A. CUNNINGHAM.

HOLLOW BASE ELECTRIC WINCH.

APPLICATION FILED SEPT. 23, 1919.

1,356,131.

Patented Oct. 19, 1920.

2 SHEETS—SHEET 1.

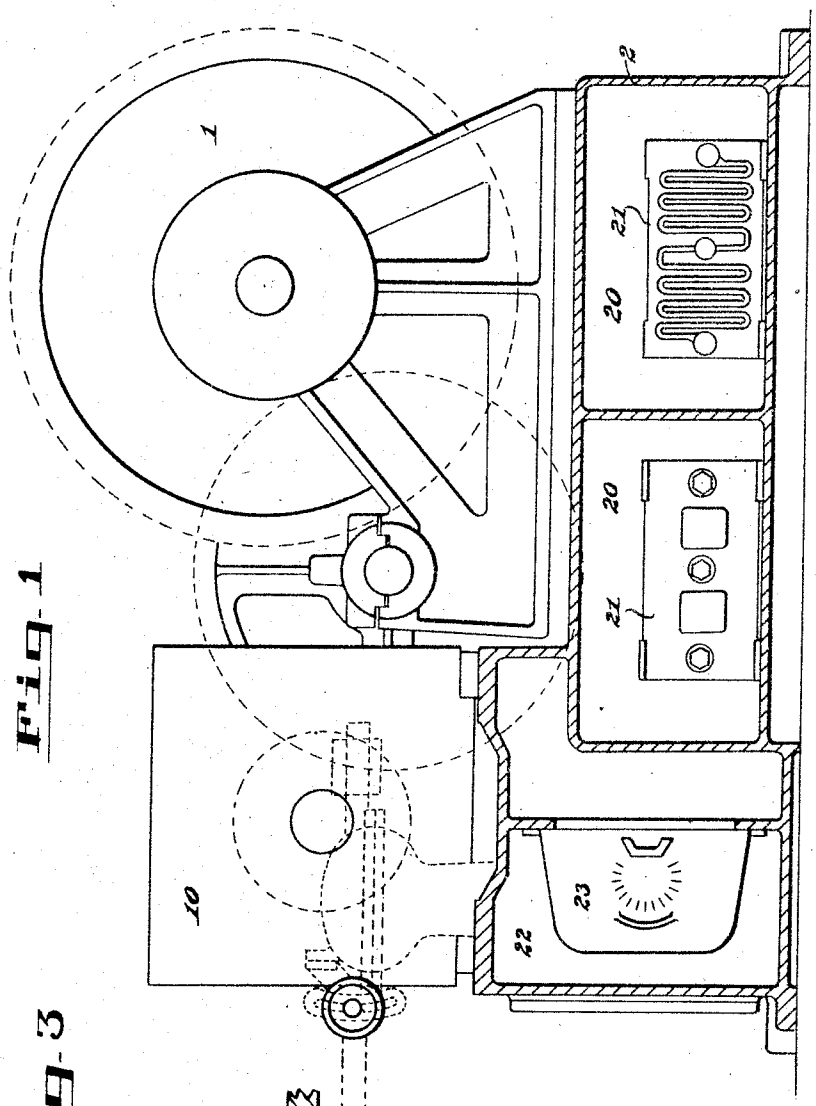


Fig. 1

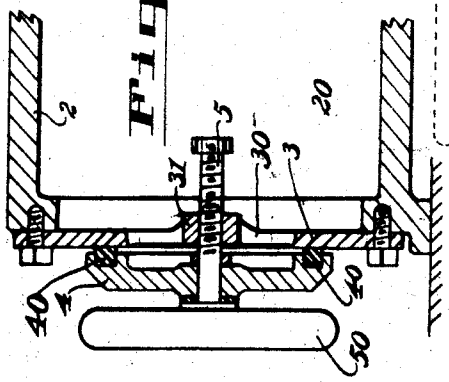


Fig. 3

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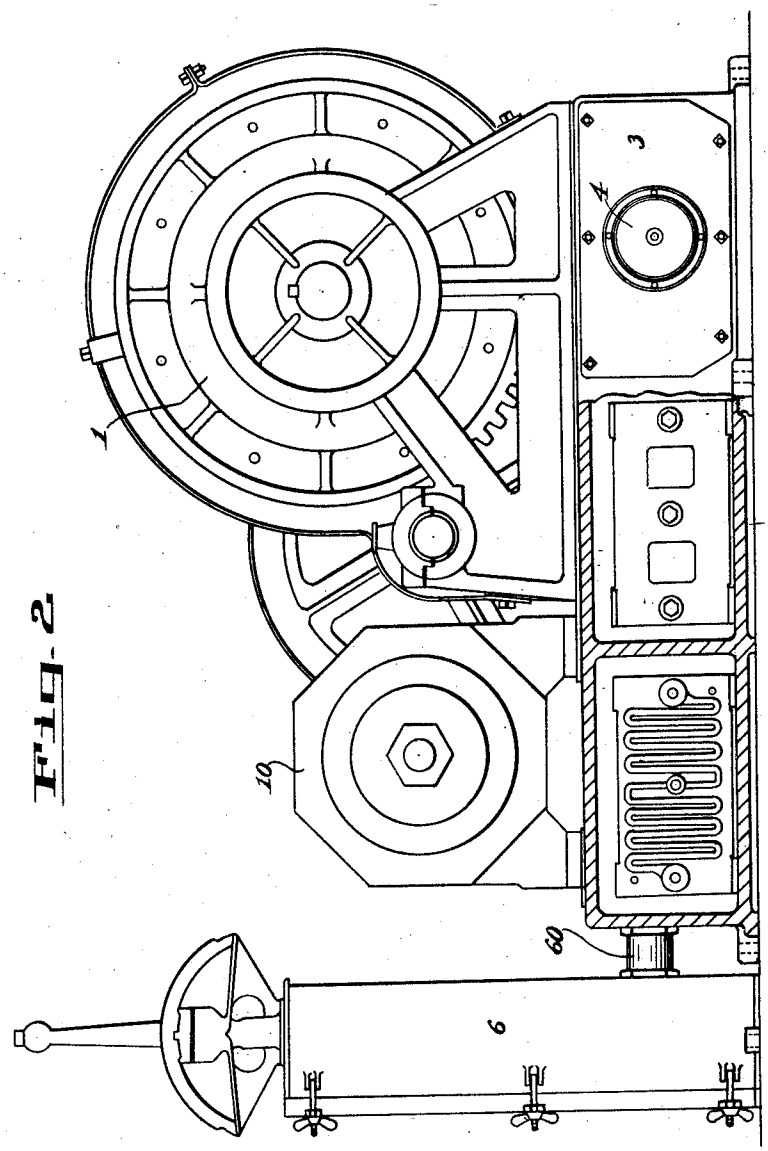


Fig. 2.

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UNITED STATES PATENT OFFICE.

ALLAN CUNNINGHAM, OF SEATTLE, WASHINGTON.

HOLLOW-BASE ELECTRIC WINCH.

1,356,131. Specification of Letters Patent. Patented Oct. 19, 1920.

Application filed September 23, 1919. Serial No. 325,800.

To all whom it may concern:

Be it known that I, ALLAN CUNNINGHAM, a citizen of Great Britain, and resident of the city of Seattle, King county, and State of Washington, have invented certain new and useful Improvements in Hollow-Base Electric Winches, of which the following is a specification.

My invention relates to hoisting devices which are intended particularly for marine use and consists of a special type of construction of the base upon which the apparatus is mounted. Whereby the electrical apparatus such, for instance, as the electric controller and the electric resistors, are mounted within compartments formed in the base, which compartments are capable of being closed so as to be watertight.

The special object of my invention is to provide watertight compartments located in the base of the machine for containing the electrical apparatus whereby such electrical apparatus will be protected from contact with the salt water, and will thus be protected against injury, even when the apparatus as a whole is mounted upon deck where it is subjected to the waves which may come aboard the ship.

In the accompanying drawings I have shown the manner in which I have chosen to construct the base of the hoisting apparatus, in order to properly protect the electrical apparatus from the salt water.

In these drawings Figure 1 is a side elevation of an electric winch with the hollow base shown in section, the line of section being taken forward of the apparatus contained therein.

