H. V. HARTZ, DEC'D.
W. G. METZGER, ADMINISTRATOR.
LIFE BOAT.
APPLICATION FILED OCT. 28, 1915.

1,295,893.

Patented Mar. 4, 1919.

3 SHEETS—SHEET 1.

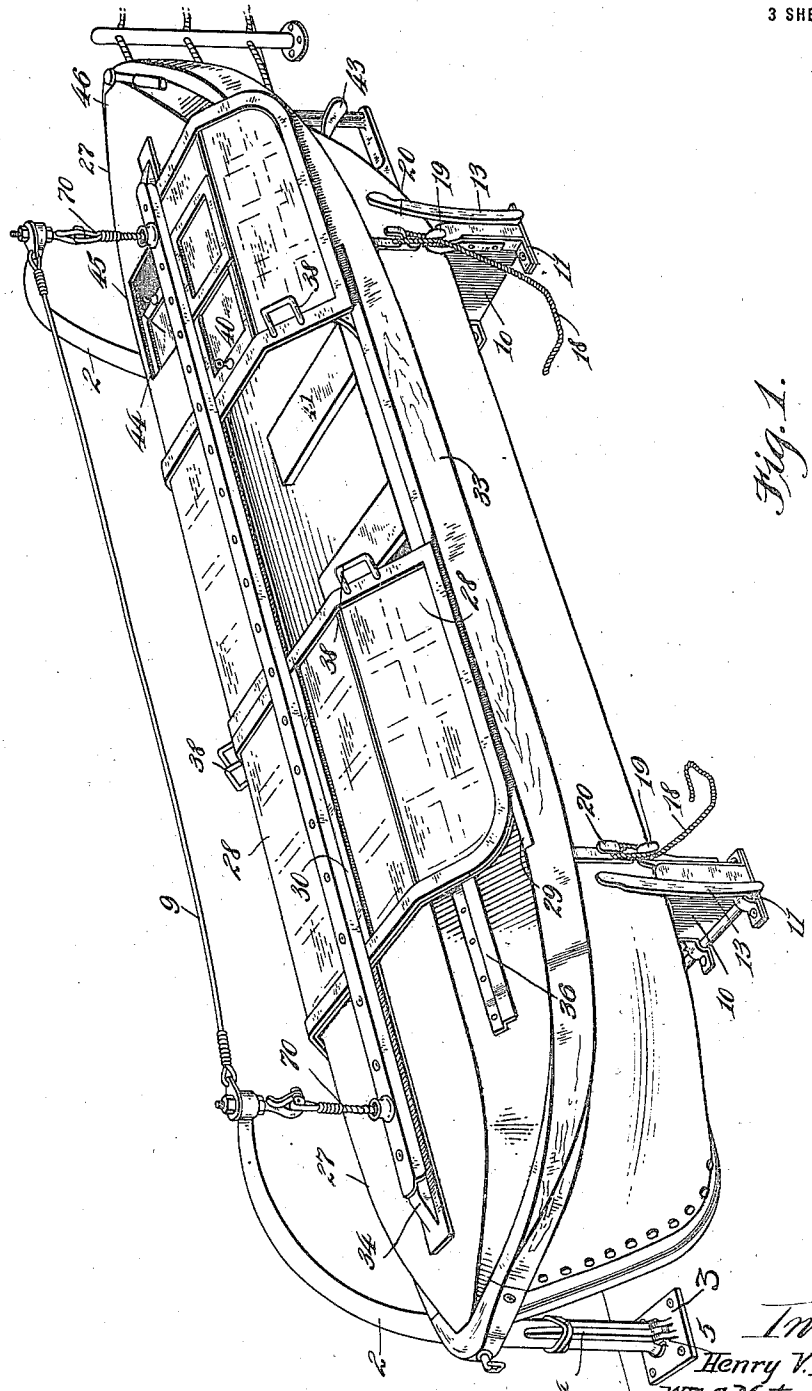


Fig. 1.

