Nov. 9, 1943. M. O. WHITNEY 2,333,836

DECK ANCHOR HOIST

Filed Oct. 1, 1940

Fig. 1.

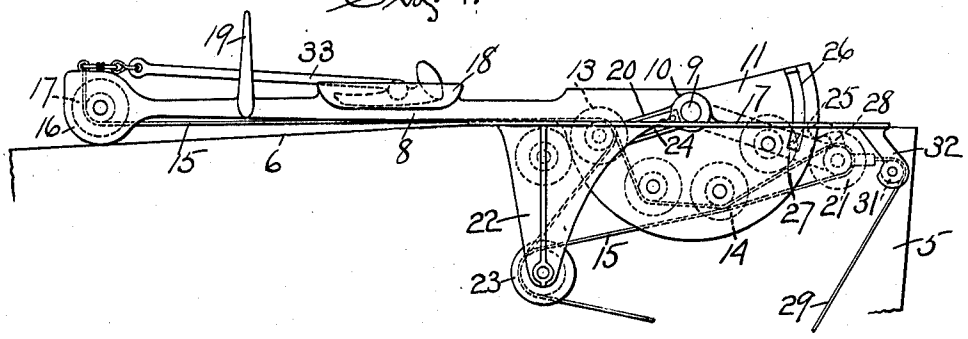



Fig. 2.

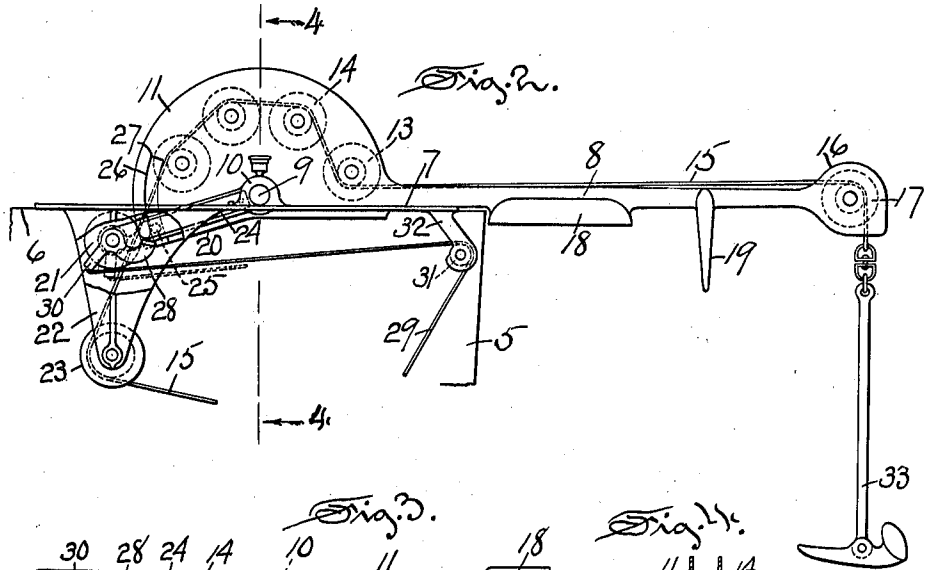



Fig. 3.

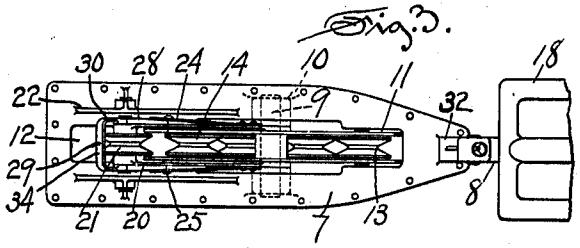



Fig. 4.

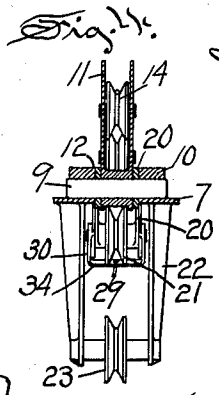
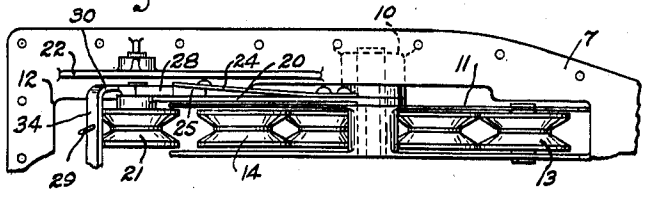



Fig 5




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# UNITED STATES PATENT OFFICE

2,333,836

## DECK ANCHOR HOIST

Mark O. Whitney, Southington, Conn.

