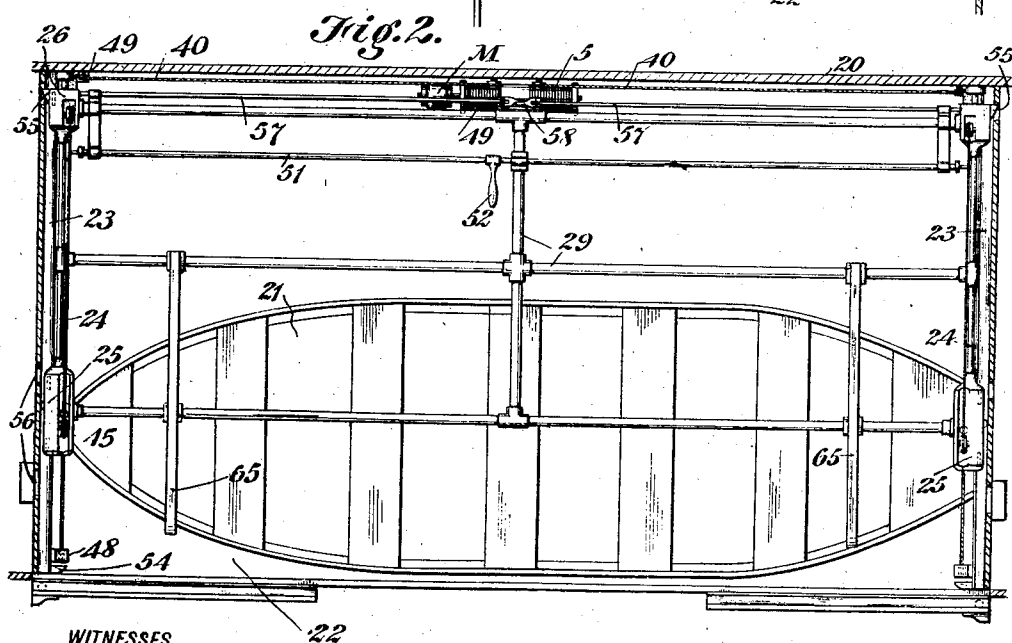
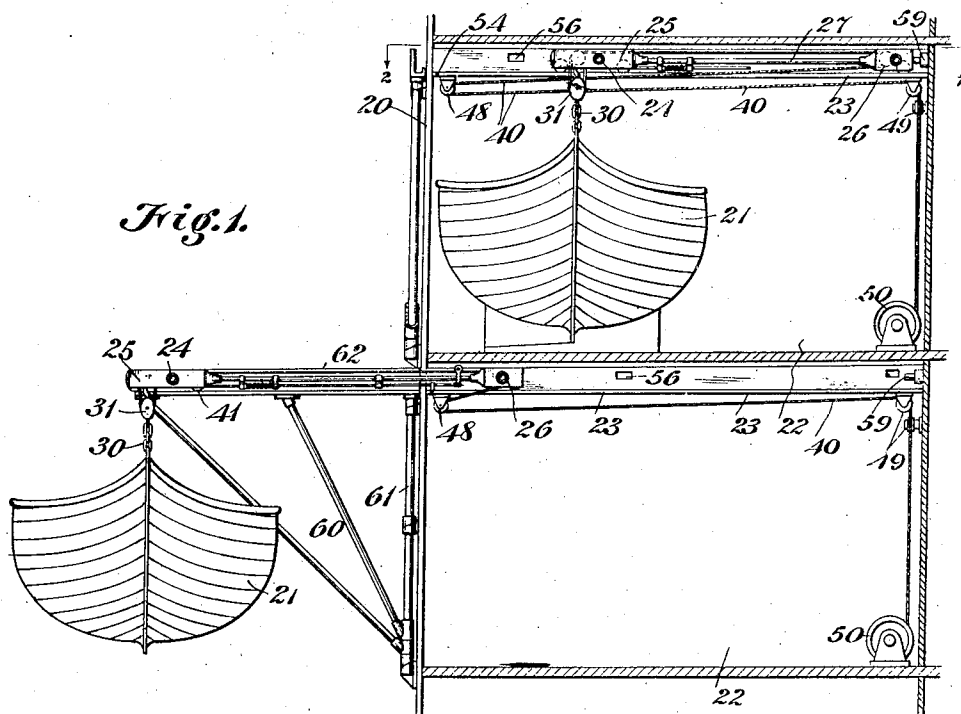


1,094,348.

