

Building a Battery

Here's how to make your own sink-box, or battery, for tide-water duck shooting

By EDWARD L. MUNSON



THE black sea brant settled the matter. We had to have a sink-box, or battery. Ducks there were also, but likewise ways of getting them. The brant, however, presented a special problem of their own, and one that had never been solved on the West coast. They were there by thousands, yet lucky was the hunter who, by reason of fog or fortunate combination of circumstances, was able to pick up an occasional individual.

These geese of the salt water have all the wariness of their cousins of the inland and know with mathematical exactness the outside limits of shotgun range. To row or float on them is impossible; nor can they be killed from pits or blinds on shore, as they never willingly pass over land and will circle long distances over open water rather than take the short way over bar or point. But it seemed that the hunter should meet with success if he could lie concealed out in the shallow water of the broad bay, where the great flights of brant came winging in to feed on the eel-grass.

The only answer seemed to be the sink-box. Well and good—it should be tried. Since one was to be made, it should be a two-man affair to double the shooting. And since no one could be found locally who knew anything about sink-boxes, plans and other data were necessary. It seemed that these should be readily procurable, but the opposite proved to be the case.

After diligent inquiry, it appeared that there was not a single battery on the whole Pacific coast. Ensued voluminous correspondence with practically all the hunting magazines, not one of which could give assisting information as to plans and construction. Then letters followed each other back and forth across the continent to sink-box owners on the Eastern coast.

Most of such correspondence was discouraging, not to say confusing. There seemed to be no common accredited model of sink-box, but each builder had apparently proceeded along experimental lines of his own. The results in most cases seemed to have been unsatisfactory. Some were too frail, and others persistently leaky; others let spray aboard, and not a few were unseaworthy and dangerous. All in all, most of them apparently possessed more faults than virtues.

At last, data was secured of sufficient reasonableness to warrant its guidance for construction purposes, and a battery built along these lines has proved thoroughly satisfactory. This battery is steady, comfortable, water-tight, well protected against splash and thoroughly safe. In

rough weather, the size of the waves it will ride is surprising. For the purposes for which it was constructed it may be considered perfect. And what has happened to the sea brant and ducks because of it would make many an interesting story.

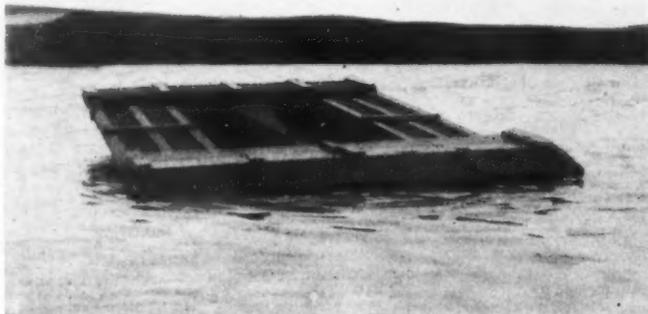
This model of battery has been so well tested out under diverse conditions that its pattern and construction may be safely accepted as standard. For those who may have such an outfit in mind, the details necessary to construction are set down below.

MATERIAL REQUIRED FOR DOUBLE LIE-DOWN BATTERY

Boxes: 2 pieces, white pine, 1" x 14", 14 feet long, for sides. 4 pieces, white pine, 1" x 8", 12 feet long, for bottom. 1 piece, white oak, 1½" x 14", 6 feet long, for ends.

Carlings: 2 pieces, white oak, 1½" x 6", 8 feet long.

Deck and false bottoms of boxes: 5 pieces, white pine, 1" x 12", 12 feet long. 2 pieces, white pine, 1" x 10", 12 feet long. 2 pieces, white pine, 1" x 8", 12 feet long. These widths are laid as follows: A 12"



Ready to be opened up and weighted down

plank centered on center line of deck. Then on each side an 8" piece, followed by another 12". Then a 10", followed by a 12". In lieu of this, any 1" plank 12 feet long which will fill out the deck to the required dimensions.

Battens and wings: 11 pieces, white pine, 1" x 3", 12 feet long, used as follows: 4 pieces for long members of side wings; 5 pieces cut to 8 feet, two for long members of head wing, one for same of foot wing, and two for battens across under side of deck at ends. The five pieces cut from them are again sawed in half, giving ten pieces, each 2 feet long, for the short wing pieces. The remaining 2-foot wing piece and the vertical battens for the sides of boxes are cut from the tenth strip. The eleventh strip is needed to substitute for a piece or two that will come short, due to scant length of plank, and for cross battens under false bottoms.

