W. COULTER.

BOAT DETACHING APPARATUS.

APPLICATION FILED FEB. 7, 1912.

1,021,353.

Patented Mar. 26, 1912.

2 SHEETS—SHEET 1.

FIG. 1

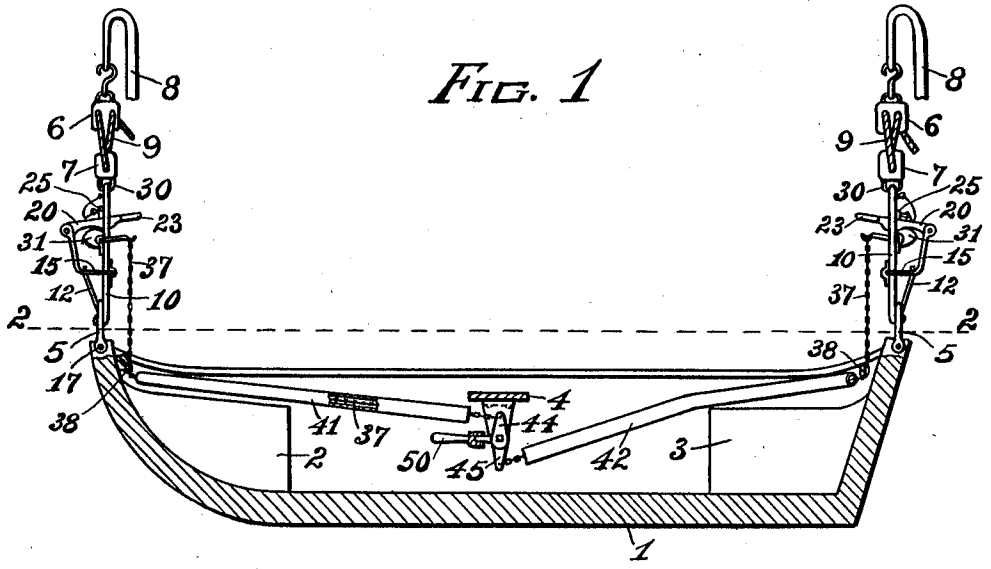


FIG. 2

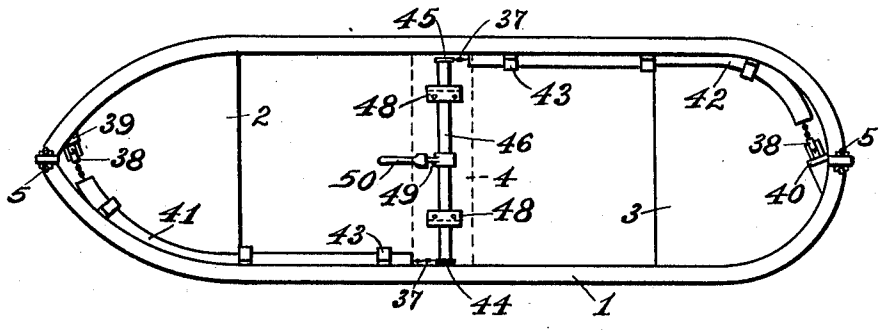
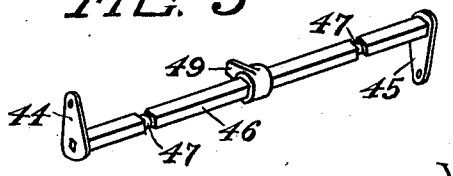


FIG. 3



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2 SHEETS—SHEET 2.