R. TJADER.
INTERDECK DAVIT.
APPLICATION FILED MAR. 11, 1914.

Patented Apr. 21, 1914.

3 SHEETS-SHEET 1.



WITNESSES

G. W. Pine
Geo. L. Beebe

INVENTOR

Richard Tjader

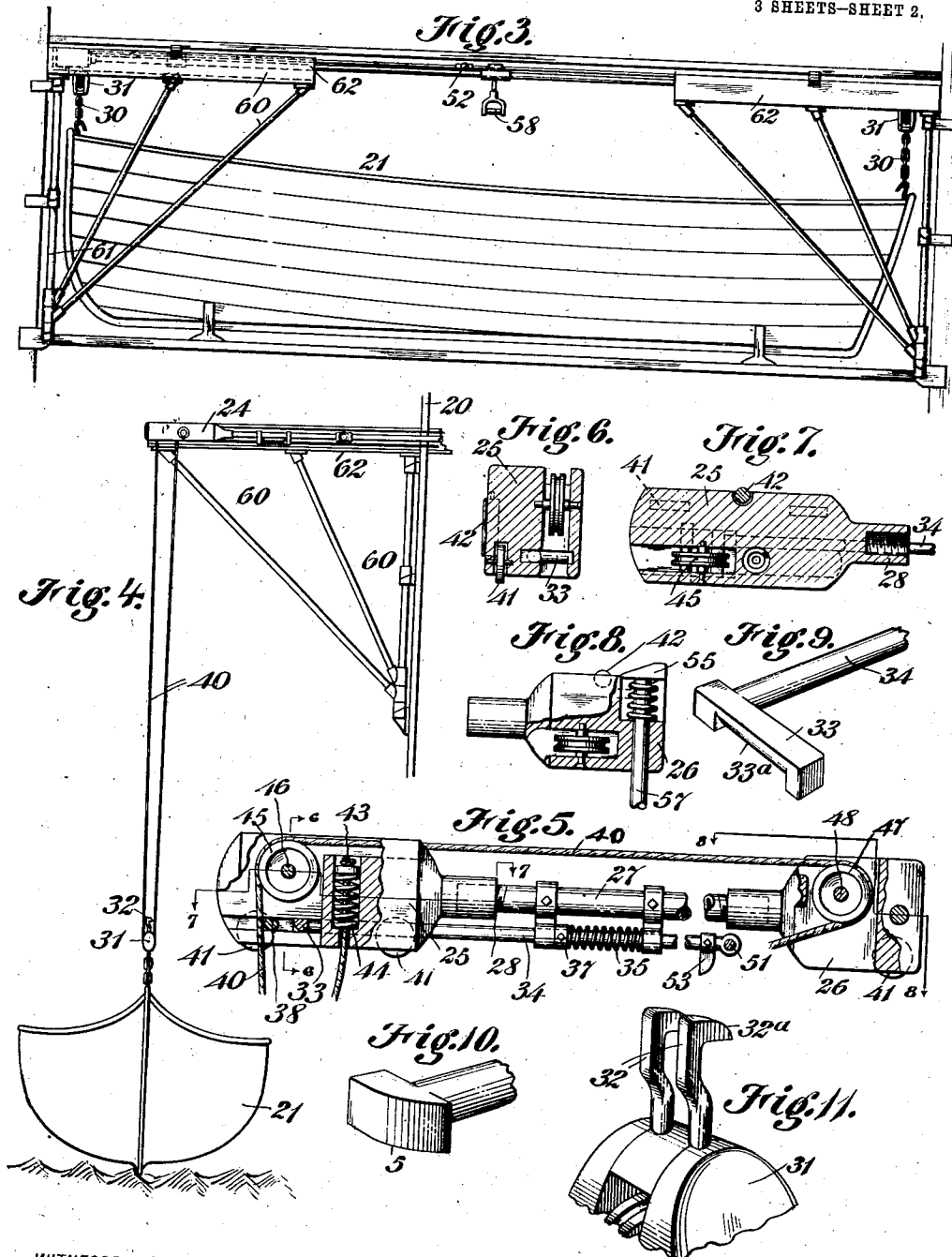
BY

Wynn & Co
ATTORNEYS

1,094,348.