Sheet lead, 4 inches wide: 2 pieces, each 6'6" long, for placing along sides of boxes. 1 piece, 5' long, for across head. 1 piece, 4' long, for across foot. 2 pieces, each 7' long, for outer area.

Braided sash cord, 25 feet. Used for ties across from outer corners of head and foot wings to outer corners of side wings to support canvas.

Canvas: 16 yards of material 27 inches wide. Used for covering deck.

Hardware: 12 carriage bolts ¾" dia., 3½" long, for carlings. 15 strap hinges, 6" long, heavy. 22 bolts, square head, ¼" dia., 1½" long, for hinges where battens are under. 84 bolts, square head, ¼" dia., 1½" long, for hinges. 5 lbs. nails, 8 d, galvanized wire. 2 lbs. nails, 6 d, galvanized wire. 1 lb. nails, 10 d, galvanized wire. 1 lb. nails, ¾", coppered wire, for lead strips. 1½ lbs. tacks, 8 oz., for canvas. 4 pieces for hinges, as shown on drawing.

STEPS OF CONSTRUCTION

Lay out the plan of one of the boxes in full size. This may be done on a smooth floor, or on a large sheet of roofing paper or similar material.

From this full-sized plan, the proper bevels for cutting the end boards for the boxes can be obtained. These four pieces, two for the head ends and two for the foot ends, are the first items to be made.

THEY should be of inch and a half material and preferably of seasoned white oak. Under no circumstances should any kind of wood be used that will either split or allow the nails to pull out.

Next, a mould or form of the dimensions shown on the plan is made from scrap lumber. One of these is needed for each box. Its purpose is to hold the box spread to correct shape until the bottom is on and the deck is in place. After the temporary support given by the form is no longer required, it is knocked out and discarded.

One of the oak head-boards is next taken, and a 14-foot plank is nailed to each of its non-parallel sides. The narrow face of the head-board must be turned to the ends of these side planks. Before nailing together, a strip of canton flannel or other soft cloth, which has been soaked in white lead, should be laid in each joint to insure its being water-tight. The nailing is done with tenpenny galvanized iron nails. It is important that the head be nailed in squarely across the planks and not on a slant.

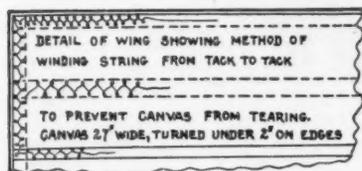
Two feet back along the planks from the inner face of the head-board, a line is

Building a Battery

struck across each at right angles to the edge. The mould is set into place. If necessary to hold it in position, it is temporarily tacked in with small nails. The top of the mould is set flush with the tops of the planks.

About six feet back from the head, the free ends of the side-boards are forced together by a clamp—or by a rope twisted like a tourniquet—to approximately the right width to take the foot-board. The foot-board is then forced between them and nailed in position at a point six feet and three inches from the inside of the head-board. The seams are made water-tight by stripping, the same as those at the head.

The side planks are then sawed off flush with the outside of the flush board. The excess so removed is used for the side boards of the other box. If one side-board is noticeably more bent than another, it will be necessary to nail a diagonal strip



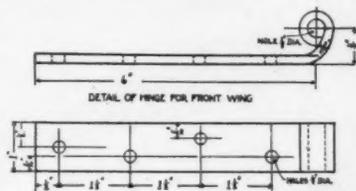
across the box in order to pull it true. The bottoms of the two boxes are next dressed flat from head to foot. The lower edges of the side planks are beveled so that the bottom boards will rest on the full width of the dressed edges.

The bottom planking is then nailed on with eightpenny galvanized wire nails. This planking runs crosswise to the box and is preferably of eight-inch width. Wider boards will swell and buckle, while narrower ones will cause an unnecessary number of seams to keep tight. Stripping should be inserted between the sides and bottom, as in the end seams. But stripping should *not* be put between the boards of the bottom itself. The bottom boards should be merely fitted edge to edge, as a boat is built, to allow for swelling of the wood when wet.

