

C. A. BINKS.

APPARATUS FOR LOWERING AND HOISTING LIFE BOATS FROM THE DECKS OF SHIPS.

APPLICATION FILED DEC. 26, 1908.

Patented Aug. 24, 1909.

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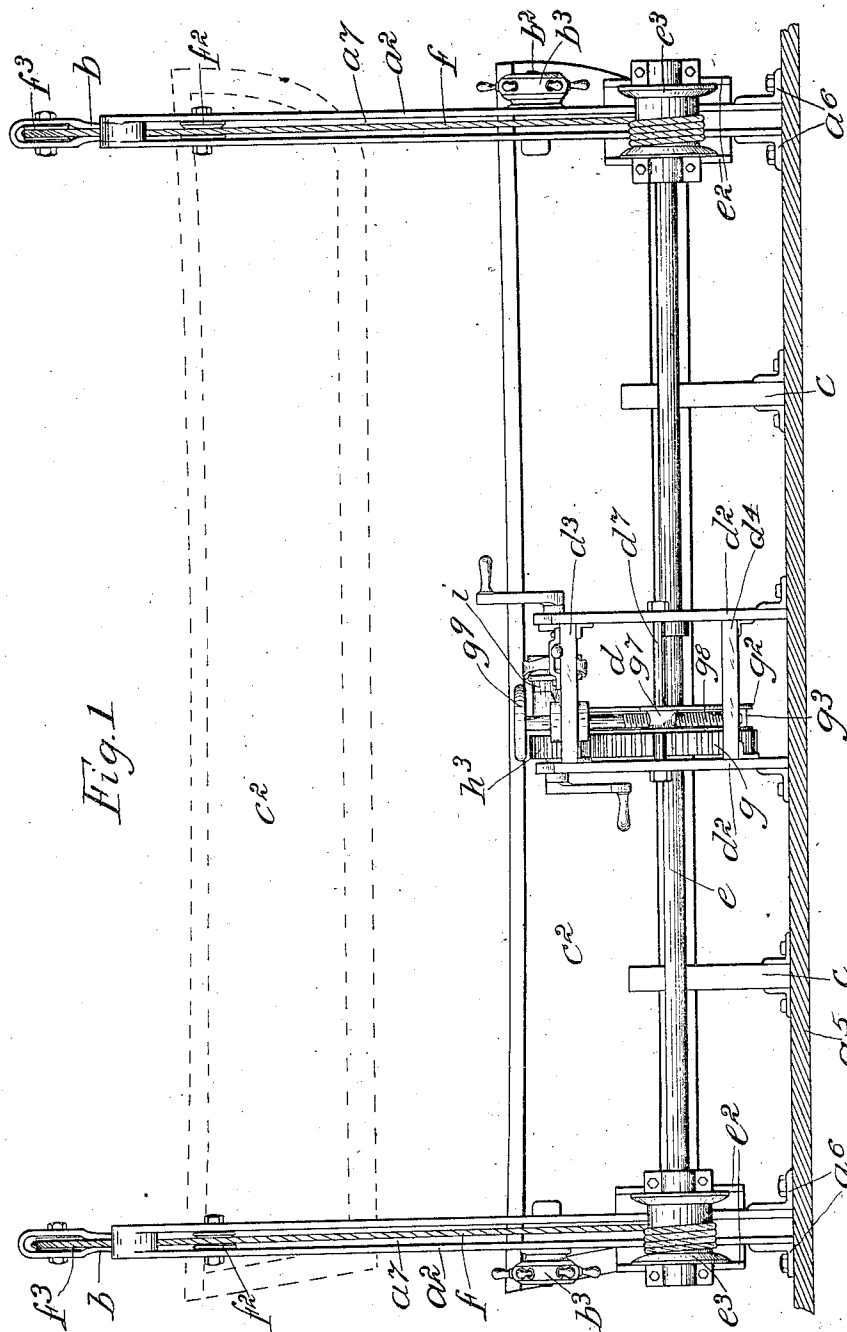