R. TJADER.
INTERDECK DAVIT.
APPLICATION FILED MAR. 11, 1914.

Patented Apr. 21, 1914.
3 SHEETS—SHEET 2.



WITNESSES

G. R. Pinn
G. L. Beeler

INVENTOR
Richard Tjader
BY *Wm. M. M. M.*
ATTORNEYS

1,094,348.

R. TJADER.
INTERDECK DAVIT.
APPLICATION FILED MAR. 11, 1914.

Patented Apr. 21, 1914.

3 SHEETS-SHEET 3.

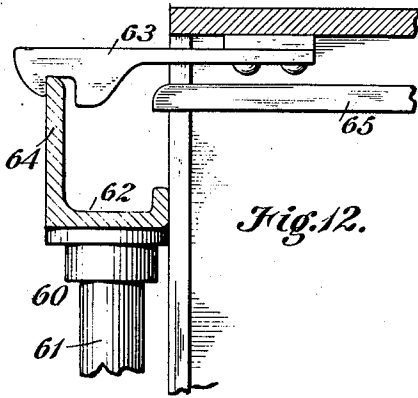


Fig. 12.

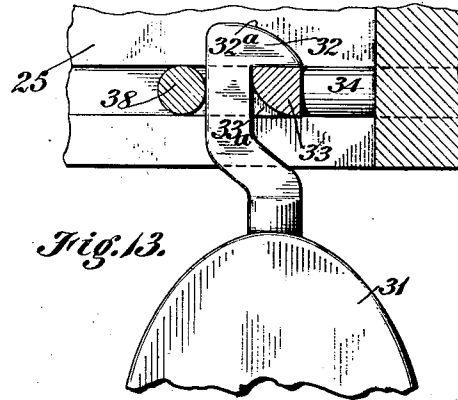


Fig. 13.

Fig. 14.

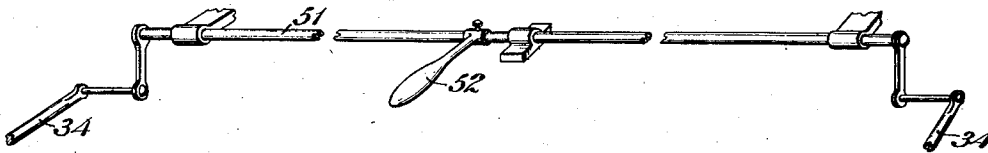


Fig. 15.

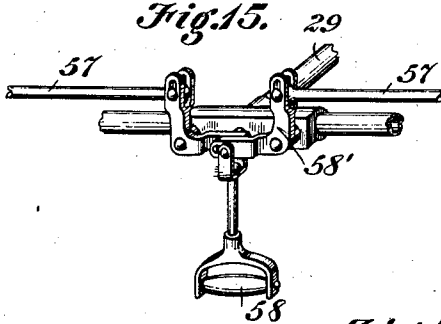
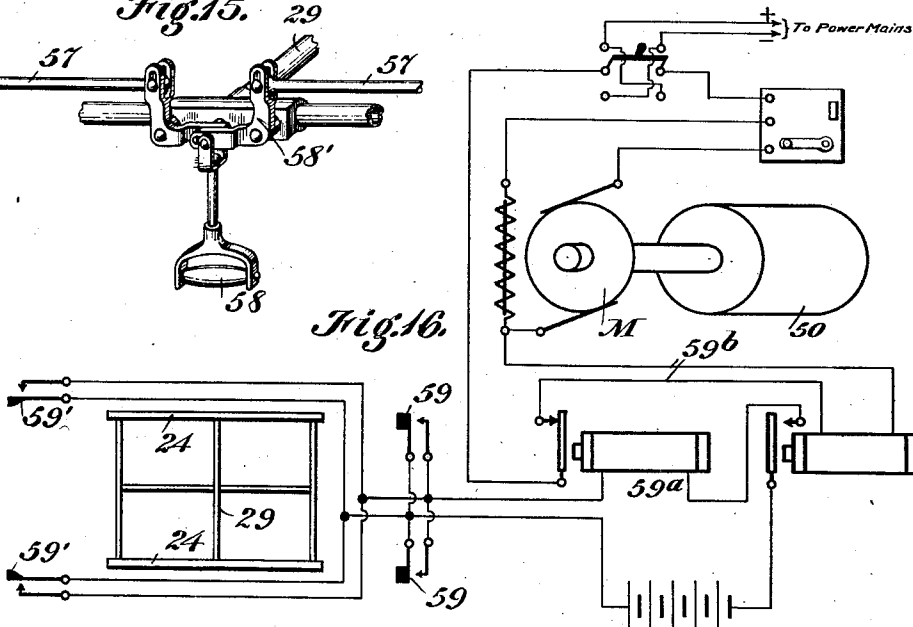


Fig. 16.