FIG. 4

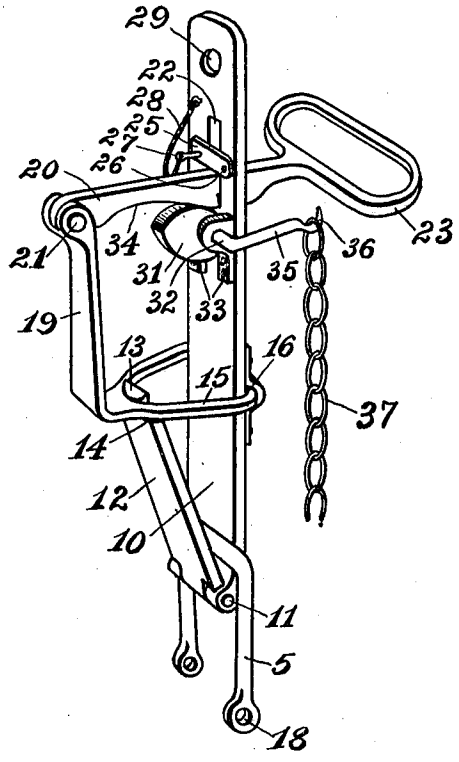


FIG. 5

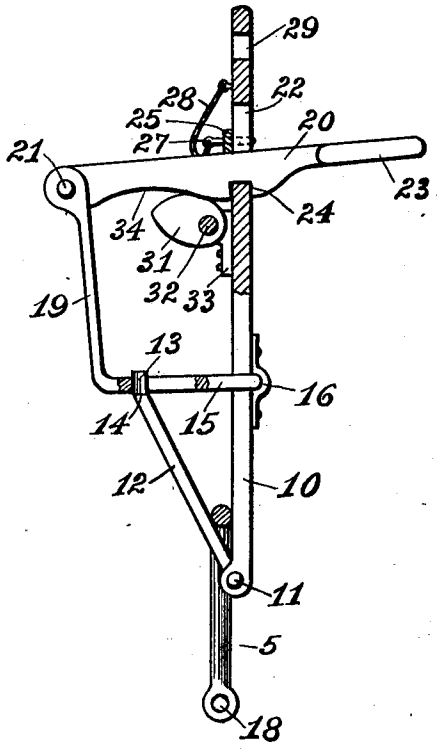
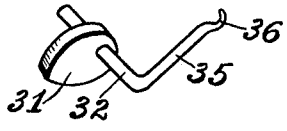


FIG. 6



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BOAT-DETACHING APPARATUS.

1,021,353. Specification of Letters Patent. Patented Mar. 26, 1912.

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To all whom it may concern:

Be it known that I, WILLIAM COULTER, a citizen of the United States, residing at Lorain, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Boat-Detaching Apparatus, of which the following is a specification.

This invention relates to boat detaching apparatus for suspending a boat from the davits, and is designed especially for readily releasing both ends of a boat simultaneously but will safely carry the same until the apparatus is manipulated.

The main object of the invention is to provide a practical apparatus of the above character, which is positive and quick in action and can be easily manipulated by a person within the boat operating a lever.

With the above and other objects in view as will be understood, the invention consists in certain combinations and arrangements of the parts hereinafter described, and the novel features thereof will be distinctly pointed out in the appended claims.

For a full understanding of the invention, reference will be had to the accompanying drawings illustrating a preferred embodiment thereof, and in the drawings like characters of reference indicate corresponding parts.

Figure 1 is a side elevation illustrating my invention applied to a boat, parts of the boat being broken away to more clearly show the apparatus, Fig. 2 is a sectional plan view taken on line 2—2 Fig. 1, Fig. 3 is a perspective view of the rocking shaft, Fig. 4 is a perspective view, on an enlarged scale, of one of the releasing hooks, Fig. 5 is a side elevation of Fig. 4, certain parts being broken away to better show the construction, and Fig. 6 is a perspective view of the cam.

Referring to the drawings, 1 represents an ordinary life boat provided at each end with the usual tanks 2 and 3 and having a transverse seat 4. Each end of the boat is provided with a shackle 5 and is suspended from a pair of blocks 6 and 7; the upper ones of which are attached to the davits indicated at 8, and the lower or fall blocks carry the releasing hooks hereinafter described, which engage said shackles. The upper and lower blocks of each pair are connected together by a rope 9 for raising and lowering the boat in the usual manner.

Each releasing hook comprises a bar 10 of flat material to the lower end of which is hingedly connected as at 11, a plate 12 having at its free end a narrower portion or tongue 13 forming shoulders 14 therewith. The plate 12 is normally held at an acute angle with the front side of the bar 10 by means of a stirrup member 15, which is pivotally connected to the outer side of the bar as shown at 16 and engages the tongue 13 of said plate. Between the bar 10 and the plate 12 and engaging the inner sides thereof above the pivot point 11, is hung the shackle 5, which is preferably secured to the boat by means of a removable bolt 17 passing through the eyes 18 of the shackle.