Fig. 1

WITNESSES

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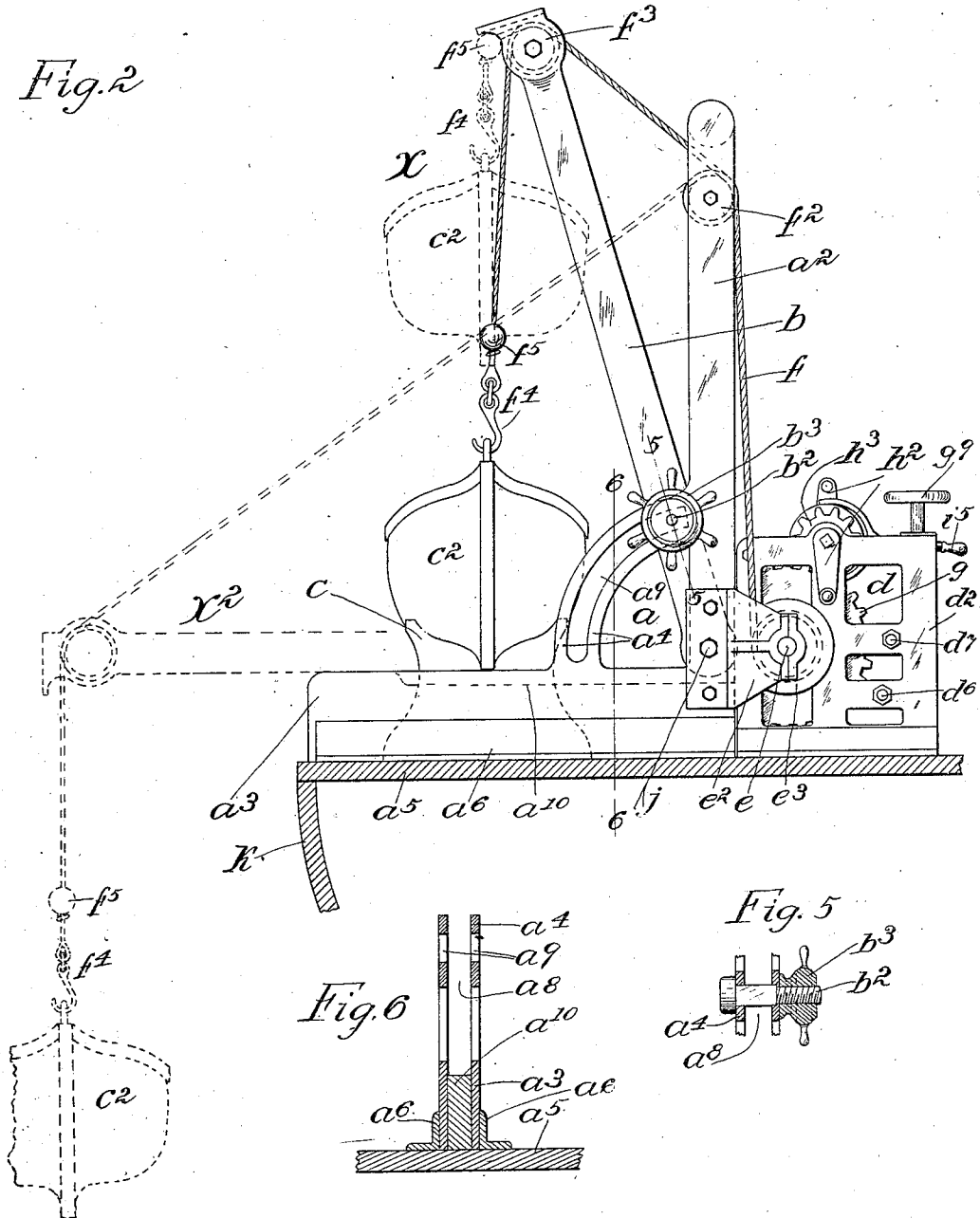
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Fig. 2