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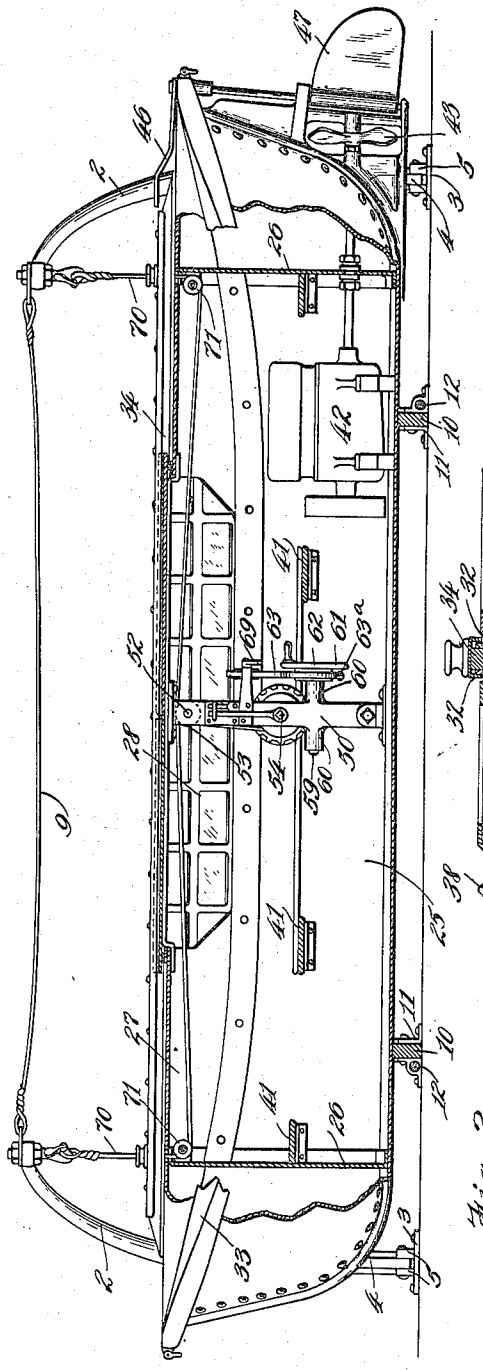


Fig. 2.

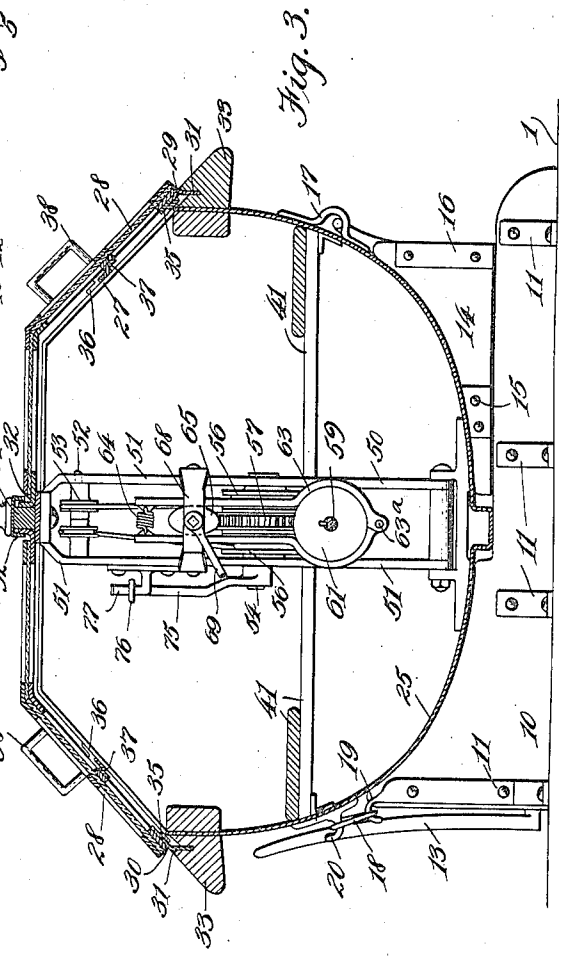


Fig. 3.

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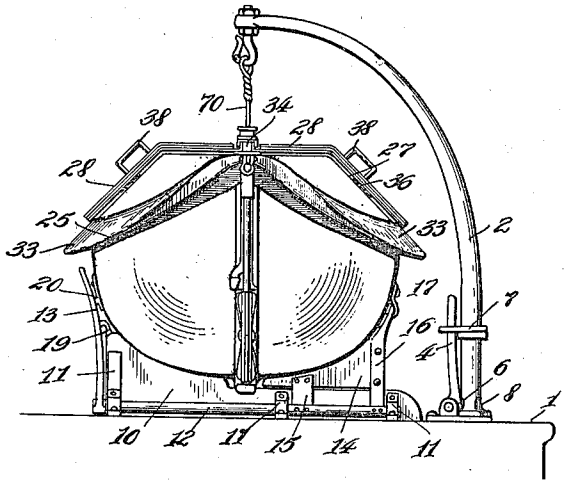


Fig. 4.