In order to prevent accidental disengagement of the stirrup member 15 from the tongue 13 and thereby release the plate 12, the stirrup member is provided with an upwardly projecting arm 19 bifurcated at its upper end for receiving the outer end of a locking lever 20 which is pivotally connected thereto at 21. The locking lever passes loosely through an elongated slot 22 formed in the bar 10 and is provided at its inner end with a suitable handle 23. The under edge of the locking lever is recessed at a suitable point as indicated at 24 for engaging the lower edge of the slot 22, and as a further means of safety a latch plate 25 pivotally connected to the bar 10 at 26 is adapted to engage the upper edge of the locking lever 20 and be secured in locking position by means of a pin 27 passing through alining openings in the latch plate and the bar 10, whereby the locking lever is securely held against upward displacement. The pin 27 is preferably connected to the bar 10 by means of a string or small chain 28.

The upper end of each bar 10 is provided with an opening 29 for receiving the usual depending eye member 30 of each fall-block 7.

In order that the releasing hooks may be operated in unison, a suitable cam 31 fixed to a transverse spindle 32 is pivotally mounted between a pair of bearings 33 which are fastened to the inner side of each bar 10, and said cams engage the under curved edge 34 of the locking lever 20. Projecting rearwardly at a right angle from each spindle 32 is an arm 35 which terminates in a hook 36.

Depending from each of the hooks 36 is a chain 37 which passes under a suitable sheave 38 fixed to the boat at the bow and

stern respectively as at 39 and 40. The chains 37 then pass preferably through curved tubes 41 and 42 secured to the inner sides of the boat by means of clips 43, and the free ends of the chains are connected to oppositely extending arms 44 and 45 of a rocking shaft 46. The rocking shaft is preferably constructed of a square bar, having turned therein journals 47 which are mounted in brackets 48 fixed to the under side of the transverse seat 4 of the boat. Rigidly secured to the rocking shaft and extending forwardly thereof is a stub lever 49, to which is fitted a removable handle 50 for rotating the rocking shaft to operate both of the cams 31 at the same time.

The operation of the apparatus is as follows: Assuming that the boat is suspended and the parts are as shown in Fig. 1 and it is desired to lower the boat and detach it from the davits. The pins 27 are first removed, the boat lowered in the usual manner, and then by pulling upwardly on the handle 50, the cams 31 will raise the locking levers 20 simultaneously and thereby disengage the stirrup members 15 from the tongues 13 of the inclined plates 12, which permits the shackles 5 to fall from the releasing hooks and each end of the boat is detached simultaneously. At the same time that the cams 31 have rotated sufficiently to disengage the stirrup members from the inclined plates, the arms 35 are so inclined that the chains 37 slide off the hooks 36 and the boat is entirely detached from the releasing hooks.

It is to be understood that slight changes in the details of construction and combination and arrangement of the parts may be resorted to within the scope of the claims.

Having fully described my invention what I claim is—

1. In a boat detaching apparatus, the combination of a bar, a plate hingedly connected to the bar, a stirrup member pivoted to the bar for holding the plate in an angular position with relation to the bar, means interposed between the bar and the plate for supporting a weight, a locking lever pivoted to the stirrup member for engaging said bar to lock the stirrup member in normal position, and means for disengaging the locking lever from the bar and moving the stirrup member out of engagement with said plate, substantially as described.

2. In a boat detaching apparatus, the combination of a bar, a plate hingedly connected to the bar, a stirrup member pivoted to the bar for holding the plate in an angular position with relation to the bar, and means interposed between the bar and the plate for supporting a weight, a locking lever pivoted to the stirrup member for engaging said bar to lock the stirrup member in normal position, and a cam for forcing the locking lever out of locking engagement with the bar and disengaging the stirrup member from the plate, substantially as described.

3. In a boat detaching apparatus, the combination of a bar, a plate hingedly connected to the bar, a stirrup member pivoted to the bar for holding the plate in an angular position with relation to the bar, means interposed between the bar and the plate for supporting a weight, an arm projecting upwardly from the stirrup member, a locking lever pivotally connected to the arm, the locking lever being provided with means for engaging the bar to hold the stirrup member in normal position, and a cam for forcing the locking lever out of engagement with the bar and disengaging the stirrup member from the plate, substantially as described.