Application October 1, 1940, Serial No. 359,265

14 Claims. (Cl. 114—210)

My invention relates to the class of devices which are employed for weighing or hoisting an anchor and for casting or launching the same, and an object of my invention, among others, is to provide a device of this character that may be readily operated at a distance therefrom, as from the post of the helmsman, thereby enabling the operation to be performed without assistance and without the necessity or liability of having hands and clothing spattered and soiled with water and mud thrown off from the anchor in the operation of hoisting it.

One form of an anchor hoisting apparatus embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained is illustrated in the accompanying drawing, in which—

Figure 1 is a side view of my improved anchor hoist with the hoisting arm swung backwardly on to the deck and the anchor deposited thereon, dotted lines being used to show construction and only the outline of a portion of the boat being shown.

Figure 2 is a similar view but with the hoisting arm extended and the anchor ready to be lowered into the water, parts being broken away to show construction.

Figure 3 is a bottom view with the anchor arm extended but with the outer end broken off and the sheave 23 being omitted for the sake of clearness.

Figure 4 is a view in section on a plane denoted by the dotted line 4—4 of Fig. 2.

Figure 5 is a detail view on enlarged scale illustrating the latching mechanism for connecting the coupling arms with the cheek pieces.

In the accompanying drawing the numeral 5 denotes the line of the bow of a boat and 6 the deck thereof. A deck plate 7 is securely fastened to the deck in any suitable manner to provide for the attachment thereto and support of a hoisting mechanism. A hoisting arm 8 is secured to a journal 9 mounted in bearings 10 on the deck plate, the journal extending through a hole in the arm and being pinned thereto. Cheek pieces 11 rise from opposite edges of the arm in spaced relation and they may be formed integral with the arm or separately therefrom and secured to it as may be desired. These cheek pieces form a housing that extends through an opening 12 in the deck plate and they support sheaves 13—14 between them to receive a hoisting cable 15 to be more particularly hereinafter described. The hoisting arm 8 is provided at its outer end with a hood 16 housing a sheave 17 for the support of the cable at this end of the arm. A basin 18 to receive the anchor when it is lowered to the deck is secured to the arm as is also a crotch 19 positioned to receive the stock of the anchor when placed on the deck.

Coupling arms 20 are mounted on the journal 9 on opposite sides of the cheek pieces 11, these arms extending through openings in the deck plate and having a sheave 21 rotatably supported between them. The outer ends of the arms extend into a space between two supports 22 secured to and projecting downwardly from the under side of the deck plate, as shown in Fig. 2, a sheave 23 being rotatably supported by and between said supports 22. A dog supporting spring 24 is secured at one end to each of the arms 20 and bears at its outer end a coupling dog 25 positioned to enter a groove 26 in the side of a cheek piece 11 and to engage a shoulder 27 at one end of the groove to couple the arms to the cheek pieces for a purpose to be hereinafter described. A releasing wedge 28 is pivotally mounted at the outer end of each arm, preferably on ends of the pivotal support for the sheave 21, these wedges being movable into spaces between the springs and arms to disengage the dogs 25 from the grooves 26. The wedges are operated as by means of a pull cord 29 secured at one end to wedge actuating arms 30 rigid with the wedges and extending to a point in proximity to the steering apparatus for operation by the helmsman. This pull cord extends over a sheave 31 mounted in a bracket 32 projecting downwardly from the under side of the deck plate at its outer end and as shown in Figs. 1 and 2 of the drawing. The wedge actuating arms 30 are joined at their outer ends by a strap 34, said arms and strap forming a U-shaped frame to which the pull cord 29 is attached.

The hoisting cable 15 secured at one end to the anchor 33 passes into the hood 16 about the sheave 17 therein, along the arms 8 underneath and in contact with the sheave 13 and over three sheaves 14, as shown in Fig. 2. The cable then passes about the sheave 23 and to a winch of any ordinary construction and located in any suitable position for manual or mechanical operation.

To operate the mechanism let it be assumed that the parts are in the positions shown in Fig. 2 but with the anchor down. The cord 29 is pulled upon to force the wedges 28 underneath the springs 24 to remove the dogs 25 from the grooves 26 to permit movement of the cheek pieces 11, constituting a housing for the sheaves,

independently of the arms 20 as the anchor is raised. Thereupon the winch is started and the cable 15 is drawn in around the sheaves 17—13—14 and 23, the anchor being thus raised to the position shown in Fig. 2. The winch may now be reversely rotated to move the anchor up and down, dousing it in the water to wash mud therefrom. The winch then being further operated to wind the cable the anchor connection with the cable will contact with the hood 16 and being prevented, by reason of size, from entering the opening in the hood the arm 8 is raised to a vertical position from which it may move downwardly under the action of gravity to a prone position on the deck, as shown in Fig. 1, in this movement the anchor being deposited in the basin 18 with its stock in the crotch 19, rotation of the winch being continued to take up slack in the cable. The parts are now in the position shown in Fig. 1 but with the coupling mechanism, including the arms 20 and sheave 21 still in the position at the left as shown in Fig. 2.