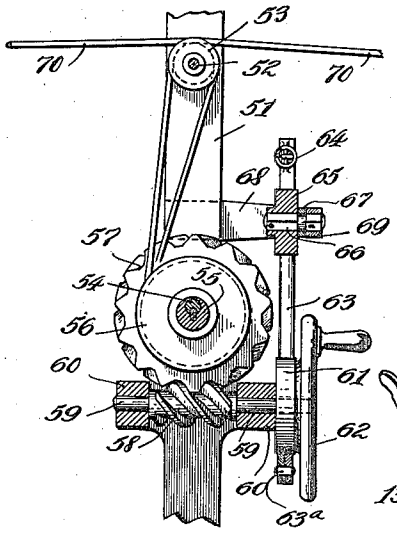
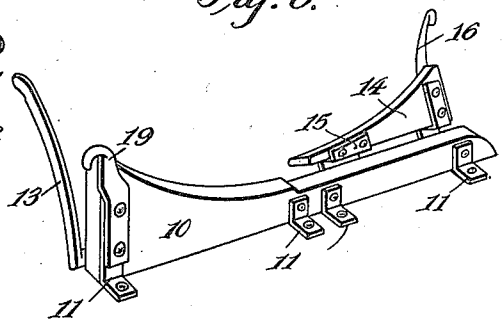


Fig. 5.

Fig. 6.



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UNITED STATES PATENT OFFICE.

HENRY V. HARTZ, DECEASED, LATE OF CLEVELAND, OHIO, BY WILLIAM G. METZGER, ADMINISTRATOR, OF PAINESVILLE, OHIO.

LIFE-BOAT.

1,295,893. Specification of Letters Patent. Patented Mar. 4, 1919.

Application filed October 28, 1915. Serial No. 58,489.

To all whom it may concern:

Be it known that HENRY V. HARTZ, deceased, late a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, invented certain new and useful Improvements in Life-Boats, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in life boats, and to supporting and handling means therefor; and it has for one of its objects the provision of a boat of this character that is safe and comfortable, the same being provided with a suitable closure or cover whereby the occupants of the boat are protected from the elements, and waves are prevented from washing into and swamping the boat.

A further object of the invention is to provide improved supporting means or cradles for the life boat which, when in normal condition, will securely hold the boat against displacement, but which may, by a very simple operation, be collapsed to release the boat.

Other objects comprehended by the invention are to provide means located within the boat whereby it may be lowered from supporting davits and loosened therefrom by the occupants of the boat without the need of outside assistance; to incorporate mechanism within and for controlling the lowering means so that the descent of the boat may be conveniently and positively governed, thereby enabling its operation to be retarded or stopped at will; and to provide further mechanism as a part of said means, whereby it may be reversed to elevate the boat, should such be found necessary.

In the attainment of the objects just set forth, sustaining elements or cables are provided which may be permanently secured to the davits and which enter the life boat and are stored therein, preferably upon a drum or drums, suitable mechanism being used for paying out the sustaining elements or cables as desired, said mechanism preferably constituting a brake for controlling the turning of the storage drum or drums. In addition to this, means are provided for drawing in the cables, such means preferably constituting mechanism for rotating the drum or drums; and in the preferred embodiment it is possible to disassociate this means and the aforesaid brake mechanism from the drum or drums so that they are free to rotate.

In more general terms, the invention may be defined as consisting of the combinations of elements set forth in the annexed claims and illustrated in the accompanying drawings which form a part hereof, wherein Figure 1 is a perspective view of the improved life boat, attached to davits, and supported upon the deck or floor of a vessel or other structure, by collapsible cradles of the invention; Fig. 2 is a sectional side elevation of what is shown in Fig. 1; Fig. 3 is a transverse section of the boat, showing one of the cradles in elevation; Fig. 4 is an end elevation of the boat within the cradles and attached to the davits; Fig. 5 is a sectional detail of the mechanism for lowering, hoisting, and controlling the descent of the boat; and Fig. 6 is a perspective view of the cradle, partially collapsed.