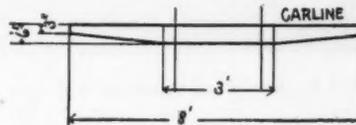
When both boxes have been completed this far, they are set up side by side. The sides of the boxes that are nearest to one another should be two and one-half inches apart at their closest point. The carlings are to go across head and foot are tacked on at such a height that when one of the deck planks is laid from one to the other it is just level with the outside edge of the top of the box at the lowest point of the latter. Then the carlings are bolted to the box, using a three-eighths-inch bit to bore the holes, with three of the three-eighths-inch carriage bolts. The bolts are put in at the angles of an inverted equilateral triangle, the bottom bolt on the center of the bottom angle one inch above the lower edge of carling. The height of the equilateral triangle on which the bolts are set is

four inches. The bolts are put in with heads inside the box. They are set in white lead when put in permanent place, and the nuts are drawn tight on washers over white leaded stripping.

The twelve-inch plank for the center of the deck should now be laid on the boxes, so that its center line comes over the center of the space between them. This position is best established by marking



on the carlings the point on each midway between the boxes. This plank should be lightly held in position by a nail driven into each carling. In setting this plank, remember to give the ends the proper overhang at head and foot to form the widths of the deck indicated on the drawing. Now trace the outline of each box on the underneath surface of the deck plank. The resulting tracing is the guide to the shape to which the plank is to be worked down. It should be remembered, however, that the flare of the boxes brings



them closer together at the top, where the marking was done, than at an inch or so lower down where this plank is to go after shaping.

Unbolt one of the boxes, slip the plank into position, making a tight joint. Next nail the plank to the carlings with sixpenny nails.

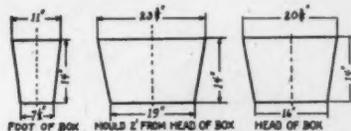
While one of the boxes is unbolted for fitting the deck plank, nail the battens to both boxes. Bring the upper ends of the battens snugly against the under side of the deck, so as to support it. Then replace the box which was re-

moved, bolting it permanently in place.

The deck is next completed, working outward from the center plank already laid. All deck planking is laid lengthwise of the boxes. The way in which the different widths of boards should be laid is given in the list of materials. Eightpenny galvanized iron nails are driven from the inside of both boxes into the deck planks to help support the deck.

After the deck is completed, a batten is nailed across under each end, and the planks are trimmed square and flush with the battens. Then the tops of the boxes are dressed down flush with the deck all around.

The box is now finished except for the wings and lead spray sheets. It should be given two coats of paint, inside and out. The color of the paint should as nearly as possible match that of the water where the box is to be used. A shade too light is preferable to one too dark, as it

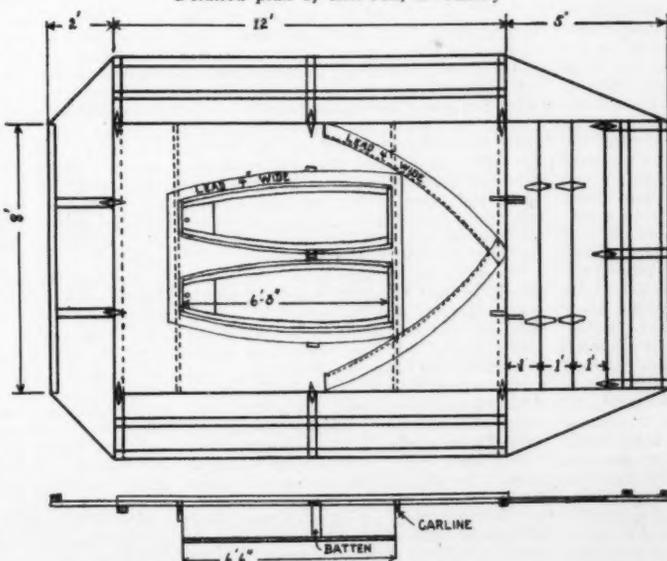


seems less liable to frighten the birds. The canvas to cover the deck is then tacked into position and well painted in the color chosen.

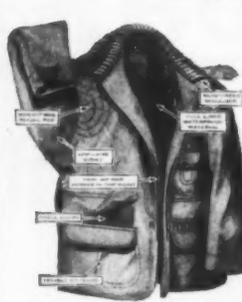
If the box is to be dragged around much, it will be desirable to save the bottom by putting on runners two inches wide and one inch thick. One runner is bolted on the outside of each box along its center. A carriage bolt, one-quarter-inch diameter, at each end of the box, with two between, equally spaced, is all that is required. The heads of the bolts should be on the outside to present a smooth surface for dragging. The nuts are drawn up on washers, under which is placed stripping soaked in white lead to prevent leaking.

