No. 727,232. PATENTED MAY 5, 1903.

F. H. WADSWORTH.

STOWING AND LOWERING OR RAISING BOATS.

APPLICATION FILED NOV. 29, 1902.

NO MODEL. 4 SHEETS—SHEET 1.

FIG. 1.

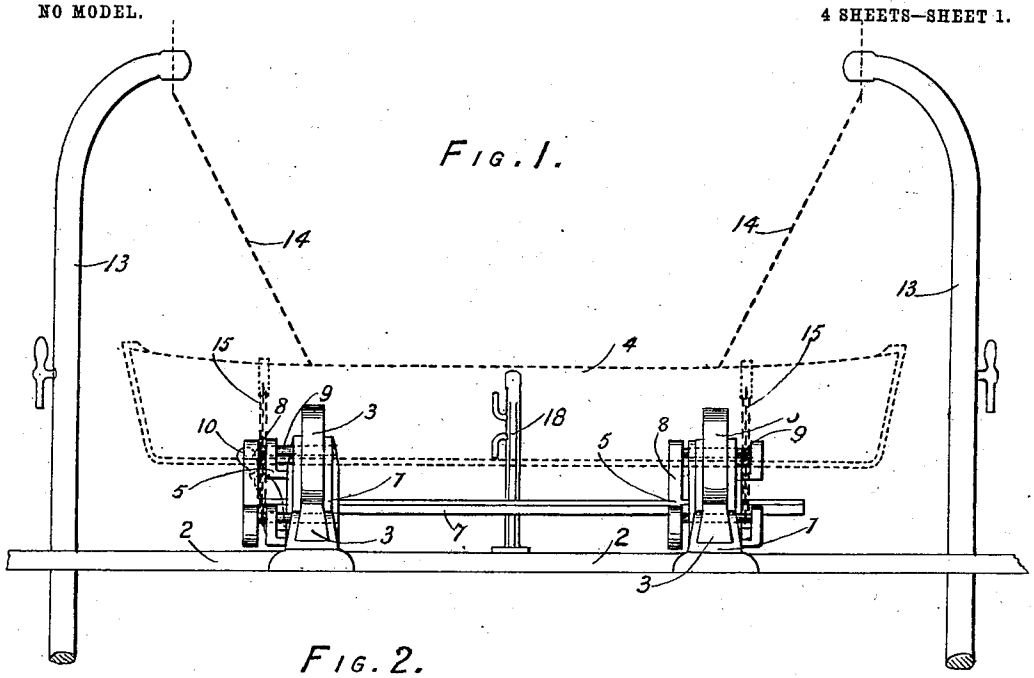


FIG. 2.

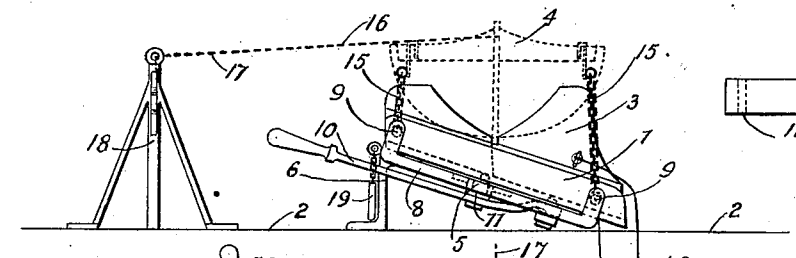


FIG. 4.