Describing the invention by the use of reference characters, 1 represents the deck or floor of a vessel or other structure upon which is located a pair of davits 2, the lower end of each being swiveled in a base plate 3. A lever 4 is pivoted eccentrically between ears 5 that rise from the base plate, so that when the lever is in upright position a portion of the lever enters a recess 6 that is formed in the flared lower end of the davit, but when swung down such portion removed from the recess. A link 7 fits loosely about the davit and is adapted to embrace the upper end of the lever 4 when the same is in vertical position. A second recess 8 is formed in that side of each davit opposite the recess 6 and is adapted to receive the lever 4 when the davits are turned out in a position to allow the boat to be lowered. To facilitate in the operation of swinging the davits out in such position, their upper ends are connected by a link or cable 9, so that as one is rotated to swing an end of the boat out into lowering position, a corresponding movement of the other davit is initiated.

The cradles which normally support the life boat comprise each a member 10 that is of a length, substantially equal to the width of the boat, and which has a portion of its upper edge shaped to conform to a portion of one side of the boat so that the boat may rest firmly thereon. Beyond this supporting portion of the member 10, the same is

cut away for the remainder of its length at an elevation corresponding to that of the bottom of the keel of the boat. The member 10 is supported by standards 11 which are secured to said member and to the floor or deck 1, and on one side of the member, these standards constitute journals for a rock shaft 12, which has an operating handle 13 that extends up along the inner side of the boat. Above the reduced end of the member 10, a block 14 is supported by straps 15 and 16, that are secured to the rock shaft 12. The block 14 is made to conform to that portion of the boat opposite the part that rests upon the member 10. It will be seen, therefore, that the member 10 and the block 14 constitute a supporting device that presents an upper surface or edge which conforms so closely to the shape of the boat that the boat will be held securely against displacement; but to more positively hold the boat in place, the upper end of the strap 16 is formed into a hook that normally reposes within an eye 17, secured to the side of the boat. The opposite side of the boat may be temporarily attached to the adjacent portion of the cradle by any suitable lash 18 that is wound about a hook 19 on the cradle, and an opposed hook 20, on the boat.

With this lash removed, when it is desired to free the boat, it is only necessary to depress the handles 13 and thereby rock the shaft 12 to swing the block 14 from beneath the outer side of the boat, the hook of the strap 16 at the same time being withdrawn from the eye 17.

The boat comprises a substantial hull 25, preferably of sheet metal which may be corrugated, if desired, in accordance with common practice, and each end of the hull is closed by a partition 26 to form suitable air chambers. A permanent closure 27 covers each end portion of the boat, and the central portion is adapted to be closed by slidable covers 28. These covers preferably consist of metallic frames that are filled in with some transparent material, such as a heavy glass, and their side edges are guided along ways 29 and 30 that are formed, as will be seen from Fig. 3, by a rail 31, in one case, and one flange of an inverted channel member 32, in the other. A portion of the rail 31 is embedded in the gunwale 33 of the boat, while the downwardly opening channel 32 is attached to and forms a cover for the ridge pole 34 of the vessel, such pole being supported by and secured to the permanent covers 27. The inner edge of each of the slidable covers 28 is turned upward beneath one of the flanges of the channel 32, and a Z-bar 35 is attached to the underneath surface of the outer edge of each cover for coöperation with the exposed inclined portion of the rail 31. To more tightly hold the covers down against the top of the boat, an intermediate rail 36 is provided for each, that is secured to the inclined portions of the adjacent permanent covers 27 and with which interlocks a Z-bar 37, attached to the inner surface of the cover. The covers may be operated by handles 38. One of the covers is provided with a slide door 40 of a size that will allow a person to pass therethrough. This may be used for observation purposes when the boat is in use and the weather conditions would not permit of the opening of one of the covers 28. Suitable seats 41 are provided for the occupants of the vessel, and a motor 42 is installed within the boat for driving the propeller 43. An opening 44, which may be closed by a cover 45, is formed in one of the permanent covers 27, at the stern of the boat, to allow the steersman to reach the tiller 46 and operate the rudder 47.