The wings are next made. The neatest construction is that of mortised joints, the strongest being laps of the full width of the material, with the long pieces on top. The side and foot wings are constructed as shown in the drawing. They are attached to the deck by heavy six-inch strap hinges. At the head of the box, three boards, each ten or twelve inches wide, are hinged to one another, and the wing is hinged to the outer one as shown. The inner of these boards is fastened to the deck with a pair of specially made hinges. Four pieces such as shown in the drawing are required, two for each hinge, with the eyes placed side by side and a three-eighths-inch bolt run through them. These hinges can be made by any blacksmith. Their purpose is to permit the head wing to fold down flat after the foot and side wings have been folded inboard. The hinges are to be secured with the one-quarter-inch bolts called for in the list of materials. Six
(Continued on page 68)

Detailed plan of sink-box, or battery



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pond at sunrise, he had waded across, lain down close to the farther edge with his back to the water, and had since then been keeping watch for enemies approaching from the side whence he had not come. Now one was coming, circling the bushes of the pond.

Old Clubfoot's primal instinct was to make a great rush for freedom, but his ancient wisdom told him to lie still. Often, by lying close, he had escaped being seen. It was one of his regular ways of eluding a hunter. Not two weeks before this he had thus outwitted Jasper Mills, one of Joel's few rivals as a deer killer.

Indeed, almost from fawnhood, sixteen years before Joel Mayrant ever took his trail, Old Clubfoot had been busy at this business of outwitting the strange persistent two-footed enemy named Man. His scent he had learned to dread as the odor of sudden death. His shout he had learned to fear even more than the voice of a trailing hound. But the stag had come to learn that even Man was not infallible, and that watchfulness and wariness, the ancient craft of self-effacement, and silence and delicate elusion could usually insure safety.

BUT just now Old Clubfoot knew that great danger was imminent. He crouched, watching the man approach. The stag lay breathless, his head thrust forward so that his jaw rested flat on the ground, every fiber of his being alert.

When Joel was within thirty feet of the buck but momentarily hidden by a fragrant myrtle covered with its misty blue berries, Old Clubfoot stole noiselessly from his bed, moving ghost-like. The least sound would betray him—would mean death. He waded silently into the black waters of the pond, making no more sound than Joel had made when coming through the sea of broom-sedge.

The wild deer was literally retracing his step, for this was the route by which he had come. Crouching his way across the lagoon, he slipped without a sound into the shelter of the green bushes beyond. Silence and crafty intelligence—these had been his saviors. The imminent peril was passed.

The stag paused in the bushes to look, to listen. He then winded Joel. Most deer would have forthwith made a wild break across the open woods for liberty, affording the hunter a shot. But Old Clubfoot was too sagacious for that. Instead he left the bushes softly and stole out into the broom-sedge, walking away as swiftly as his limp would permit. His head with its grand crown of tall chestnut-colored antlers he held low, as if he were nosing out the trail. But what he was doing was getting away without being seen. With a deer, to be unseen generally means to be safe.

Two or three minutes after the deer had left his bed, Joel came upon the place where the stag had been couched. He recognized at once, from the mashed grass under the bush, that it was a deer's bed. Moreover, he saw the old warrior's tracks on the damp edge of the pond. Stooping down, he laid his hand in the bed. The place was warm. The deer had just left it.

Jumping up, Joel looked about him, and far off in the woods, going in the direction whence he himself had just come, he discerned Old Clubfoot, then three hundred yards away, making good his escape. The distance was too great for a shot, and despite his lameness the stag was going too fast to be effectively followed by a man on foot.

Joel, who knew much about deer nature, realized that the old buck, after such an experience, probably would not stop until he had gone a great distance. Moreover, he would not immediately lie down again, but, standing in some shadowy thicket, his

head up-wind, he would wait and watch for an hour, until he felt sure that the danger was completely passed.

As a matter of fact, Old Clubfoot traveled straight two miles through the Fair Oaks tract before he paused. Then he was in a deep and fragrant thicket of sparkleberries and scrub oaks, not far from the river. For a half hour he stood, his ears turning this way and that, his regal head high in the wind, his great liquid eyes gazing off into the forest. As no enemy appeared, he stole on toward the river-bank, where, under a canopy of smilax that ran in green riot over a fallen cedar tree, he couched himself again, with the friendly river at his back.

He knew that no enemy following his trail was likely to approach from that direction. He knew, moreover, that if a foe came out of the forest he could swim the river, a feat that he had performed many a time before when he had been hard pressed. A deer has no better friend than water.

