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N. BEL GEDDES ET AL

1,958,040

BOAT LAUNCHING AND STOWING APPARATUS

Filed May 3, 1933

FIG. 2.

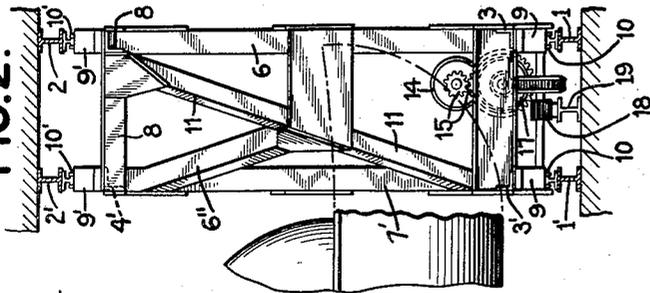


FIG. 1.

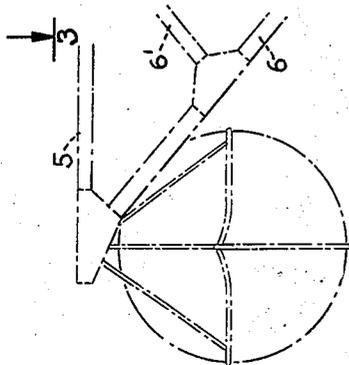
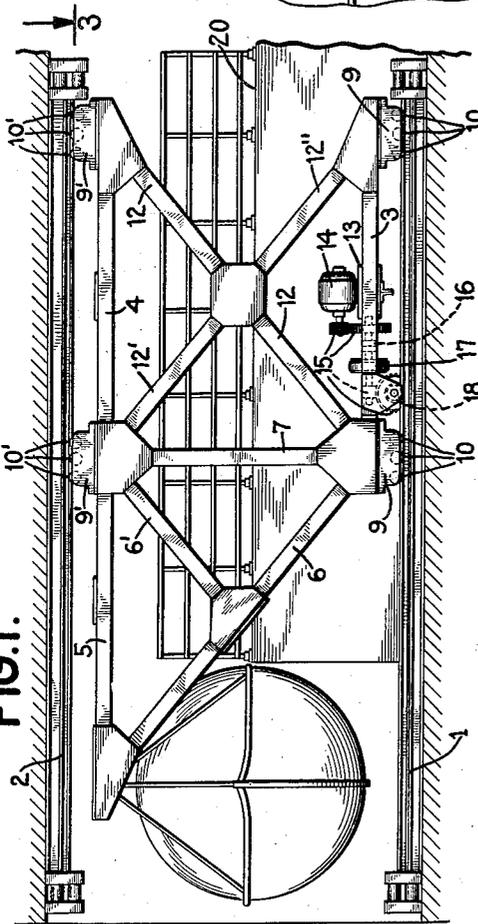


FIG. 4.