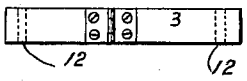
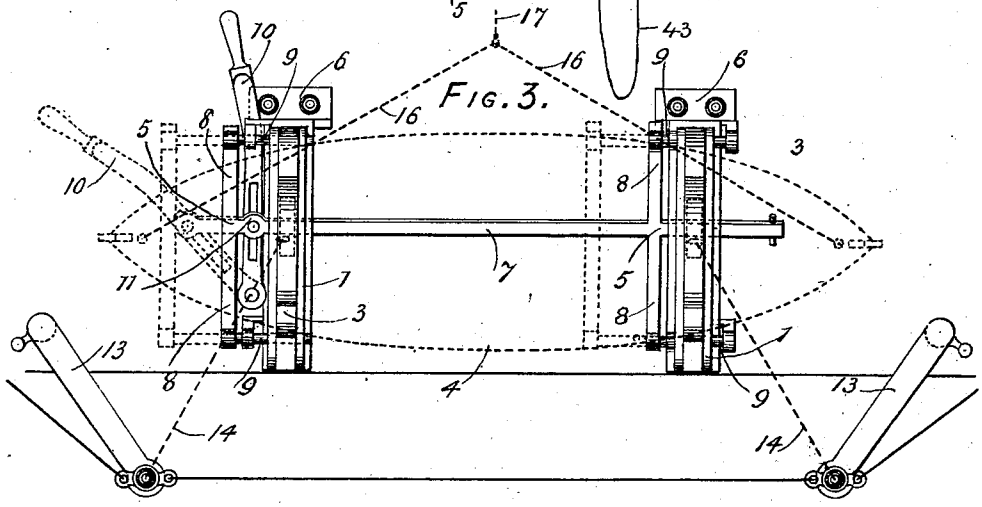


FIG. 3.



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E. W. Collins

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NO MODEL. 4 SHEETS—SHEET 2.

FIG. 5.

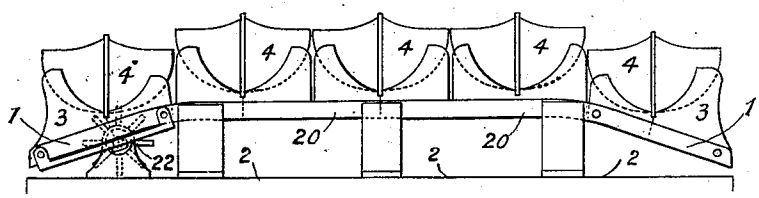
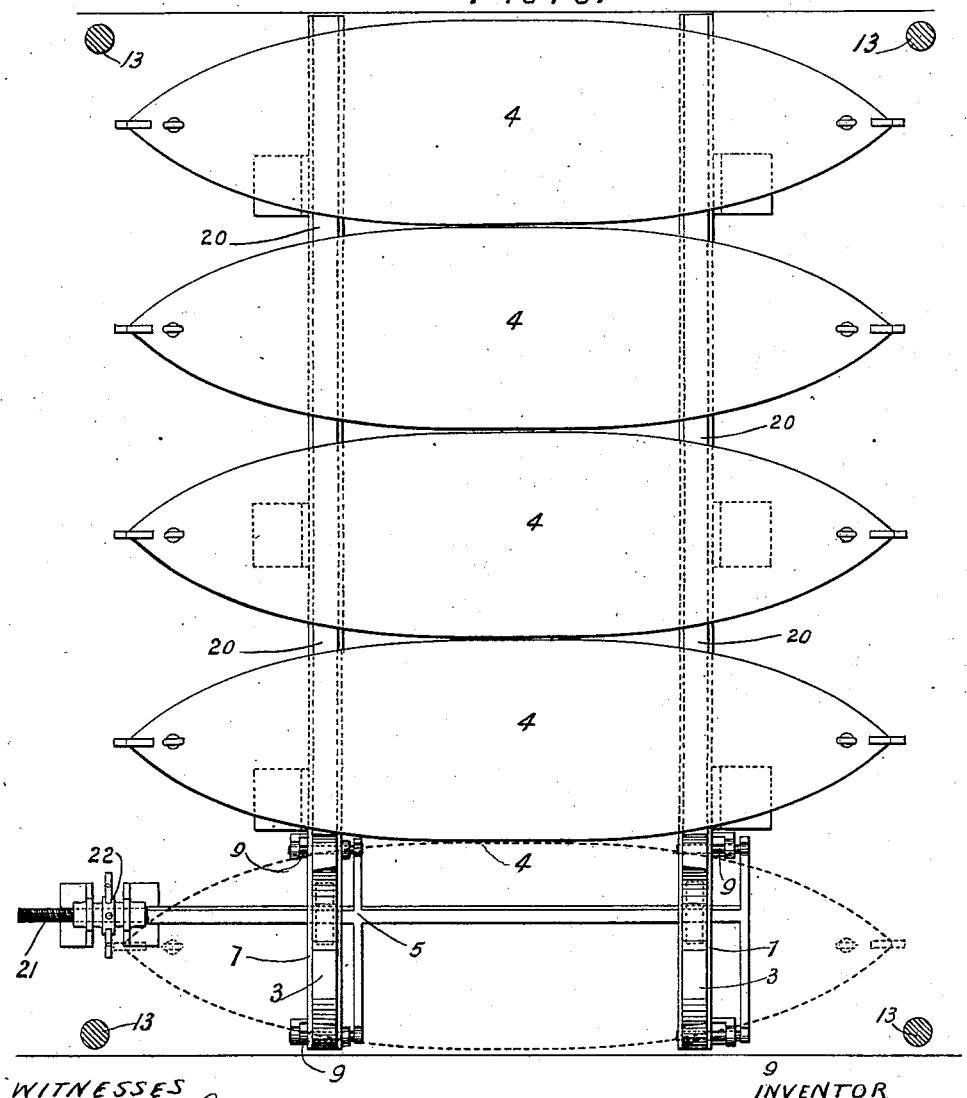