WITNESSES

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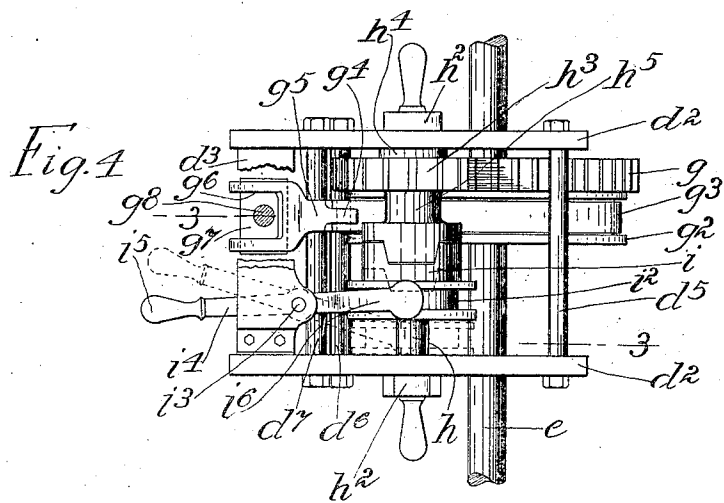
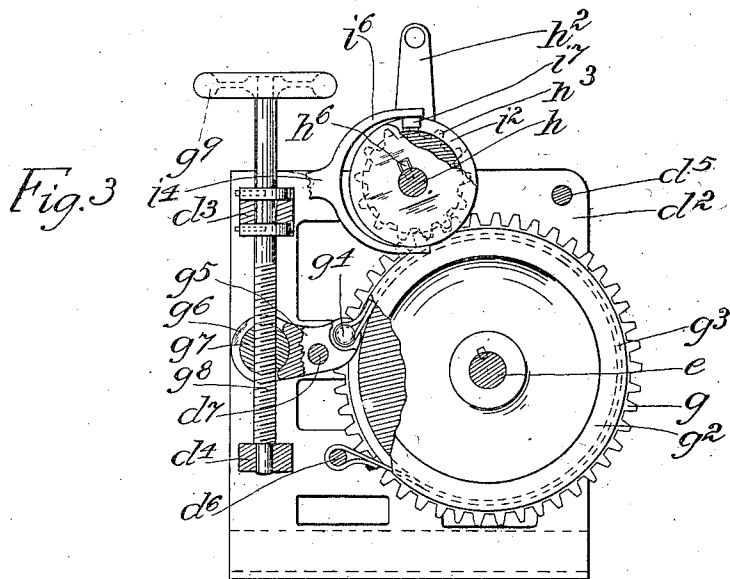
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3 SHEETS—SHEET 3



WITNESSES

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APPARATUS FOR LOWERING AND HOISTING LIFE-BOATS FROM THE DECKS OF SHIPS.

932,101.

Specification of Letters Patent.

Patented Aug. 24, 1909.

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To all whom it may concern:

Be it known that I, CORNELIUS A. BINKS, a citizen of the United States, and residing at Matawan, in the county of Monmouth and State of New Jersey, have invented certain new and useful Improvements in Apparatus for Lowering and Hoisting Life-Boats from the Decks of Ships; of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to apparatus for lowering and hoisting or raising life boats from the decks of ships; and the object thereof is to provide an improved apparatus of this class which is simple in construction and operation, and which may be used on any kind or class of ships or vessels and by means of which a life boat may be easily and safely lowered when desired and also quickly and easily raised to the deck of the vessel; a further object being to provide an apparatus of the class specified which is operated by a single winch device, which winch device may be operated by one or more men; and with these and other objects in view the invention consists in an apparatus of the class specified constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which;—

Figure 1 is an out-board or back view of my improved apparatus and showing part of the deck of a vessel in section, Fig. 2 an end view looking forward and showing part of the deck and hull of the vessel in section, Fig. 3 a vertical section of the winch device on the line 3—3 of Fig. 4, Fig. 4 a plan view of the winch device with part of the construction broken away, Fig. 5 a partial section on the line 5—5 of Fig. 2, and;— Fig. 6 a section on the line 6—6 of Fig. 2.

In the practice of my invention, I provide two supports a comprising standards a^2 having outwardly directed horizontal base members a^3 , and the standards a^2 and horizontal base members a^3 are connected by arc-shaped braces a^4 , and said supports are placed in parallel position on the deck a^5 of the vessel and are retained in proper position by reinforcing angle plates a^6 .

The standards a^2 of the supports a are provided with longitudinal slots a^7 , and the arc-shaped braces a^4 are provided with vertical slots a^8 and lateral arc-shaped slots a^9 . Pivoted at j in the bottoms of the slots a^7 in the standards a^2 of the supports a are davits b , and these davits are provided with bolts b^2 which pass through the slots a^9 in the arc-shaped braces a^4 . The bolts b^2 where they pass through the davits b are angular in form and the outer ends of said bolts are threaded and provided with hand wheels b^3 , and by means of this construction the davits b are free to swing in a vertical plane out-board and in-board, and may be locked or secured in any desired position by turning the hand wheels b^3 .

Between the horizontal base members a^3 of the supports a are placed the saddles c which normally support the boat c^2 , and placed midway between the supports a and slightly inwardly thereof, in the construction shown, is a winch device d . The winch device d comprises, in the form of construction shown, side frame plates d^2 connected at the back or in-board side by two transverse bars d^3 and d^4 , and said side frame plates are also connected, in the form of construction shown, by rods d^5 and d^6 the first of which is placed at the top outer corner, and the latter just inwardly of the bar d^4 , and above the rod d^6 is another rod d^7 which also connects the side plates d^2 of the winch device.