Fig. 2 is the same view showing a slightly different arrangement of parts.

Fig. 3 is a section taken through the end wall of one of the compartments showing the manner of closing the same, and also the removable stopper, by means of which ventilation may be given the compartments when the apparatus is in use.

The apparatus which I have shown as an embodiment of my invention, is an electrically operated cargo winch. The principles of construction therein illustrated may be applied to other types of hoisting apparatus, as, for instance, to an anchor hoisting winch. The particular work which the hoisting apparatus is to do, forms no essential part of my invention. The invention is confined to the mounting of the winch and its motor upon a base and to the construction of the base, so as to form watertight compartments for the reception of electrical apparatus, by which the winch is controlled and operated.

In the drawings, 1 represents the hoisting drum and 10, the casing of the motor by which the drum is operated. So far as my present invention goes, the driving means by which the motor is connected with the drum, may be anything found suitable. I do not therefore think it necessary to describe such a mechanism in detail.

The hoisting mechanism above briefly referred to, is mounted upon a base 2, which base contains such compartments as may be needed to properly contain the electrical operating and controlling parts. In Fig. 1, I have shown the base as containing three principal compartments, the same consisting of two compartments 20, which are shown as containing resistors, as 21, and a third compartment 22, in which is placed an electric controller 23.

The resistors 21 may be any suitable type of resistance members which it may be desired to employ in connection with the motor, in order to vary the intensity of its operation, and also may represent any other type of electrical mechanism which it may be desired to use in connection with an electric motor. The controller 23 represents any suitable type of controller. It is therefore not deemed necessary to describe in any detail the construction of either the resistors or controller.

For convenience in placing and removing the electrical apparatus contained therein, and for otherwise making the same accessible, one, or both, ends of the chambers 20 and 22, are left open so far as the principal base casting is concerned. These openings are, however, closed by a plate, or plates, as 3, which are shown in section in Fig. 3. These are secured by bolts so that they may be removed when desired.

The closing plates 3 are provided with openings, as 30, which when open, furnish means for the ingress and egress of air for

cooling purposes. When the apparatus is not in use, or when such cooling action is not desired, these openings should be tightly closed, as by the use of stopper plates 4. I have shown these stopper plates as being provided with a groove in their face adapted to receive a ring 40 of packing material, and a means for securing these plates in position, consisting of a clamping bolt 5 which screws into a hub 31, carried by the plate 3, which bolt has a hand wheel 50, or other means, secured to the outer end thereof, by which it may be caused to bind the stopper plate 4 securely in place. When these stopper plates are clamped down, the compartment which contains the electrical apparatus is watertight, and the apparatus contained therein will not be injured, even if the water should wash entirely over the winch.

In order to use electricity as the motive agent for winch and hoisting devices which are to be mounted upon the decks of ships, it is necessary to protect the electrical apparatus from the water. By mounting these in the base, they may be securely protected, and at the same time are placed so that they do not require the use of additional space.

In Fig. 2 the arrangement is slightly different from that shown in Fig. 1. Fig. 2 shows the controller casing 6, as independent of the winch base, and connected therewith by a short tube or collar 60, through which the electric wires pass between the controller and the resistors. Other than this, the construction shown in Fig. 2 is intended to be the same as shown in Fig. 1.

I claim:—

1. A hoist having a hollow base with compartments adapted to receive electrical apparatus for controlling the hoist, the base having an opening for each compartment through which its apparatus may be passed, a plate for each of said openings adapted to watertightly close its opening, said plates having ventilating openings and stopper plates adapted to watertightly close said ventilating openings.

2. A marine hoist having a base provided with compartments for the reception of electrical controlling apparatus and having ventilating openings at opposite sides thereof and removable stopper plates adapted to close said ventilating openings to make said compartments watertight.

3. A hoist having a hollow base provided with compartments adapted to receive the electrical apparatus for operating the hoist, said compartments having each a hole adapted to permit passage of said apparatus, a plate for watertightly closing each of said holes, the walls of said compartments having ventilating holes and stopper plates for watertightly closing said ventilating holes.

Signed at Seattle, Washington, U. S. A., this 17th day of September, 1919.

ALLAN CUNNINGHAM.