4. In a boat detaching apparatus, the combination of a bar, a plate hingedly connected to said bar, a tongue projecting from the free end of the plate and forming shoulders therewith, a stirrup member pivotally connected to the bar for engaging said tongue to hold the plate in an angular position with relation to the bar, a shackle interposed between said plate and said bar and engaging the sides thereof for supporting a weight, an arm projecting upwardly from the stirrup member, said bar being provided with a slot, a locking lever pivotally connected to said arm and passing through said slot, the locking lever having a recess forming shoulders for embracing the lower edge of said slot to hold the stirrup member in locked position, the locking lever having an operating handle, and means for disengaging the locking lever from the bar and moving the stirrup member out of engagement with said plate, substantially as described.

5. In a boat detaching apparatus, the combination of a bar, a plate hingedly connected to the bar, a stirrup member pivoted to the bar for holding the plate in an angular position with relation to the bar, a shackle interposed between the bar and the plate and engaging the sides thereof for supporting a weight, an arm projecting upwardly from the stirrup member, a locking lever pivotally connected to the arm, the locking lever being provided with means for engaging the bar to hold the stirrup member in normal position, a cam pivotally connected to the bar for forcing the locking lever out of locking engagement with the bar and disengaging the stirrup member from the plate, an arm projecting from the cam, means for operating said arm, and means connecting the last mentioned means to said arm which will become automatically detached from the arm when the stirrup member is disengaged from said plate, substantially as described.

6. In a boat detaching apparatus, the combination of a bar, a plate hingedly connected to the bar, a stirrup member pivoted to the bar for holding the plate in an angular position with relation to the bar, a shackle, interposed between the bar and the plate and engaging the sides thereof for supporting a weight, an arm projecting upwardly from the stirrup member, a locking lever pivotally connected to the arm, the locking lever being provided with means for engaging the bar to hold the stirrup member in normal position, a cam pivotally connected to the bar for forcing the locking lever out of locking engagement with the bar and disengaging the stirrup member from the plate, a latch plate pivotally connected to said bar for engaging the upper edge of the locking lever, a pin for securing the latch plate to the bar in locking position, an arm projecting from the cam, means for operating said arm, and means connecting the last mentioned means to said arm which will become automatically detached from the arm when the stirrup member is disengaged from said plate, substantially as described.

7. In a boat detaching apparatus, the combination of a bar, a plate hingedly connected to the bar, a stirrup member pivoted to the bar for holding the plate in an angular position with relation to the bar, a shackle interposed between the bar and the plate and engaging the sides thereof for supporting a weight, an arm projecting upwardly from the stirrup member, a locking lever pivotally connected to the arm, the locking lever being provided with means for engaging the bar to hold the stirrup member in normal position, a cam pivotally connected to the bar for forcing the locking lever out of locking engagement with the bar and disengaging the stirrup member from the plate, an arm projecting from the cam, an arm terminating in a hook, means for operating said arm, and a chain connected to the last mentioned means and hanging from said hook whereby it will be automatically detached therefrom when the stirrup member is disengaged from said plate, substantially as described.

8. In a boat detaching apparatus, the combination of the boat, a shackle fixed to each end of the boat, each shackle being interposed between a bar and a plate hingedly connected to the bar, a stirrup member pivoted to the bar for holding the plate in an angular position with relation to the bar, an arm projecting upwardly from the stirrup member, a locking lever pivotally connected to the arm, the locking lever being provided with means for engaging the bar to hold the stirrup member in locked position, a cam pivotally connected to each bar for forcing the locking lever out of locking engagement with the bar and disengaging the stirrup member from the plate, an arm projecting from the cam, the arm terminating in a hook, a rocking shaft rotatably mounted in the boat, arms projecting in opposite directions from the rocking shaft, a sheave at each end of the boat, a chain connected to each arm of the rocking shaft, each chain passing under one of said sheaves and hung from one of said hooks whereby it will be automatically detached therefrom when the stirrup members are disengaged from said plates, and a handle detachably connected to the rocking shaft for operating the same, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM COULTER.

Witnesses:
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HUGH G. NEELY.