sides, tumbling home at the stern and along the side. This tender is remarkable for the load she carries and for her stiffness, which makes her a more reliable and useful adjunct than many dingeys twice the length. She is only 6ft. 6in. long over all, with an extreme beam of 3ft. 1½in. Her fault is towing heavily when sailing fast, and the difficulty of stowing on deck on account of her width.

PLATE L.—SPORTING BOATS.

The larger drawing represents a boat for ducking and shooting, thus described by her builder:

She shows but little above the water, draws but little, and so can be used in shoal water, can easily be transformed into a capital blind by using a little grass, weed, or brush on the deck. She is not easily turned over, and a person can shoot from any position in her, which he cannot do in a canoe. I know this from experience, as I have spent many a day in one.

In the first place, to get frames or ribs lay out on the floor a cross section both ways of the boat, full size; lay off the ribs or frames a foot apart the whole length, and taking the measure of each one on the horizontal plan gives you the length, and in the perpendicular section the breadth. Then on the ends leave the width of the sides, which in my boat is only 12½in. Then take a strip of thin stuff, and from a dot that you make for the width on each side of the center spring the strip to the width of sides at each end, top and bottom, and you have the curves for the ribs. Saw out the center as far as the cockpit comes, and you have the forms. Stay them to the floor, and put on the bottom first.

Material for frames and ribs ½in. oak, also for the sides, which are only 1½in. wide. Screw the sides to the ribs, stem and sternpost with ¾in. No. 6 wire brass screws. It is now ready for the bottom. Use $\frac{3}{16}$in. oak ripped to 6in. in width, and where each joint comes use a batten $\frac{3}{16}$ by 1½in., clinched through about 1½in. apart with brass escutcheon pins, driving them through on the face of a hammer or piece of iron.

Use plenty of white lead on the battens and on the edge of the sides. Fasten the covering to the ribs and sides with ⅝in. No. 1 wire screws and escutcheon pins.

For floor to the cockpit use ⅜in. pine, and the washboards to cockpit ⅜in. black walnut worked up and down and screwed to a strip let into the top of the frames, and at the bottom by strips put between the ribs. The midship section (No. 3) shows it in detail.

Amount of material: about 100ft. of $\frac{3}{16}$in. oak, 20ft. of ½in. oak, enough ⅞in. oak for stem, sternpost and keel, 12ft. of ⅜in. pine for floor, and enough material for the washboards, which can be black walnut, pine, oak, or whatever a person chooses, 1½ gross of ⅝in. No. 6 wire brass screws, 3 gross of ⅝in. No. 1 wire brass screws, and 8oz. of stout brass escutcheon pins ½in long. This is all that is required but paint.

I shall rig my boat to sail, using two legs of mutton sails, sharpie rig, and also to row. The oarlocks will want to be placed on the outside and raised up high enough to clear the washboards, which can be done by a block or an iron, the boat being so wide it can be used with quite a long oar, and by a good oarsman it can be sent along very fast.

The smaller boat is for a similar purpose, but is built of canvas, as follows: The ribs and long strips are made of oak ⅞ by scant ½in.; the ribs are placed 5in. apart, and there are six long strips on each side, and two more 8ft. long to fill up the larger space in the middle. Where each strip and rib cross they are clinched together with a copper nail. The gunwale strips are ⅞ square, and each rib is let into them and nailed with two copper nails. Bring the canvas over the dado in the stem and stern, and put in a spline; then put on a keel made of oak outside of the canvas and screw it to the center keelson. The cockpit is made of half-inch black walnut screwed to the gunwale strips, and has a piece ¼ by 1in. screwed on top on the sides and back, so that it leaves ½in. projection. In front use a piece ½in. by 3in.

The seat is made of two ⅞in. pine pieces, 3in. wide, screwed to the ribs, and the top is rabbeted ½x½, and the top is made of

2in. by ½in. pine strips placed 1in. apart and cleated together.

The deck is raised 1in. in center of boat, so that it sheds the water, both sideways and endways.

Bring the canvas around the boat and nail it on top of gunwale, and the deck the same, and then put a neat ½in. half-round moulding on top of the tacks, so that it makes a neat job.