Passing forwardly and backwardly through the winch device d is a shaft e , the ends of which are supported by Z-shaped bracket plates e^2 secured to the opposite sides of the base portions and the standards a^2 of the supports a , and this shaft is provided with two drums e^3 on which are wound, or with which are connected cables f which are passed around pulleys f^2 in the top portions of the standards a^2 of the supports a and also around other pulleys f^3 in the upper or free end portions of the davits b and from which they are carried down and connected with the bow and stern of the boat c^2 by means of hook devices f^4 or in any other preferred manner, and said cables are preferably provided just above the hook devices f^4 with stop blocks or similar devices f^5 .

Secured to the shaft e within the frame work of the winch device d is a large gear g provided with a grooved hub g^2 , and passed around the hub g^2 of the gear g is a brake

band g^3 , one end of which is secured to the rod d^6 and the other end of which is connected at g^4 with an arm g^5 mounted on the rod d^7 . The outer or rear end of the arm g^5 is slotted or yoke-shaped in form as shown at g^6 , and mounted therein is a cylinder g^7 through which passes a vertically arranged screw g^8 and the lower end of the screw g^8 is pivoted or rotatably mounted in the bar d^4 of the winch device d and the upper end thereof passes through the bar d^3 which forms a bearing therefor, and said screw is provided at its upper end with a hand wheel g^9 , and by manipulating the screw g^8 the brake g^3 may be operated as will be readily understood.

Passing through the top portion of the winch frame and parallel with the shaft e is a crank shaft h preferably provided at each end with a crank h^2 , and on which is loosely mounted a gear h^3 which meshes with the gear g , and the gear h^3 is provided on its outer side with a hub h^4 and on its inner side with a clutch hub or member h^5 .

Mounted on the crank shaft h at the right of the clutch hub or member h^5 is a supplemental clutch member i provided with the usual annular groove i^2 , and pivoted at i^3 is a clutch arm i^4 the outer end of which is provided with a handle i^5 and the inner end of which is provided with the usual clutch yoke i^6 having inwardly directed lugs or projections i^7 which operate in the groove i^2 , and by means of this construction the supplemental clutch member i may be moved longitudinally on the crank shaft h and toward or from the clutch member h^5 on the gear wheel h^3 .

The shaft h , as shown in Fig. 3, is provided with a spline h^6 movable in a corresponding groove in the clutch member i , and by means of this construction the said clutch member is free to slide longitudinally on said shaft but cannot turn thereon.

In Fig. 4 of the accompanying drawing the clutch members h^5 and i are shown in connected and operative position in full lines, and disconnected or in inoperative position in dotted lines.

The operation will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof. The normal position of the parts of the apparatus is that shown in Fig. 1 in full lines, in which the boat c^2 rests in the saddles c . If now it is desired to lower the boat into the water from the deck of the vessel the procedure is as follows:—Presuming that the brake g^3 is not in operation, and that the clutch devices h^6 and i are in operation, the crank shaft h is turned so as to raise the boat c^2 into the position shown in dotted lines at x in Fig. 2, the hand wheels b^3 are then turned so as to permit the davits b to

swing freely in the braces a^4 . The crank shaft h may then be turned by hand so as to lower the davits b into the position shown in dotted lines at x^2 in Fig. 2, in which position they rest on the horizontal base members a^3 of the supports a . The boat c^2 may then be lowered still farther into the water by turning the crank shaft h by hand in the same direction, or the crank shaft h may be released and the clutch devices h^5 and i thrown out of operation and the boat allowed to fall into the water, and this falling of the boat may, if desired, be regulated by manipulating the brake screw g^8 and the brake band g^3 by means of the hand wheel g^9 . Instead of following the above description the boat may be dropped into the water from the position shown at x in Fig. 2 by releasing the clutch devices h^5 and i , and this operation may also be regulated by means of the brake device if desired.

The operation of raising the boat from the water into the position shown in dotted lines at x in Fig. 2 and then lowering it into the saddles c will be readily understood, all that is necessary, the clutch devices h^5 and i and the brake devices being out of operation, being to turn the crank shaft h in the proper direction to wind the cables f on the drums c^3 until the davits b are in the position shown in full lines in Fig. 2 and the boat in the position shown at x , after which the hand wheels b^3 are turned so as to hold the davits in said position and the crank shaft h turned so as to lower the boat into the saddles c .