Joel Mayrant, after the incident at the pond, tried to follow Old Clubfoot's trail, but he lost it in a pine thicket. Discouraged, he gave up the chase for the day; and when the stag was serenely lying under the smilax by the river, the hunter was at home in his yard cutting wood. Whenever he came home defeated, he was wont to work with unusual energy. He did not want Mamie to think that he was not good at something—even if his fame as a hunter was somewhat dimmed.

As Joel attacked the lightwood and the tupelo, his ax swinging with bright precision, he was laying a new campaign against the great buck of Fair Oaks, against the grand old strategist of the wilds.

"I've got to have hounds," he said. "Maybe Mills will lend me two of his. He has two half-grown black ones that need the training. Tomorrow I'll just go down to his place and see if I can't get those dogs; then the next day I'll be at Fair Oaks at daylight. What a man can't do with a deer, a man and a dog can do."

(To be continued)

BUILDING A BATTERY

(Continued from page 33)

bolts are used for fastening each hinge.

The wings are then painted. After painting, they are ready for their cloth covering. Target cloth dyed the color of the water or blue and white, brown and white or gray and white striped gingham, depending on the color of the water, should be used for this purpose. In any case, after a little use the cloth will take on the color of the water. Heavy cloth, like canvas or ticking, should not be used on the wings, as water will not drain through it readily and the wings will become water-logged. The purpose of the wings is to be as nearly invisible as possible, yet by working up and down on the top of the waves to hold down their splash and keep it from coming aboard. Eight-ounce tacks are used for fastening on the cloth; and it is well to wind seine twine from one to another, as shown in the drawing, to prevent the heads from busting holes in the cloth and tearing out.

The finishing touches consist of nailing on the lead spray strips. These normally lie flat on the deck, but on rough days are turned up as required to stop any deck wash from getting into the boxes. With the leads up, the boxes will be dry even in considerable sea. The leads are fastened with three-quarter-inch copper wire nails, which will not rust out. If a strip of leather half an inch wide is run along under the nail heads, the job is neater



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and more lasting. The nailing is done along the edge toward the boxes, leaving the outer edge free to turn up.

The pieces sawn from the deck boards are now fitted so as to make false bottoms for the boxes. These false bottoms are fastened to battens at head, foot and center, so as to keep the false bottom about an inch above the true bottom. At the foot, about twelve or fifteen inches of the false bottom should be omitted, thus forming a well from which any water in the box may be sponged out. The false bottom keeps the shooter warmer and above any water that may get in from rain or splash.

Anchors are necessary for both head and foot, for a box anchored only at the head will always tail down with the current and it is necessary that it should be kept head to the wind. Two kedge-anchors of about twenty pounds weight each should be supplied. The foot anchor is held by a rope passed through a three-quarter-inch hole bored in the center line of the deck about eight inches from the edge. The head anchor is best rigged from a bridle.

FOR this purpose, a hole is bored in the deck at the outer side of each box, about a foot from the box and three or four inches back of the head carling. Care must be taken to bore the holes symmetrically and near the mid-line of a plank. The ends of a piece of rope are pulled through these holes and knotted so they will not pull out. The bight of the rope should be just long enough to reach beyond the head wing when the latter is spread out, and seized to form an eye. The anchor rope proper is fastened to this eye. The advantage of this arrangement is that the battery rides much more freely and lifts better with the waves than if held by a single, centrally located rope. Also, by pulling on one of the ends of the bridle, the position of the box can be altered a bit to bring the flight of birds in at a better angle or to assist in riding the waves. A trip line from the anchor rope to the box or to a marked decoy assists in getting hold of the anchor rope when wanted.

The final equipment of the box consists in weights to sink it to the proper level. With two occupants of average weight, some seven or eight hundred pounds additional are required. This weight is provided by the use on the deck of cast-iron decoys, cast in such a way as to show only the head, neck and upper half of the body, and painted like any other decoy. Such iron decoys, the size of canvasbacks, weigh about twenty-five pounds apiece and are distributed about the deck so as to submerge and balance the box properly, and as part screen for the gunners. In addition, a chunk of lead weighing about sixty pounds is put in each box in the well at the gunner's feet, so that any water will drain to that end. The total weight necessary varies with the individual box, the weight of the hunters and the weather—more being needed on calm days to get the box as low as possible, and less when the waves are running and the box is not so conspicuous.

COST OF CONSTRUCTION

This naturally varies for different parts of the country, according to the price of material and the cost of labor. There is some saving on the latter if as much as possible of the material is worked up at the mill and not by hand. If the gunner is a good carpenter, he can save the cost of labor by building it himself at odd times. But if he is not a good carpenter, the result will very likely be a failure, for the



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