WITNESSES

J. W. Pine

Geo. L. Beeler

INVENTOR

Richard Tjader

BY

Munn & Co
ATTORNEYS

UNITED STATES PATENT OFFICE.

RICHARD TJADER, OF NEW YORK, N. Y.

INTERDECK-DAVIT.

1,094,348.

Specification of Letters Patent.

Patented Apr. 21, 1914.

Application filed March 11, 1914. Serial No. 823,927.

To all whom it may concern:

Be it known that I, RICHARD TJADER, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Interdeck-Davit, of which the following is a full, clear, and exact description.

This invention relates to ships and has particular reference to davits or the like means for launching or hoisting auxiliary boats such as lifeboats, motorboats or the like.

Among the objects of the invention, more definitely stated, is to provide a simple, easily controllable and safe means for launching lifeboats from various decks or between decks of a ship, whereby the confusion and loss of time incident to attempting to launch all the lifeboats from the upper deck only are obviated.

Another object of the invention is to provide boat controlling devices of such nature as to provide means for lowering a lifeboat or the like at different distances from the ship according to the conditions of the sea or position of the ship.

The foregoing and other objects of the invention will hereinafter be more fully described and claimed and illustrated in the drawings forming a part of this specification in which like characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a vertical transverse section of a portion of a ship, indicating portions of two decks and the relation of my improvements thereto, one lifeboat being shown in normal housed position on the upper deck and the other lifeboat being shown projected from the ship ready to be lowered; Fig. 2 is a plan view, partly in section, on the line 2—2 of Fig. 1; Fig. 3 is a front elevation corresponding to Fig. 2; Fig. 4 is a view corresponding to Fig. 1, indicating one lifeboat being lowered into proximity with the water; Fig. 5 is a fragmentary side elevation of one of the projecting and supporting carriage sides; Fig. 6 is a transverse section on the line 6—6 of Fig. 5; Fig. 7 is a sectional view on the line 7—7 of Fig.

5, indicating the structure of the front or outer end of the carriage; Fig. 8 is a partial plan and partial sectional view of the rear or inner end of the beam, on the line 8—8 of Fig. 5; Figs. 9, 10 and 11 are perspective views of details of construction described below; Fig. 12 is a detail indicating the means for normally locking the auxiliary track members against the side of the ship and the releasing devices therefor; Fig. 13 is a detail view indicating the relation of the boat supporting blocks to the sliding carriage supports; Fig. 14 is a detail perspective view indicating one of the hand controlling devices; Fig. 15 is a similar view of another hand controlling member; and Fig. 16 is a diagram indicating one form of electric control whereby the movement of the main supporting beam may be automatically stopped when reaching the end of its movement in either direction.

The several parts of this device may be made of any suitable materials, and the relative sizes and proportions, as well as the general design of the mechanism, may be varied to a considerable extent without departing from the spirit of the invention hereinafter more fully set forth and specifically claimed.

Referring more particularly to the drawings for a description of a preferred embodiment of this invention, I show at 20 a section of a ship having a plurality of decks, and at 21 I show a plurality of lifeboats adapted to be associated with the several decks, and, as illustrated, I prefer to place each lifeboat in normal position with its longer axis parallel with the axis of the ship and arranged just within the side line of the ship, and associated with each lifeboat 21 is a suitable mechanism not only for supporting it and keeping it from vibrating or oscillating with relation to the ship, but whereby it may be projected bodily and readily beyond the side of the ship and quickly lowered into the water.

The space 22 in which each lifeboat is normally housed may be made to conform in length to the length of the boat or long enough to accommodate a lifeboat of any usual or approved design, and the width of

such space transversely of the ship is sufficient to receive the lifeboat and allow ample space adjacent the inner side of the lifeboat for manipulating it whereby, under certain conditions, the passengers will be admitted into the lifeboat while in normal position.