A frame 50 rises from about the middle of the bottom of the boat and has its upper end secured to the ridge pole 34, the frame comprising a pair of side plates 51, between the upper ends of which are journaled upon a shaft 52, a pair of grooved rollers 53. At about the vertical center of the frame 50, a shaft 54 is journaled in the side plates 51, and said shaft has secured to it, between said side plates, an eccentric bearing 55 (see Fig. 5) whereon is journaled an element comprising drums 56, and an intermediate worm wheel 57, that normally meshes with a worm 58, having gudgeons 59, journaled in bosses 60 that extend fore-and-aft from the frame 50 and are preferably formed integral therewith. One of the gudgeons 59 of the aforesaid worm protrudes beyond the end of the boss 60, and has fastened to it a brake drum 61 and a hand wheel 62. Attention is called to the fact that the worm 58 is of long pitch so that it may be turned with reasonable freedom through the worm wheel. A pair of opposed brake elements 63 are hinged together at 63^a and encircle the brake drum 61, said elements extending upward therefrom substantially parallel to each other and having their upper ends connected by a spring 64. Ordinarily, the spring 64 draws the brake elements together to hold the brake drum against turning. The brake elements may be separated, however, by a cam 65 which engages the inner sides of the brake elements, near their upper ends, and which is secured to a stub shaft 66 that is journaled in a cross member 68 of the frame 50. The shaft 66 is adapted to be oscillated by a handle 69 that is secured to its outer end. Therefore, upon a turning of this handle, the brake elements may be separated to release the brake drum. From the foregoing it will be seen that the worm wheel 57 may be turned by the hand wheel 62; or the worm wheel may be permitted to turn under the control of the brake elements 63.

A flexible sustaining element, such as a

cable 70, it attached to the free end of each of the davits 2 and passes down through an aperture in the top of the boat, where it is guided over a pulley 71 toward the center of the boat. Here the elements or cables are led over the grooved rollers 53, journaled in the upper end of the frame 50, and are wound in the same direction, one upon each of the drums 56. It will be mentioned at this time, that the free ends of the cables 70 are not secured to the drums in any way that would hinder their quick and natural withdrawal therefrom.

With the foregoing construction in mind, it will be readily understood that the boat may be freed from the vessel, or other structure whereon it is supported, by first collapsing the cradles as explained, and then swinging the davits out over the side of the vessel or structure. The boat may now be entered by any number of persons up to its capacity, and, if desired, the covers 28 closed. By exerting a slight pressure upon the handle 69, the brake elements may be separated enough to allow the worm wheel 57 and drum 56 to turn and pay out the cables 70. If it is desired to stop the descent of the boat, it is only necessary to release the pressure upon the operating handle 69, and the brake elements will grasp the brake drum 61 under the influence of the spring 64, and prevent further rotation of the worm wheel and drums. If it should be found desirable or necessary to recover the boat somewhat, this may be accomplished through the hand wheel 62.

Now, if a more rapid descent is wanted than may be attained through the worm and brake control, the same may be accomplished through means which will now be described. A lever 75 is fastened to one end of the shaft 54, and is normally retained in a vertical position by having its free end connected, by a link 76, to a finger 77 that projects outward and upward from one of the side plates 51 of the frame 50. By releasing the arm 75 from the finger 77, the same may be swung downward to oscillate the eccentric bearing 55 that is keyed to the shaft 54, and thereby remove the worm wheel from engagement with the worm 58. This permits the worm wheel and drums 56 to rotate freely upon the bearing 55. This condition would be particularly desirable after the boat had reached the water, for it would allow the cables 70 to withdraw with perfect freedom and disconnect themselves from the drums, as already explained, leaving the boat thereafter entirely at the disposal of its occupants.

Having thus described the invention, what is claimed is:—

1. A life boat comprising a hull having permanent covers for closing the end portions thereof, a ridge pole extending longitudinally of the hull and supported by and attached to the permanent covers, guide members carried by the ridge pole and by the side edges of the hull, said guide members being substantially parallel, and covers having portions that are movable along said guide members for closing the central portion of the hull.

2. A life boat comprising a hull having permanent covers closing the end portions thereof, a guide member extending longitudinally of and substantially central with respect to the hull and supported at its ends upon the aforesaid permanent covers, guides carried by the side edges of the hull, said guide member and guides being substantially parallel, and covers that are slidable between the guide member and guides over the permanent covers.

3. A life boat comprising a hull having permanent covers closing the end portions thereof, a guide member extending longitudinally of and substantially central with respect to the hull and supported at its ends upon the aforesaid permanent covers, guides carried by the side edges of the hull, said guide member and guides being substantially parallel, and covers that are slidable between the guide member and guides over the permanent covers, and coöperating retaining members carried respectively by the slidable and permanent covers for retaining said covers in close proximity to each other.

In testimony whereof I hereunto affix my signature this 26th day of October, 1915.

WILLIAM G. METZGER,
Administrator of the estate of Henry V Hartz, deceased.

Witnesses:
BRENNAN B. WEST,
HUGH B. MCGILL.