FIG. 6.



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NO MODEL. 4 SHEETS—SHEET 3.

FIG. 7.

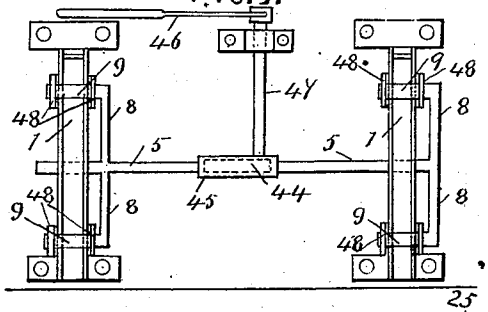


FIG. 9.

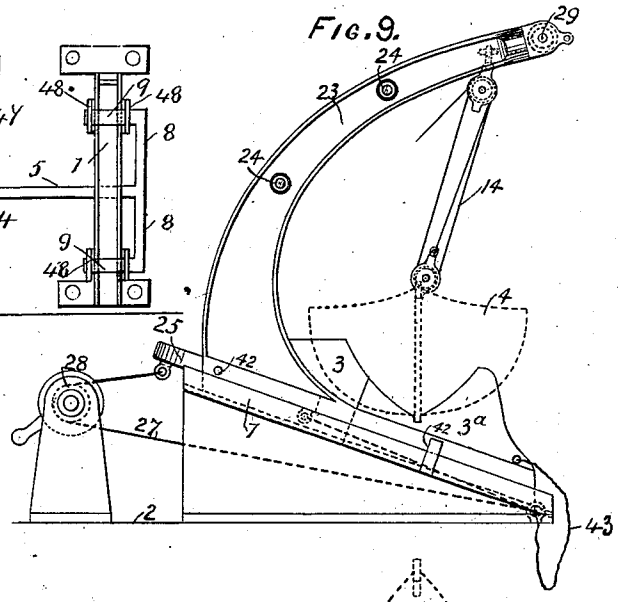


FIG. 11.

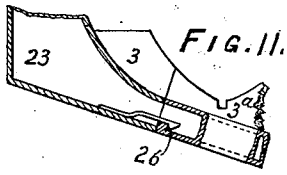
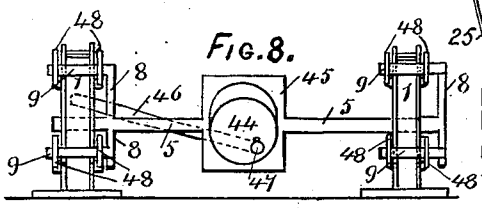


FIG. 10.

FIG. 8.



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NO MODEL. 4 SHEETS—SHEET 4.

FIG. 12.