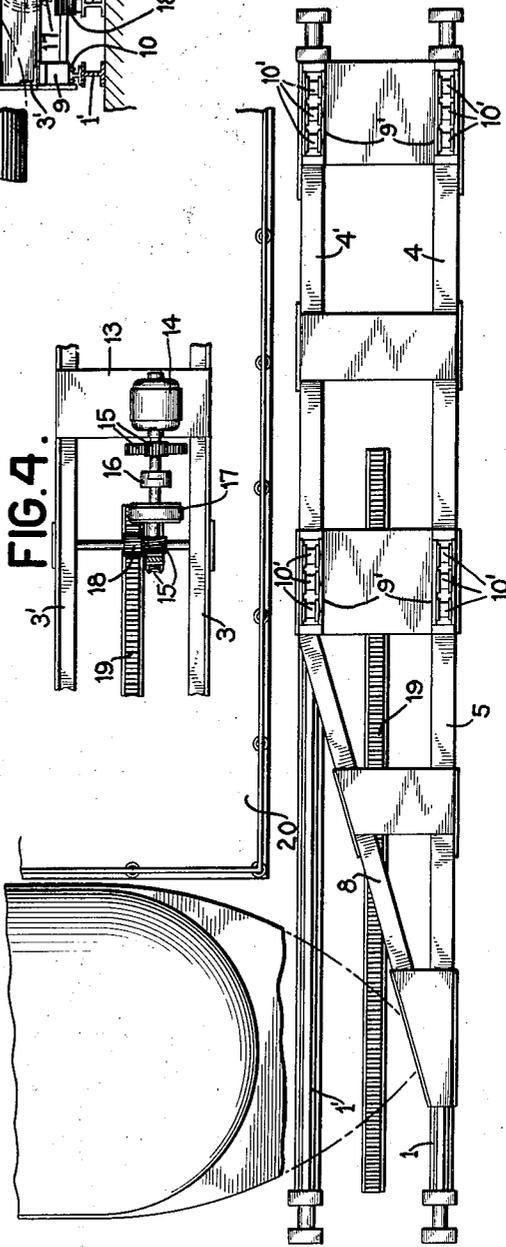


FIG. 3.

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BOAT LAUNCHING AND STOWING APPARATUS

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2 Claims. (Cl. 9—22)

Our present invention relates to apparatus for launching and stowing auxiliary boats, such as life-boats or launches, from and in a larger boat, such as an ocean liner. The type of apparatus described herein is in the form of a travelling supporting structure constituting a cantilever and is particularly adapted for use in handling life-boats which are larger and heavier than the type ordinarily employed at the present time.

The primary objects of our invention are to provide apparatus for supporting and handling boats whereby the apparatus can be easily, quickly and safely operated, and which is more firmly held in position, particularly in rough weather, than other types of apparatus for similar uses.

The invention as here shown and described may be utilized in a ship in which the boat deck is or may be fully enclosed or special enclosures may be used for each launching apparatus.

Further objects and advantages of our invention will be apparent to those skilled in the art on reading the following specification, taken in connection with the drawing forming part thereof, in which—

Figure 1 is an elevation of our boat launching and stowing apparatus, taken in the fore and aft direction of the ship, and a life-boat carried thereon;

Fig. 2 is an elevation thereof looking from the left of Fig. 1;

Fig. 3 is a partial plan view thereof taken on the line 3—3 of Fig. 1; and

Fig. 4 is a plan view of the power mechanism as applied to the base portion of our apparatus.

In the preferred form of our invention, the apparatus consists of two carriages, preferably fabricated of structural steel, each being in the form of a cantilever frame, which travels, for example, on rails or tracks mounted in appropriate positions, preferably on the boat deck.

In the drawing, the lower horizontal tracks or rails are indicated at 1, 1'. To insure freedom from lateral motion and to take up the upward thrust of the cantilever structure, rails 2, 2' are fixed on the underside of an over-hanging deck or are suspended above the boat handling structure.

A preferred form of each of the cantilever structures comprises two longitudinal struts or bars 3, 3', located at the bottom of the travelling frame and substantially parallel to the lower rails. At the top of the structure and beneath the upper rails, there are also provided two struts or bars 4, 4'. One of the upper bars, 4, is longer

than the other parallel bar 4', and is extended as indicated at 5, toward the side of the ship, and the life-boat is suspended from a point adjacent the end thereof. The particular devices for raising and lowering the boat are not illustrated in detail because they form only an incident to the substance of the invention set forth herein and any person skilled in the art would be able to use any form of tackle or raising-and-lowering device that may be preferred, either manually or motor operated.

The extended portion 5 of the upper bar 4 is braced diagonally as well as vertically and horizontally. One upwardly inclined bracing member is shown at 6; the vertical bracing member at 7, and the horizontal bracing member at 8, which latter is united with the ends of the members 5 and 4', and with the end of the upwardly extending struts 6 and 11.

Each of the lower struts or bars 3, 3' carries two buggies, 9, 9, and each of the buggies in turn carries one or more flanged wheels 10 which bear upon the rails 1, 1'. The flanges of the wheels 10 are for the purpose of preventing any lateral motion of the frames on the rails.

Each of the upper bars 4, 4' also carries two buggies, 9', 9', each of which also carries flanged wheels 10', 10', arranged to bear against the upper rails 2, 2' and fix the lateral position of the tops of the frames.

The lower forward buggies 9, that are nearer the life-boat, are located substantially at the fulcrum or principal bearing of the cantilever structure. The other buggies 9, are fixed to the lower bars and therefore act primarily as trailers to assist in keeping the entire supporting structure in proper alignment.