The structure of the ship opposite the ends of the lifeboat is such as to include a track member 23 which may be in the nature of a channel beam having an open side toward the lifeboat. Said track member may be a part of the ship structure or a separate member secured thereto in any desired manner in a rigid and permanent position. The track member 23 also is preferably inclined downwardly and outwardly in conformity to the usual outward inclination or pitch of the ship deck.

At 24 I show a projecting rigid carriage member associated with each of the track members 23 and of a length slightly less than that of the track member. The structure of the carriage member is shown best in Figs. 5 to 8, and each slide member is preferably made up of two head portions 25 and 26 connected by means of a rod or pipe 27 having its ends threaded into hubs 28 of the heads. Each slide is slidable longitudinally along its supporting trackway so as to project with its outer head beyond the side of the ship, the rear or inner head 26, however, being prevented from passing beyond the side wall of the ship. Any suitable means may be provided to control the movements of the slides 24. As shown in Fig. 2, the two slides 24 pertaining to each lifeboat are coupled or connected together by any suitable rigid bracing or framework 29. The two sides 24 with their connecting devices 29 may be termed for convenience a sliding carriage as distinguished from a stationary construction which supports the boat.

At each end of the lifeboat is connected, by any suitable quick detaching means, a chain 30 having its upper end connected by a pulley block 31 to the upper portion of which are connected a pair of hooks 32.

At 33 I show a keeper constituting a part of a device comprising an arm or bar 34 slidable longitudinally of the slide 24, the keeper 33 extending across the lower portion of the outer head 25. A spring 35 coöperates with an abutment 36 at one end and with a collar 37 secured to the bar 34 at the other end, and serves to normally force the bar and keeper outwardly toward a guard pin 38. The outer and lower portion or face of the keeper 33 is rounded or beveled as shown at 33^a, and the hooks 32 are likewise beveled on their upper and inner portions, as indicated at 32^a. The block 31, therefore, when elevated, will cause the hooks to be shoved between the guard 38 and the keeper 33, caus-

ing the keeper to be forced inwardly against the tension of the spring 35 and allowing the hooks to ride or snap over and rest upon the keeper 33, whereby the weight of the boat is normally relieved from the operating cable 40. The ends of the keeper are supported positively by the lower portions of the head 25, see Fig. 6, whereby there is no great weight resting upon the bar 34.

Each carriage slide 24 is provided with a plurality of antifriction rollers 41, two of such rollers being applied to the outer head and one to the inner head, which coöperate with the trackways 23 and provide for comparatively easy movement of the carriage or slide outwardly or inwardly. I also provide lateral antifriction rollers 42 whereby the binding or frictional contact between the slide and the front and rear side walls of the space 22, which might result from the rolling or pitching of the ship, is practically eliminated.

The above mentioned cables 40 are arranged in duplicate, one for each end of the lifeboat. One end of each cable is anchored at 43 in a cushioning device including a spring 44 in the head 25 and between the antifriction rollers 41 thereof. Said cable extends thence downwardly and through the block 31, and thence upwardly over a pulley 45 journaled on a fixed pivot 46 in the head 25. The cable extends thence rearwardly to and over the pulley 47 journaled on a fixed pivot 48 in the rear head 26. In the normal position of the cable it is carried from the pulley 47 forwardly and over a pulley 48 fixed at or near the outer end of the trackway 23 in a fixed position, and thence the cable is carried rearwardly over any suitable number or arrangement of direction pulleys 49 to a drum 50. The drum is shown along the inner portion of the space 22 and is adapted to be controlled for winding up or paying out the cables by any suitable means as, for instance, an electric motor M. From the manner in which the cables 40 are arranged as just described, it will be seen that the winding of the cable upon the drums 50 will cause the slides 24 to be projected outwardly along the trackways 23, causing the boat to be carried beyond the side of the ship.

The keepers 33 may be manipulated by hand at any desired place as, for instance, by means of a rock shaft 51 and a hand lever 52 for withdrawing the same from beneath the hooks 32; that is to say, if the lifeboat is desired to be lowered close to the ship, the operation of the motor will be stopped when the boat has been projected far enough from its deck position, and then by retracting the keepers 33 against the tension of their springs 35, the boat may be lowered readily into the water. If, however, the boat is to

be delivered as far as possible from the side of the ship, the motor will continue to operate, projecting the supporting slide outwardly until the stops 53 connected to the respective keeper arms come into contact with lugs 54 at which time the keepers will be automatically retracted, allowing the boat to descend promptly.