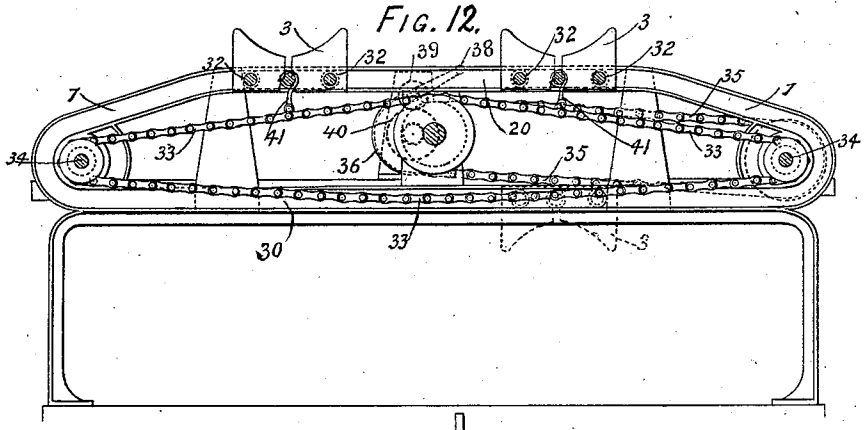


FIG. 13.

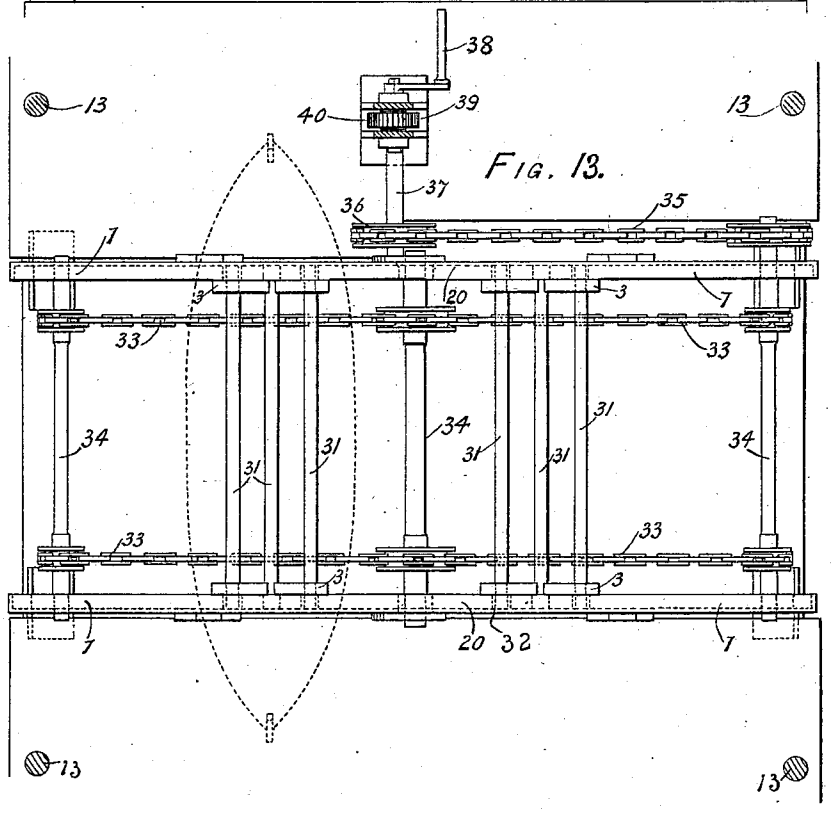
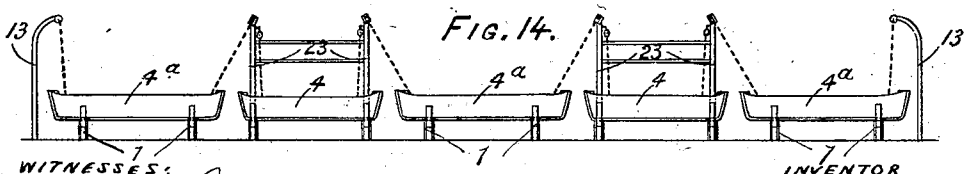


FIG. 14.



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UNITED STATES PATENT OFFICE.

FRANCIS H. WADSWORTH, OF HELENSBURGH, SCOTLAND.

STOWING AND LOWERING OR RAISING BOATS.

SPECIFICATION forming part of Letters Patent No. 727,232, dated May 5, 1903.

Application filed November 29, 1902. Serial No. 133,207. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS HENRY WADSWORTH, a subject of the King of Great Britain and Ireland, and a resident of Helensburgh, Scotland, have invented certain new and useful Improvements in the Stowing and Lowering or Raising of Boats on Board Ship, of which the following is a specification and for which an application for a patent has been filed in Great Britain, No. 10,568, dated May 8, 1902.