Radiating upward from those ends of the lower bars 3, 3', which are located at the fulcrum of the cantilever, are two pairs of struts 7 and 12 (the latter being inclined), which extend from the bars 3 and 3' to the corresponding upper bars 4 and 4'. Inclined struts or bracing members 6', 6'', extend to the central portions of the bars 6 and 11, respectively, and a pair of inclined struts or bracing members 12' extend to the central portions of the bars 12. The struts 7 and 12 extend to points on the bars 4, 4', adjacent to the buggies 9', 9'. The struts 12 transfer to the suspended rails 2, 2', an upward thrust of the cantilever structure, most of which is taken up through the rear buggies 9', which are located farthest away from the life-boat that is suspended by the frame. The primary function of the upper forward buggies 9' (which are nearer

to the life-boat) is to aid in keeping the structure in alignment with the rails.

The lower bars 3 and 3' are also preferably provided with inclined struts or bracing members 12'', which extend to central points on adjacent portions of the bars 12 and constitute extensions of the struts 12'.

Mounted on a cross-piece 13 connecting the lower bars 3, 3', is an electric motor 14 which furnishes the power to move the carriage structure to place the life-boat either in position for loading or for launching. Preferably, power from the shaft of the motor 14 is applied through the train of reducing gears 15. The power transmission system is also preferably provided with a clutch 16 and braking mechanism 17. Obviously, these may be operated locally or from a distance, such as from the pilot house or other control room.

The last pinion 18 in the train of reducing gears 15, is provided with teeth which mesh with corresponding teeth in a horizontal rack 19. The rack 19 is preferably fixed on the boat deck and it is preferably located midway between the rails 1, 1', and parallel thereto.

To assist in safe loading of the life-boat in the event of an emergency, we preferably provide a loading platform 20, which extends from a point farther inboard of the ship than any portion of the frame structure. It is located between the two frames which control a single life-boat, and extends to a point immediately adjacent the gunwale of the life-boat to connect therewith when the boat is in stowed position. With this arrangement, passengers and crew may be loaded into the life-boat with the greatest celerity and safety and without danger of interfering with, or being injured by, the operation of the boat-launching apparatus.

When the boat has been loaded, the motors 14 are started and the cantilever frames are thereby moved outwardly to the position shown in broken lines in Fig. 1. The life-boat may then be lowered and launched in any of the ways well-known to the art by use of the means above mentioned. Due to the use of the clutch and braking mechanism 16, 17, the operation of our boat-launching and stowing apparatus may be definitely controlled regardless of whether the ship may or may not be rolling or have a list either toward one side or the other, or whether or not the ship may be pitching or be settling either forward or aft.

As heretofore explained, our apparatus is designed primarily for use with life-boats or launches of a size considerably greater than that now ordinarily used. The use of such larger life-boats increases materially the strain on the

boat launching and stowing apparatus; this has heretofore become particularly detrimental in the event that the ship has settled to a low point either at its bow or stern.

It will be evident that the structure herein described is extremely rigid and free from swinging motion or other displacements, particularly with reference to the loading platform, and is therefore capable of withstanding greatly increased stresses due to abnormal motions of the ship. Furthermore, due to the employment and location of the radial struts and of the plurality of contacts between both the bottom and the top of the frames and the adjacent rails, distortion of the supporting structure is positively eliminated and its movements are confined to motion in the desired directions.

It will be apparent to those skilled in the art that many variations and changes may be made in our boat launching and stowing apparatus herein described without departing from the scope of our invention; accordingly, we desire protection for all such modifications thereof as may come within the scope of the appended claims.

What we claim and desire to protect by Letters Patent is:

1. Boat launching and stowing apparatus comprising in combination, a travelling cantilever frame having two separated horizontal parallel bars adjacent the bottom thereof and two separated complementary horizontal bars adjacent the top thereof, one of said upper bars projecting beyond the other parallel bars, bracing members extending from the outer end of said last mentioned bar to the ends of the other parallel bars, and struts extending radially from points adjacent the fulcrum of the cantilever frame to separated points on the upper bars.

2. In a boat launching and stowing apparatus, the combination which comprises, a plurality of structural cantilever supporting and carrying frames having braced pyramidal projections extending from the tops of the outer ends of said frames for supporting the ends of a boat suspended therefrom, guides on which said frames are held transversely and permitting longitudinal movement thereof to project and withdraw said boat horizontally, power devices for moving said frames along their respective guides, and a raised platform located between said frames and having its floor intermediate the tops and bottoms of said frames and substantially level with the gunwale of said boat and substantially in contact therewith when said frames are in their inmost positions.

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