Any suitable means may be provided for holding the clutch arm i^4 either in the operative position shown in full lines in Fig. 4, or in the inoperative position shown in dotted lines in said figure. In Fig. 2 I have also shown at k a part of one side of the hull of the vessel, and by means of my improved apparatus as herein shown and described the boat c^2 in the operation of lowering and raising the same is suspended clear of the hull of the vessel, and my improved apparatus is, as will be seen, well adapted to accomplish the object for which it is intended; and various changes in and modifications of the construction described may be made, within the scope of the appended claims, without departing from the spirit of my invention or sacrificing its advantages.

In the construction shown the supports a and arc-shaped braces a^4 are composed of separate side plates secured together and a central member a^{10} secured between the horizontal bottom portions a^3 of said supports and the davits b when lowered into the position shown at x^2 in Fig. 2 rest on the outer end portions of the parts a^{10} as indicated in dotted lines in said figure, but these supports may be constructed in any desired manner and may be cast integrally if desired.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In an apparatus of the class described, two supports adapted to be secured to the deck of a vessel and provided with slotted upright members, davits pivoted in the bottoms of said members, outwardly extending arc-shaped braces connected with said members and slotted vertically and laterally and through which said davits are free to pass, threaded bolts passing through said davits and through said arc-shaped braces and provided at their outer ends with hand wheels the hubs of which are threaded to correspond with the threads on said bolts, pulleys mounted in the tops of the upright members of said supports, other pulleys mounted in the upper or free ends of the davits, a horizontal drum shaft mounted rearwardly of the base of said supports and provided with drums at its opposite ends and rearwardly of said supports, cables connected with said drums and passed over the pulleys in the upright members of the supports and over the pulleys in the davits, and means for operating said shaft.

2. In an apparatus of the class described, two supports adapted to be secured to the deck of a vessel and provided with slotted upright members, davits pivoted in the bottoms of said members, outwardly extending arc-shaped braces connected with said members and slotted vertically and laterally and through which said davits are free to pass, bolts passing through said davits and through said arc-shaped braces and provided at their outer ends with hand wheels, pulleys mounted in the tops of the upright members of said supports, other pulleys mounted in the upper or free ends of the davits, a horizontal drum shaft mounted rearwardly of the base of said supports and provided with drums at its opposite ends and rearwardly of said supports, cables connected with said drums and passed over the pulleys in the upright members of the supports and over the pulleys in the davits, and means for operating said shaft consisting of a winch frame through which said shaft passes, a gear wheel mounted on said shaft, a crank shaft, a gear wheel mounted thereon and meshing with the gear wheel on the drum shaft, a brake device operating in connection with the gear wheel on the drum shaft, a movable clutch member mounted on the crank shaft and operating in connection with a station-

ary clutch member connected with the gear wheel on the crank shaft, and means for operating said clutch member.

3. In an apparatus of the class described, a winch frame, a shaft passing therethrough and provided with a gear wheel having a brake hub, a brake band passing around said hub and one end of which is secured to a stationary support, a pivoted brake arm to which the other end of said band is secured, said brake arm being provided with a yoke-shaped head, a rotatable cylinder mounted in said head, and a screw shaft mounted in stationary supports and passing vertically through said rotatable cylinder.

4. In a winch frame for the purpose specified, a frame, a drum shaft passing therethrough and provided with a large gear wheel having a brake hub, a brake band mounted on said hub, means for operating said brake band, a crank shaft mounted over the drum shaft and provided with a gear wheel which meshes with the gear wheel on the drum shaft and is provided with a clutch member, and a supplemental clutch member movable longitudinally on the crank shaft and adapted to operate in connection with the first named clutch member, and means for operating the supplemental clutch member.

5. In an apparatus of the class described, two supports comprising horizontal base members and upright members, the upright members being slotted, and said upright and base members being connected by arc-shaped braces slotted vertically, davits pivoted in the bottoms of the upright members and passing through the arc-shaped braces, pulleys in the tops of the upright members and in the tops or free ends of the davits, a spool shaft mounted rearwardly of said supports and provided at its opposite ends with spools, cables connected with said spools and passing around the pulleys in the tops of the upright members and in the tops or free ends of the davits, means for operating said shaft and means for locking the davits to the arc-shaped braces.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 24th day of December 1908.

CORNELIUS A. BINKS.

Witnesses:

C. E. MULREANY,
A. R. APPLEMAN.