This invention has reference to and comprises improvements in the stowing and lowering and raising of boats on board ship, and has for its object the facilitating of the putting out of the boats with great ease and despatch, even though the vessel may have a list such as would cause great difficulty or render launching impossible with boats stowed in the ordinary manner.

The essential features of the invention are the stowing of the boats on inclined launching-ways or on beams or rails in connection with such inclined launching-ways and in the construction of special davits and chocks and appliances for use in launching the boats by means of the inclined launching-ways.

In order that others skilled in the art to which my invention relates may properly understand same, I have hereunto appended four sheets of explanatory drawings, in which—

Figures 1, 2, and 3 are a side view, an end view, and a plan, respectively, of one construction and arrangement of inclined launching-ways and chocks with the boat shown in dotted lines; and Fig. 4 is an inverted plan of a chock. Fig. 5 is an end view, and Fig. 6 a plan, of a series of boats stowed side by side on beams or rails extending transversely across the ship. Figs. 7 and 8 are respectively a plan and a front view showing an appliance for releasing the chocks in which eccentric action is employed. Figs. 9 and 10 are respectively an end view and a plan of an improved duplex davit and chocks suitable for use with an inclined launching-way. Fig. 11 is a side view, broken away, showing the means for connecting the two parts of the chock. Figs. 12 and 13 are respectively an end view and a plan illustrating a method of stowing boats and of bringing each in turn to the ship's side ready for launching. Fig. 14 is a diagrammatic view illustrating a method of stowing boats, enabling each improved davit to serve more than one boat.

Referring to Figs. 1, 2, 3, and 4 of the drawings, in carrying into practice the improvements of this invention the launching-ways 1 are constructed and fitted on the boat-deck 2. These launching-ways 1 are formed of a channel shape, preferably of metal, the sides being inclined inward, so as to form a channel contracted at its upper part to accommodate the chock 3, shaped to correspond; but both channels and chocks may be made parallel, if preferred, and are bolted to the deck by the supports 6. These launching-ways may be fitted so as to lie at an angle of about twenty degrees with the boat-deck. The boats 4 are supported on chocks 3, much of an ordinary construction, except that they are angled below to suit the slope of the launching-ways, so that their upper parts may support the boat horizontally, and are formed in two parts hinged or temporarily connected together. In order to hold the chocks in position and to release them when the boat is to be lowered, the lever-actuated sliding frame 5 shown in the drawings is employed. The frame 5 is fitted to slide in guides on the under side of the launching-ways 1 by its bar 7 and is formed with arms 8, carrying the pins or bolts 9. This frame 5 is reciprocated by means of the lever 10, fulcrumed on the launching-way and acting on the frame by a slot-and-pin connection at 11. In the position shown the frame 5 is in its inmost position and the bolts 9 are passed through eyes in both sides of the launching-ways and through holes 12, Fig. 4, in the chocks, thus locking the chocks and launching-ways together. When it is desired to launch the boat, the lever is moved to the position shown in dotted lines and withdraws the bolts from the chocks and leaves them free to slide down the launching-ways propelled by the weight of the boat. The chocks 3 are hinged, as shown in Fig. 4, so that when the lower portion passes beyond the ship's side it falls down and frees the boat, which moves outward, carrying the whole chock overboard. To prevent its loss, the chock is secured to the ship's side by a line or chain 43, Fig. 2. The davits 13 are

set at a distance apart sufficient to allow the boat to swing outward between them without the necessity of canting it and are preferably carried when at sea turned outward, or, it may be, partially so, and are capable of being turned in line with the ship's side or inward, as desired, as when the vessel is in dock, and may be secured in the desired position by the usual guys and stays. The boat is suspended by the usual tackle, as indicated at 14 by the dotted line, and the usual "gripes" 15 and ordinary means for covering the boats are employed.

