

CHAPTER VII

AN ELECTRICALLY DRIVEN LAKE FREIGHTER

A PROTOTYPE of the model lake freighter described in this Chapter will probably be familiar to many readers. It is a type of boat used on the Great Lakes, and, owing to its peculiarity of design, it lends itself very well to construction in model form.

The lines of the boat may be seen very clearly in Fig. 84.

The hull of the model freighter measures four feet over all, and the beam at the water-line is 8 inches. The extreme draft will be in the neighborhood of 5 inches. This model, when completed, will be capable of carrying considerable weight; in fact, it is able to accommodate thirty-five pounds in weight when used in fresh water. This will give the builder an opportunity to install a

very substantial power equipment with little regard for weight.

The hull is made according to the built-up principle, and the constructor will have to cut his templates before attempting the shap-

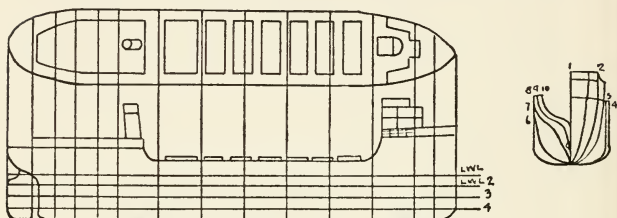


FIG 84

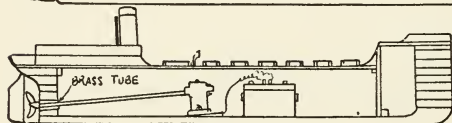
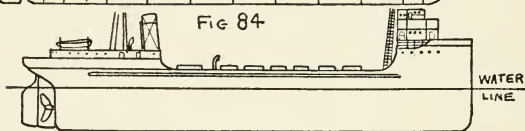


FIG. 85

ing of the hull. Owing to the depth of the model, it will be necessary to use about ten planks. The plank that is used to form the bottom of the boat is not gouged out. Every other plank is gouged out with a saw and chisel.

The bottom plank is shaped with a knife to conform to the lines of the boat. In building up the hull with the planks, they should first be smeared with glue, and when put in place a few brass brads should be driven in. As mentioned in an earlier part of this book, iron nails should not be used in work of this nature, owing to the fact that they will rust and cause trouble. The brass brads are placed about one inch apart the entire length of the boards. The hull is finished with a plane and sandpaper, and after it has been brought to shape in this way and finished, a coat of paint is applied. Black with dark red trimmings makes a very good combination for a boat of this type.

The deck is made from a piece of $\frac{1}{4}$ -inch pine board. Seven hatches are added to the deck. Six of these hatches can be made by merely gluing a square piece of $\frac{1}{4}$ -inch wood to the deck. The seventh hatch should be made with a hole cut in the deck, so that access can be had to the power motor.

The deck-house, wheel-house, and chart-house, as well as the bridge, should be constructed of tin, which may be salvaged from

clean tin cans. The bridge is provided with spray-cloths made from white adhesive tape, as outlined in Chapter 9. The port-holes in the deck-house and hull are made by little pieces of brass forced in place over a small piece of mica. The life-boats, which are carried on top of the engine-house, are whittled out of a solid piece of wood and painted white. Life-boats are always painted white, regardless of the color of the boat upon which they are used. The life-boats are held by means of string and small dummy pulleys to davits made of heavy stovepipe wire. A rub-streak made of a piece of $\frac{1}{4}$ -inch square pine is tacked to each side of the hull just below the sheer-line. The rub-streak should be tacked in place with nails such as those used on cigar-boxes.

The funnel measures 1 inch in diameter by 4 inches long. A small exhaust steam pipe, which can be made from a piece of brass tubing, is mounted directly aft of the funnel. The forward deck fittings consist mainly of a steering-boom, two bollards, two fair-heads, and four life-buoys mounted on the bridge. The main-deck is equipped with

six bollards and two covered ventilators, each $\frac{1}{2}$ inch in diameter. The foremast is properly stayed in the deck, and should be fitted with rat-lines. The rat-lines can be made with black thread and finished with varnish, which when dry will tend to hold the threads in shape.

The rudder is cut from a piece of sheet brass to the shape shown, and fitted with a quadrant. The engine cabin can be made from cigar-box wood. The windows and doors can either be painted in place, or the windows can be cut and backed up with sheet celluloid. A good substitute for painted doors will be found in small pieces of tin painted a different color from the cabin. The same procedure may be followed in fitting the windows and doors to the forward cabin.

We are now ready to consider the power plant. Owing to the large displacement of the boat, it will carry a fairly heavy storage battery. The electric motor and storage battery are mounted in the manner shown in Fig. 85, which will also give the reader an idea of the appearance of the finished

model. As the drawing indicates, it will not be necessary to tilt the motor to any great degree in order to bring the propeller to the proper depth. This is because of the depth of the boat. Instead of a string or belt to connect the motor with the propeller, the shaft of the motor is taken out and replaced by a longer steel rod that will serve both as a motor-shaft and a propeller-shaft. The propeller-shaft extends from the motor through the stern-tube. The propeller used for this model is a three-blade affair, 3 inches in diameter. It must be of this size in order to propel a boat of these dimensions at a consistent speed.

Care must be taken in mounting the motor in this way. If it is not mounted directly in line with the stern-tube the propeller-shaft will have a tendency to bind. However, with a little care no trouble should be experienced from this source. The storage battery used should be of the four-volt forty-ampere hour variety. This boat will be capable of carrying such a battery and this weight should just bring the craft down to her load water-line. The whole deck is

made removable, so that the storage battery can be taken in and out at times when it is necessary to recharge it. A battery of this capacity, however, will drive a small motor similar to the type used on the boat for some time.