it crosswise, as shown in one of the photographs. When this board fits flat at all points along the bottoms of both side planks, you know the latter are right.

The center plank goes on the bottom first. Measure off the exact centers of the bow, bulkheads, and stern transom, then make marks 5 inches (half the width of the center plank) to each side of these centers. This way you will know when the board is on center. Fasten the bow end, then the middle at both bulkheads. The hull is generally racked a little off center at this stage, and proper installation of the center plank is the only way to right it. The stern may require a little persuasion to be worked into line but don't fasten the plank here until it is in exact center. Then the two outside bottom planks can be installed. Nail all planks in place first, then fasten them firmly to the braces and main cross members with thin galvanized screws, driving two and three screws alternately into every other brace the plank crosses to avoid splitting. However, don't fasten the center plank to the braces at all for the last 4 feet toward the stern, since this is to be sawed out later to form the well. The outside bottom planks are then made fast to the lower edges of the side planks with 2-inch galvanized nails spaced an inch or so apart. Be sure to start the nails at the right angle or they will stray. After all the planks are in place, sink all the nails with a nail punch, and turn all the screws down so the heads are below the surface of the wood. Drill holes must be made before all screws are inserted but nails can be driven right in. Use larger screws for fastening to the bow, bulkheads, and stern.

All this time the boat has been bottom side up on the horses. Now turn it over and put on the upper side planks—each 10 inches wide throughout their lengths. Fasten loosely at first while you install the side braces. I put in one side brace for every other bottom brace, fitting them flat to make the boat nest better, but if your boat is to remain in one piece, setting braces on edge will give greater rigidity. Cut side braces from the same stock as bottom braces, measuring the place where each is to go before cutting it. Nail in lightly, from the outside of the boat, then fasten with countersunk screws and sink the nailheads. Omit the first set of braces aft of the bulkhead, however, since the oar posts will go in this spot later.

At this point you can saw the boat in two between bulkheads to make it easier to work on. First, however, you should bore the three holes down each end of the bulkheads through which you will later bolt the sections together. Now remove the wedges that kept the bulkheads apart, insert your saw in the crevice, and saw all the way around through the planking, bracing both halves of the boat firmly to keep the crack from closing and making your saw bind.

Now to construct the well. The entire center bottom board was temporarily installed, earlier, for the sake of truing up the lines of the boat. Now, however, you cut away the last few feet of it, sawing straight across with a keyhole saw just astern of the cross brace which occurs about 4 feet from the stern. Remove all cross braces from the area opened up, cutting them at right angles to and flush with the edges of the hole. Next, cut a rectangular notch up from the bottom edge of the transom, 5½ inches high and 10 inches wide. The piece removed from the bottom fits up into this notch as shown, forming the roof of the well, with other planks on each side forming the side walls. These latter will be 5½ inches high at the stern, but only 2½ at their forward ends, allowing the roof of the well to slope down forward until it rests on top of the adjacent crosspiece. (The shape can best be understood by looking closely at the well in the larger drawing.) However, in cutting the well side walls, saw them a little wider than necessary, then plane their lower edges level with the bottom curve of the boat afterward to insure a neat joint.

For my well, I used the same ½-inch stock as for the planking, but although I have had no serious trouble with leakage I would advise using 1-inch boards instead, since stiffness at this point is important. In any case, the side walls are fastened in with nails driven horizontally into the adjoining bottom boards and the butt ends of the cutaway cross braces. The top is then nailed down into the side walls and up into the stern transom.

As shown in the large drawing, the well, the bottom, and the side planks all protrude a little behind the transom. This is not through laziness, but to prevent cavitation, the sucking in of air by the propeller instead of water, and the only cutting here is a narrow V notch in the *(Continued on page 67)*

LUMBER LIST

	Pieces
Planking—½"x10"x14' clear cedar or white pine	7
Bulkheads and stern—1¼"x14"x12' oak or pine	1
Bow pieces—1"x10"x7' oak or pine	1
Bracing—1"x4"x14' (to be ripped to 1"x2") oak or fir	2
Tunnel sides—½" (or 1") x6"x8' clear cedar or white pine	1
Oar posts—1½"x3"x4' oak	1

(Lumber for seats and false flooring extra)

not always be obtained now on account of defense priorities, except where manufacturers still have such boats in stock. However, with these metals available again, developments in this lightweight metal-boat field will bear watching.

Those located on the large and small inland lakes and rivers and the Great Lakes have always been partial to metal boats. The better ones stand up perfectly in such waters, and some of the lower-price boats will make a good showing. It is when you will be keeping your metal boat in salt water that you must be doubly careful to select a make which the manufacturer guarantees to be built for such use.