When the lifeboat is to be hoisted by the mechanism herein set forth, the cables 40 are thrown off of the fixed pulleys 48 whereby the winding of the cables upon the drum 50 will act directly upon the cables first to lift the boat, bringing it into normal position supported upon the keepers 33, and then the continued draft upon the cables will act directly to return the carriage rearwardly into the position shown in the upper part of Fig. 1.

At 55 I show a spring operated latch projecting normally from the side of the inner head 26 remote from the lifeboat or toward the fixed channel member 23. Said latch is adapted to cooperate with any one of a series of notches 56 formed in or through said channel member for the purpose of preventing the inward movement of the supporting slide when the boat is being hoisted. The latches 55, however, are connected to rods or wires 57 associated with a handle 58 and levers or bell cranks 58' at the rear or inner portions of the slide. By the operation of the handle 58 to cause the rods or wires 57 to approach each other, the latches 55 are withdrawn from said sockets 56 and the draft upon the cables 40 will cause the boat and its supporting slide to be shipped within the space 22. It will be noted that the outermost sockets 56 should be long enough to permit a few inches rearward movement of the supporting slide in order to allow the keepers to assume their normal position without interference from the lugs 54.

At 59 I show a buffer device against which the rear or inner end or head 26 of either of the sides impinges when it is being retracted by the motor. Said buffer 59 serves, therefore, not only to constitute a cushion for the supporting slide, but may include an automatic cutout switch for stopping the motor simultaneously with the stoppage of the slide.

As shown in the diagram of Fig. 16, the sides 24, when they reach their outward limit of movement, are adapted to close one or both of the switches 59' which will energize certain relays 59^a so as to cause the breakage of the motor circuit 59^b and hence stop the movement of the motor tending to force the beams farther outwardly.

The outer end or side of the space 22 is guarded by any suitable form or movable or swinging wings or supports 60, there being preferably two of these wings in connection

with each davit structure. Each of the 65 wings is shown supported in a substantially vertical pivot 61 and in the same vertical plane as the adjacent guideway 23. The main portion of the wing constitutes an auxiliary trackway 62 which, when swung outwardly at right angles to the side of the ship, constitutes an extension in alinement with said trackway, and being of a similar character, so far as the support of the slide is concerned, the rigid carriage or slide is adapted to roll or slide outwardly and be supported upon said supports 60 in connection with the fixed main trackways 23. Each of the winged supports 60 is maintained in normal position in substantially the same plane as the side of the ship by means of a catch 63 adapted to snap over a flange 64 constituting a portion of the support 60. The slide frame 29 includes or carries a pair of bars 65 preferably parallel to the trackways 23 and adapted, when the slide is moved outwardly, to impinge against and unhook the catches 63, allowing the supports 60 to swing outwardly to their right angular position or in alinement with the trackways 23. Any suitable stop devices may be provided to prevent the auxiliary supports 62 from swinging too far open on their pivots 61 for the purpose just stated.

The automatic electrical power cut-outs indicated diagrammatically in Fig. 16 at 59' are operative by action of the carriage as it reaches the limit of its outward movement. When the carriage is to be returned to normal position within the ship, the weight of the cables and pulleys or a slight inward draft upon the carriage exerted by any other means will be sufficient to withdraw the carriage from contact with the contacts 59' whereby the electrical power will be restored to the motor. It is obvious, however, that any suitable hand operated make and break devices may be employed at any desired place for controlling the action of the motor, such features being well known in the various arts.

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

1. In an interdeck davit, the combination of a pair of parallel trackways secured to the ship transversely thereof, a carriage mounted on said trackways and slidable longitudinally thereof beyond the side of the ship, means to support a lifeboat upon said carriage, means to control the sliding movement of the carriage, and laterally movable latch mechanism constituting interlocking connection between the carriage and the trackways.