To put out the boat, the frame 5 is moved by the lever 10 to disengage the bolts 9, and the boat on its chocks slides down the launching-way 1 and will be able to do so even should the vessel have a considerable list to the opposite side. The height of the davits, and consequently the length of the suspending tackle, would be arranged to suit the slope of the launching-ways, so that the boat would continue to keep a strain upon the tackle as the chocks slide down the grooves, and so obviate any jerking action. To check the boat from going out too quickly, with consequent return-swing, a bridle 16 is secured to it at both ends and a line 17, attached to same, is carried to a stayed standard 18, to which it is secured and allowed to slacken out when the boat is being launched from a cleat or other device on the standard; otherwise the line 17 may be passed through a ring-bolt or any other suitable device which will give a retarding action.

The ordinary gripes 15 for securing the boat to the deck are used, and, as shown, these may be attached to the bolts 9 instead of to the deck, the bolts 9 being passed through rings or links of the gripes 15, so that when the bolts are withdrawn to release the chocks the gripes are released simultaneously.

When the boats are to be placed on the chocks after being raised from the water, the chocks 3 are first returned to their normal position by sliding them up the launching-ways 1, and they are each temporarily held in position by bolts 19, hung by short chains (shown in Fig. 2) being placed through the holes from the open side instead of the bolts 9. When the bolts 9 are returned to their locking position and both chocks are in place, these bolts 19 are forced out as the bolts 9 enter.

Referring to Figs. 5 and 6, which show a number of boats 4 stowed side by side on launching-ways 1 and connecting-beams or channel-shaped rails 20 fitted transversely across the boat-deck, the outer boats are carried in chocks 3, resting on the launching-ways 1, all in a similar or equivalent manner to that just described; but these views, Figs. 5 and 6, show an arrangement of a screw 21 and hand-turned nut 22 as applied to reciprocate the frame 5 instead of a hand-lever. In this case the launching of the outer boat of the series takes place in the same manner as described. When it is desired to launch another boat of the series, it is traveled along the beam 20 on its chocks, which may be fitted with rollers, until it arrives at the launching-ways. This traveling may be effected by attaching the ordinary davit-tackle to the ends of the boat, and by hauling on the falls the boat is drawn toward the davits, and this may be done by carrying the falls or a line secured to them to any convenient winch or windlass.

Figs. 7 and 8, being respectively a plan and a front view, illustrate an appliance for releasing the chocks by the action of an eccentric. The eccentric 44 works within the rectangular frame 45 and is actuated by the hand-lever 46 on the spindle 47. The rectangular frame 45 forms part of the moving frame 5, formed with the arms 8, carrying the bolts 9, which pass through slots in the side plates 48 and hold the chocks by passing through same or by the chocks resting against them. The turning over of the hand-lever 46 actuates the eccentric 44, which moves the frame 5 and withdraws the bolts 9 when it is desired to launch a boat.

Figs. 9, 10, and 11 illustrate my improved form of duplex davit as constructed for use with inclined launching-ways. These davits 23, Fig. 9, and shown broken away in Fig. 10, may be constructed of compressed steel to combine strength and lightness and are in the form of curved arms secured together at their upper part by the stays 24 and at their lower part by the framing 25. The lower ends are formed spread at the base to slide in the inclined launching-ways, which are of the section shown in Fig. 1 or other form. The lower part of each arm is fitted with one section 3 of the chock, which is secured to the arm, and the other section 3^a of the chock, formed partly of metal and partly of wood, is secured to same when the boat is stowed by a hook-catch 26, which allows the section 3^a to fall off when the boat is leaving the launching-ways. The duplex davits are secured at back and front to a wire cord or chain 27, which is wound on the drum of a simple winch 28, which may be fitted with a retaining-pawl and a brake by which the davits and boat are drawn up to their stowed position or gradually lowered for launching purposes. Stops 42 are preferably employed to limit the travel. As shown, the boat is suspended by the tackle 14, while the pulleys 29, secured in a revolving head, are free to be utilized for another boat in the manner to be described.