Boats for salt water should have an outer surface or shell of paint-covered galvanized iron, rather than galvanized steel, because the former will not rust so readily. If a metal framework is used, it should be hot-galvanized or zinc-treated, preferably after shaping, and all joints and welds similarly protected or so made that corrosion will not attack these points. Different metals used in the same hull — bronze with iron or steel, for example—are pretty sure to cause trouble through electrolytic action. However, it is part of the builder's business to know these things; and since any reputable firm is as anxious as you are to have its boat give every satisfaction, its assurance that the hull sold you is built for salt-water use should be a pretty reliable guide.

Do not expect your metal boat to keep itself in condition. Even a proper paint covering cannot be relied on alone to protect common iron or steel from the action of either fresh or salt water. Its job is merely to keep wear, especially bottom wear, from rubbing the protective galvanizing off the metal. Whenever and wherever the galvanizing begins to show through, paint the spot (if you sand first, be careful not to remove the zinc coating) so the paint will take the wear. Couple such midseason care with complete painting every spring, using preferably a paint recommended by the manufacturer of your particular craft, and your metal boat will give you good value for your money.—*J. A. Emmett.*

You Can Buy It!

THE adjustable outrigger mount for ocean fishing illustrated in our November picture section under the heading "If You Can't Buy It, Invent It!" was wrongly credited in the caption to an ingenious angler. We have since learned that the contributor supplying the pictures was misinformed, and that the device is a product of the Weise Marine Manufacturing Co., Miami, Fla.

Shallow Draft Outboard Boat

(Continued from page 42)

top of the well to take the motor's drive shaft. A block of 1¼-inch lumber is now bolted to the outer face of the transom as a motor mount. Its height will depend on the motor used. For maximum efficiency, the cavitation plate above the propeller should be about 1½ inches below the roof of the tunnel when the motor is mounted.

Add a few small parts and construction is practically finished. The oar posts should be of oak not smaller than 1½ x 2¼ inches, set about 15 inches aft of where the rower will sit, and rising about an inch above the gunwales. They should be bolted as well as screwed to the siding. Seats may be fixed or removable. The main one just forward of the bulkhead might as well be permanent—nailed down to cleats screwed to the side planking, but in the stern section it's better just to install the cleats and lay the seat on them without fastening, so it can be removed when the boat is nested. A false floor can be made from any stock handy. I used barrel staves, since they suited the curve of the bottom, but lengthwise slats, held together by crosspieces, would be limber enough to fit well and would give a better appearance. Such flooring will reduce strain on the bottom and also keep your feet and duffel clear of the half inch of bilge water that somehow gets into any boat.

Before applying the first coat of paint, inspect all cracks to see if any light comes through, and fill any that show with a mixture of equal parts of white lead and the solid matter found in the bottom of any paint pail before stirring. Don't do any fancy calking with cotton and so on, since the planks will swell when wet and should be left room to do so. The mixture I mention will squeeze out as required. Then at least two coats of paint should be applied to all surfaces, the first thinned with turpentine, the second just as it comes from the can. Color depends on personal preference, but I usually add lampblack to any color I use to dull it and make it less conspicuous for hunting.

I haven't forgotten that bow "cap" or outer piece we were saving for later. This is the time to put it on, while the inner bow piece is wet with paint. Soak the cap itself well with paint, screw it flat to the inner piece, and nail through it into the painted ends of all side and bottom planks.

For use, sections should be bolted together tightly with bolts at least ¼ inch in diameter, using washers and large wing nuts. When taken apart, the bow section will nest surprisingly well into the stern part because of the wide flare of the sides, and can be carried on any sturdy car-top rack. It may be, however, that you have no use for a take-apart boat, yet approve the lines of the "Light Dew." In that case you can simplify the building by using only a single bulkhead. And if you intend to keep the boat always in the same waters, and have a motor big enough to drive extra weight, you can use ¾ or 1-inch stock for the planking to insure extra strength. For a motor of more than 4 horsepower, however, you'd do better to make the stern wider to prevent squatting under power.

And, of course, if the waters you generally use don't run to shoals and shallows, you can eliminate the stern tunnel and still have a big, safe, roomy fishing and hunting boat that will go well with motor or oars. But if you have even occasional use for the shallow-draft feature, the little extra effort required to install the tunnel will be well spent.

You'll get a big wallop out of seeing other sportsmen stare at you with wide-eyed curiosity and jealousy as you steer your boat over river sand bars and through shallow sloughs and marshes, while those unfortunate brethren row laboriously along with motors tilted. But you'll have had plenty of fun before that, just in building the "Light Dew."