Now to cast the anchor a pull upon the cord 29 is effected to shift the arms 20 and parts carried thereby to the positions shown by dotted lines in Fig. 1 with the coupling mechanism again connecting the arms 20 with the cheek pieces 11, provided this was not done immediately following deposit of the anchor upon the deck. This movement of the sheave doubles the cable as shown by said dotted lines, the required slack needed for this being obtained by unreeling the winch. As the parts reach these positions the wedges will be automatically disengaged from the spring 24 owing to relative change in position of the latching mechanism and consequent change in direction of pull of the cord 29 upon the wedge actuator 30 and the dogs will enter the grooves 26. The winch now being started to wind the cable force will be exerted upon the sheave 21 and the dogs 25 being engaged with the shoulders 27 will move both the arms and the cheek pieces or housing and swing them into a vertical position from which they will move by gravity into the position shown in Fig. 2. Slack in the cable caused by this downward movement will be taken up by movement of the anchor into the water, more cable being supplied, if required, by reversing rotation of the winch.

Cushions may be provided to receive the arm 8 as it reaches its lowered position in hoisting or casting the anchor, or any suitable means may be employed for breaking the downward movement of the arm.

In accordance with the provisions of the patent statutes I have described the principles of operation of my invention, together with the device which I now consider to represent the best embodiment thereof; but I desire to have it understood that the device shown is only illustrative and that the invention may be carried out by other means and applied to uses other than those above set out.

I claim:

1. A deck anchor hoist including a pivotally mounted hoisting arm secured inboard of a boat deck, means at the outer end of said arm to support a hoisting cable, a set of cable supports located in proximity to the pivot of said arm movable with said arm and arranged to receive said hoisting cable in proximity to said pivot, a guide support to receive said cable from said set of supports, and a cable passing over the supporting means at the outer end of the hoisting arm, along said arm in proximity thereto and about said cable supports to raise the outer end of said arm when extended to drop the anchor and when pull upon said cable is resisted at the outer end of said arm.

2. A deck anchor hoist including a pivotally mounted hoisting arm secured inboard of a boat deck, means mounted at the outer end of said arm to support a hoisting cable, a set of cable supports movable with said arm and having axes mounted upon the arm along an arc and thereby supported in arched arrangement to receive said cable and provide leverage in proximity to the pivot of said arm for raising it, a guide support to receive said cable from said set of supports, and a cable passing over the supporting means at the outer end of said hoisting arm, along said arm in proximity thereto and about said supports to raise the outer end of said arm when extended to drop the anchor and when pull upon the cable is resisted at the outer end of said arm.

3. A deck anchor hoist including a pivotally mounted hoisting arm secured inboard of a boat deck, means at the outer end of said arm to support a hoisting cable, a set of cable supports movable with said arm and having axes mounted upon the arm along an arc and thereby supported in arched arrangement over its pivot thereby to receive said cable and provide leverage in proximity to the pivot of said arm for raising it, a guide support to receive said cable from said set of supports, and a cable passing, when said arm is extended, over the cable support at the end of the arm, along said arm in proximity thereto under the next support in said set of supports, and over the other supports of said set and said guide support whereby pull on said cable when resisted at the outer end of the arm will operate to raise the end of said arm and anchor secured thereto.

4. A deck anchor hoist including a pivotally mounted hoisting arm secured inboard of the boat deck, means at the outer end of said arm to support a hoisting cable, a housing carried by said arm at its pivot end, a set of cable supports having axes upon the arm extending along an arc and thereby mounted in arched arrangement in said housing to receive said cable and provide leverage in proximity to the pivot of said arm, a guide support to receive said cable from said set of supports, and a cable passing over the supporting means at the outer end of said arm, along said arm in proximity thereto about said supports to raise the outer end of said arm when extended to drop the anchor and when pull upon the cable is resisted at the outer end of said arm.

5. A deck anchor hoist including a pivotally mounted hoisting arm secured inboard of the boat deck, means at the end of said arm to support a hoisting cable, cheek pieces spaced apart and secured to opposite sides of said arm at its pivot end, a set of sheaves having axes on the arm extending along an arc and thereby mounted in an arched arrangement between said cheek pieces, a cable extending over the supporting means at the outer end of said arm, along said arm in proximity thereto, underneath the first of said sheaves in said set and over the other sheaves in said set, and a guide support over which said cable extends from said set of sheaves.