Figs. 12 and 13, being respectively an end view and a plan, illustrate a method of stowing a series of boats arranged side by side on transverse beams or rails and means by which the boats may be moved to the inclined launching-ways at each side of the ship. The beams in this case are of a channel-section, but having both flanges projecting horizontally, forming an endless channel open to the

inner side. The upper beam 20, the launching-ways 1, and the lower beam 30 are all connected together. The boats are carried by the chocks 3, each made in two parts hinged together and each pair secured together by the rods 31, which are fitted with pulleys 32 outside of the chocks, which run in an endless channel. Endless chains 33 are carried on sprocket or chain wheels on the shafts 34, and another endless chain 35 is carried by the sprocket or like wheel 36 on the shaft 37, which is rotated to actuate the chains 35 and 33 and cause the chocks 3 to travel along the endless channel by means of the crank-handle 38, pinion 39, and toothed wheel 40. The chains 33 are temporarily connected, when it is desired to move the boat, to the rods 31 by hooks 41 or gripping devices, and when the chains 33 are moved by the gearing described the boat on its chocks can be traversed to either side of the ship, where it can be attached to the usual tackle carried by ordinary davits and lowered, the launching-ways facilitating the process, particularly if the ship has a list to the side opposite that on which it is desired to launch the boat. Each pair of chocks 3 as the boat is launched is carried around in the endless channel while the next boat is being launched to the position indicated in dotted lines in Fig. 12. With this appliance any number of boats that can be accommodated side by side on the beams may be launched on either side of the ship, as desired. This method of hauling the boats to the ship's side may also be employed in combination with the transverse rails and launching-ways described in reference to Figs. 5 and 6; but in this case the chocks will be allowed to drop overboard instead of being carried around in an endless track.

Fig. 14 illustrates an arrangement of boats and davits which will enable a number of boats to be carried along the side of a ship without requiring a pair of davits for each boat. Each boat 4 is stowed on chocks carried by the duplex davits 23, as described in reference to Figs. 9, 10, and 11, the tackle being attached to the davit-arms, while each boat 4^a is stowed on chocks with launching-ways, as described in reference to Figs. 1, 2, and 3, and the tackle is attached to the swiveling heads of the davits 23, fitted with the pulleys 29. Stowed in this way the boats 4 could be launched first and the boats 4^a afterward by the davits on each side, while a single ordinary davit 13 is employed at each end of the series.

I claim as my invention—

1. Apparatus for lowering boats on shipboard, comprising inclined launching-ways and chocks in two parts mounted in said ways, both parts of the chock being adapted to slide together in said ways outboard, and means for securing the chocks in the launching-ways, substantially as described.

2. Apparatus for lowering boats on shipboard, comprising inclined launching-ways and chocks thereon in two parts hinged together, substantially as described.

3. Apparatus for lowering boats on shipboard, comprising inclined launching-ways, chocks slidable in said ways, holes through the chocks and ways and bolts passing therethrough, and means for withdrawing said bolts and freeing the chocks in the ways.

4. Apparatus for lowering boats on shipboard, comprising inclined launching-ways, chocks slidable in said ways, holes through the chocks and ways and bolts passing therethrough, and a frame and hand-lever for withdrawing all bolts at once, substantially as described.

5. Apparatus for lowering boats on shipboard, comprising inclined launching-ways, chocks slidable in said ways, holes through the chocks and ways and bolts passing therethrough, a frame, an eccentric and hand-lever for withdrawing the bolts, substantially as described.

6. Apparatus for stowing and lowering boats on shipboard, comprising inclined launching-ways, transverse beams terminating in said inclined ways, and chocks in said ways and beams, substantially as described.

7. Apparatus for stowing and lowering boats on shipboard, comprising inclined launching-ways, transverse beams, two-part chocks therein and means for securing the chock in the inclined launching-way, substantially as described.

8. Apparatus for lowering and stowing boats on shipboard, comprising inclined launching-ways and transverse beams, and chocks mounted thereon, an endless chain and means for operating it, and means for attaching said chain to said chocks to traverse them, substantially as described.

9. Apparatus for launching boats, comprising inclined channel-shaped ways having inclined sides and chocks therein shaped to fit the channel, substantially as described.

10. Apparatus for launching boats, comprising inclined channel-shaped ways, having inclined sides and a two-part hinged chock therein shaped to fit the channel, substantially as described.

11. Apparatus for launching boats on shipboard, comprising a number of davits, movable transversely in pairs and a boat and chock movable therewith, in combination with other boats mounted between each pair of such davits adapted to be launched therefrom, as from ordinary davits, substantially as described.

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

F. H. WADSWORTH.

Witnesses:

R. C. THOMSON,

THOMAS W. BROWNLIE.