2. In an interdeck davit, the combination of a pair of main trackways fixed to a ship perpendicular to the side of the ship, a rigid

supporting slide mounted upon said trackways and slidable outwardly thereon, means to support a lifeboat upon said slide, a pair of auxiliary trackways mounted on vertical pivots adjacent the ends of the fixed trackways and adapted to swing on their pivots outwardly into alinement with the fixed trackways and upon which the slide and supported boat may be extended, means to hold the auxiliary trackways normally in the plane of the side of the ship, said holding means being releasable by direct contact of the slide, and means to control the sliding movement of the slide.

3. In an interdeck davit, the combination of a pair of main trackways fixed to a ship substantially perpendicular to the side of the ship, a rigid member supported upon said trackways and projectable beyond the side of the ship, means to support a lifeboat upon said rigid member, a pair of auxiliary trackways mounted upon the side of the ship and adapted to be swung outwardly into alinement with the main trackways, means normally holding the auxiliary trackways substantially in the plane of the side of the ship, said holding means being releasable by the outward movement of the rigid member, and means to control the sliding movements of said rigid member.

4. In an interdeck davit, the combination of fixed supporting means, movable supporting means mounted on the fixed support, means to support a lifeboat in fixed position upon said movable support, the movable support being adapted to project in a plane beyond the side of a ship, auxiliary supports brought into action by the outward sliding movement of the movable support and adapted to support the movable support and boat and projected beyond the ship, means to release said fixed boat supporting means when the movable support reaches its outward limit of movement, and means to control the sliding movements of said movable support, said last mentioned means serving also to control the movements of the boat after being released as aforesaid.

5. In an interdeck davit, the combination of a pair of main trackways fixed to the ship in vertical parallel planes, a rigid carriage mounted upon and slidable longitudinally along said trackways, each side of the carriage having a plurality of pulleys adjacent its ends, means to support a lifeboat positively upon said carriage in normal position, means to automatically release said positive holding means when the carriage reaches a predetermined point, and means to control the sliding movement of the carriage along the trackways.

6. In an interdeck davit, the combination of a pair of trackways extending toward the side of the ship, a rigid carriage supported

upon and movable outwardly along said trackways, a plurality of pulleys carried by each side of said carriage, a pair of stationary pulleys adjacent the carriage near the outer end of its trackway, a pair of cables associated with the ends of a boat to be controlled, said cables operating over the several pulleys aforesaid, a spring cushion connection between the carriage and the outer end of each cable, and means to manipulate said cables whereby the carriage and boat may be projected beyond the side of the ship or returned to normal position within the ship, the cables being removed from said stationary pulleys when the boat is being returned to normal position.

7. In an interdeck davit, the combination of fixed trackways arranged in vertical parallel planes substantially perpendicular to the side of a ship, a rigid carriage supported upon and slidable longitudinally along said trackways beyond the side of the ship, means to support a lifeboat upon said carriage, electrical power means to control the sliding movements of the carriage and boat, and means to automatically cut off the power when the end of the sliding movement is reached.

8. In an interdeck davit, the combination of fixed trackways arranged in vertical parallel planes substantially perpendicular to the side of a ship, a carriage supported upon and slidable longitudinally along said trackways beyond the side of the ship, means to support a lifeboat upon said carriage, electrical power means to control the sliding movements of the carriage and boat, and means associated with the trackways and carriage to constitute an automatic cutoff for the power at the limit of movement of the carriage in either direction.

9. The herein described movable support for interdeck davits comprising a pair of rigid side members, rigid connecting means between said side members, each side member having an outer and an inner head, a bar connecting said heads, said heads being provided with antifriction rollers sustaining the downward and lateral pressure on the support, cable pulleys journaled in said outer and inner heads, a keeper slidable along each of the side members and parallel to the axis thereof, and means connected with the connecting bar of each side to control the action of said keeper.

10. In an interdeck davit, the combination of a pair of fixed trackways having a series of notches formed in their vertical walls, a carriage movable along said trackways, a latch extending laterally from each side of the carriage and adapted to cooperate with any notch of the series along the adjacent trackway whereby an interlocking connection is provided at predetermined points be-

between the carriage and the trackways, means to support a lifeboat upon the carriage, means associated with the carriage and lifeboat to control the outward movement of the carriage and boat and the return thereof to normal position, and hand operated means on the carriage to control the operation of said interlocking devices.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RICHARD TJADER.

Witnesses:

GEO. L. BEELER,
GEORGE H. EMSLIE