6. A deck anchor hoist including a deck plate having an opening therethrough and bearings thereon, a hoisting arm pivotally supported in said bearings, means at the end of said arm

for the support of a cable, means carried by said arm for supporting said cable, supports extending from the under side of said plate, means mounted in said supports to receive a hoisting cable, and a hoisting cable extending from the end of said arm about all of said supports for the hoisting of an anchor secured to the outer end of said arm.

7. A deck anchor hoist including a deck plate having a slot therethrough and bearings thereon, a hoisting arm pivotally supported in said bearings, means at the end of said arm for the support of a cable, cheek pieces secured to opposite sides of said arm and extending through said slot, a set of sheaves rotatably supported by said cheek pieces, supports extending from the under side of said plate, means mounted in said supports to receive a hoisting cable, and a hoisting cable for the attachment of an anchor at its outer end, said cable extending about the support at the outer end of said arm, about said sheaves, and through said slot and to said support underneath said deck plate.

8. A deck anchor hoist including a hoisting arm pivotally mounted on a boat deck, means at the outer end of said arm to support a hoisting cable, means at the pivot end of said arm for support of said cable, a coupling arm, pivotally mounted on a support on said deck means carried by said coupling arm at its outer end for the support of a cable, a stop rigid with said hoisting arm for retaining said coupling arm at one end of its path of movement and for connecting said coupling and hoisting arms, said stop being movable with said hoisting arm for removal from said path of movement, means for swinging said coupling arm on its pivot, means including said stop for releasably engaging said coupling arm with said hoisting arm, and a cable extending about said cable supports and across the path of the cable support at the end of said coupling arm.

9. A deck anchor hoist including a hoisting arm pivotally mounted on a boat deck, means at the outer end of said arm to support a hoisting cable, cheek pieces secured to opposite sides of said hoisting arm at its pivot end, hoisting cable supports mounted between said cheek pieces, a coupling arm pivotally supported by said deck, means carried by said coupling arm at its outer end for the support of said cable, a stop carried by said cheek pieces for retaining said coupling arm at one end of its path of movement and removable from said path as the cheek pieces are swung by the action of said hoisting arm, means for swinging said coupling arm on its pivot, means including said stop for releasably engaging said coupling arm with said cheek pieces, and a cable extending about said cable supports and across the path of the cable support at the end of said coupling arm.

10. A deck anchor hoist including a deck plate having an opening therethrough and bearings thereon, a hoisting arm having journals pivotally supported in said bearings, means carried by said arm at its opposite ends for the support of a hoisting cable, a coupling arm pivotally mounted on said journals, means carried by said coupling arm at its outer end for the support of said cable, a stop adapted to be located in the path of said coupling arm to retain it at one end of its path of movement and removable from said path by operation of said hoisting arm to permit movement of said coupling arm, means for swinging said coupling arm on its pivot, means including said stop for releasably connecting said coupling arm with said hoisting arm, cable supporting means at the outer end of said coupling arm, and a hoisting cable extending about said cable supports and across the path of the cable support at the end of said coupling arm.

11. A deck anchor hoist including a pivotally mounted hoisting arm, means at the outer end of said arm to support a hoisting cable, cheek pieces secured to opposite sides of said hoisting arm and having a coupling groove therein, cable supporting means between said cheek pieces, a pivotally mounted coupling arm, a stop carried by said cheek pieces to retain said coupling arm at one end of its path of movement and removable from said path by the movement of said cheek pieces, a dog carried by said arm to engage within said groove, means for releasing said dog from said groove, means at the end of said coupling arm for support of said cable, and a hoisting cable extending from said hoisting arm across the path of said cable supporting means at the end of said coupling arm.

12. A deck anchor hoist including a pivotally mounted hoisting arm, means at the end of said arm for support of a hoisting cable, cheek pieces secured to opposite sides of said arm and having a coupling groove therein, cable supports mounted between said cheek pieces, a pivotally mounted coupling arm, a stop carried by said cheek pieces to retain said coupling arm at one end of its path of movement and removable from said path by movement of said cheek pieces, a spring supported dog carried by said coupling arm to engage said stop within said groove to connect said hoisting and coupling arms, a releasing wedge mounted for engagement with said dog for releasing it from said groove and from said cheek pieces, a pull line attached to said wedge for operating it, a support for said cable at the end of said coupling arm, and a hoisting cable extending from said hoisting arm across the path of said cable support at the end of said coupling arm.

13. A deck anchor hoist of the character set forth in claim 12 and wherein the releasing dog is pivotally mounted to release said dog from said cheek pieces and from the groove therein.

14. A deck anchor hoist of the character set forth in claim 12 and wherein the releasing dog is pivotally mounted and positioned so that pull upon the pull line will release the dog at both ends of its path of movement from said cheek pieces.

MARK O. WHITNEY.