899,072.

W. G. RANDLE.

RELEASING DEVICE FOR BOATS.

APPLICATION FILED MAR. 23, 1907.

Patented Sept. 22, 1908.

3 SHEETS—SHEET 1.

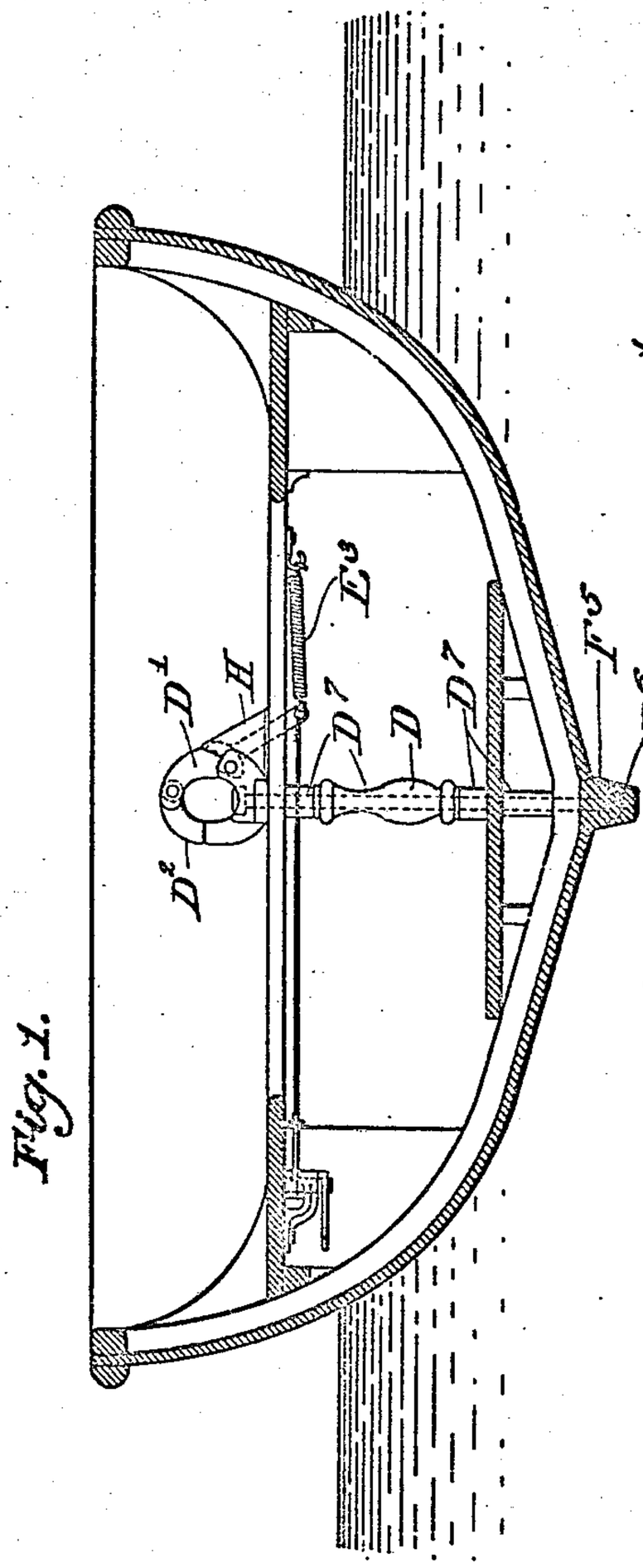

Fig. 1.

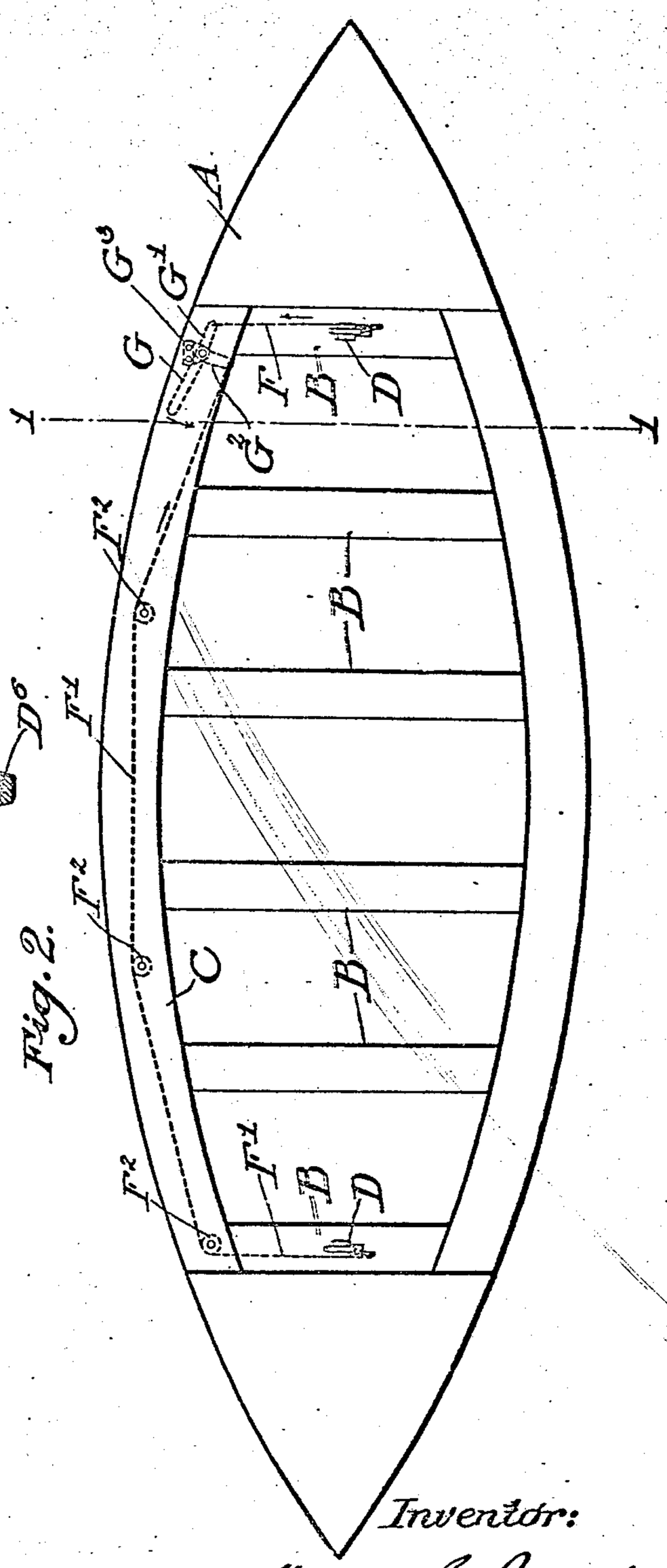

Fig. 2.

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3 SHEETS—SHEET 2.

Fig. 5.

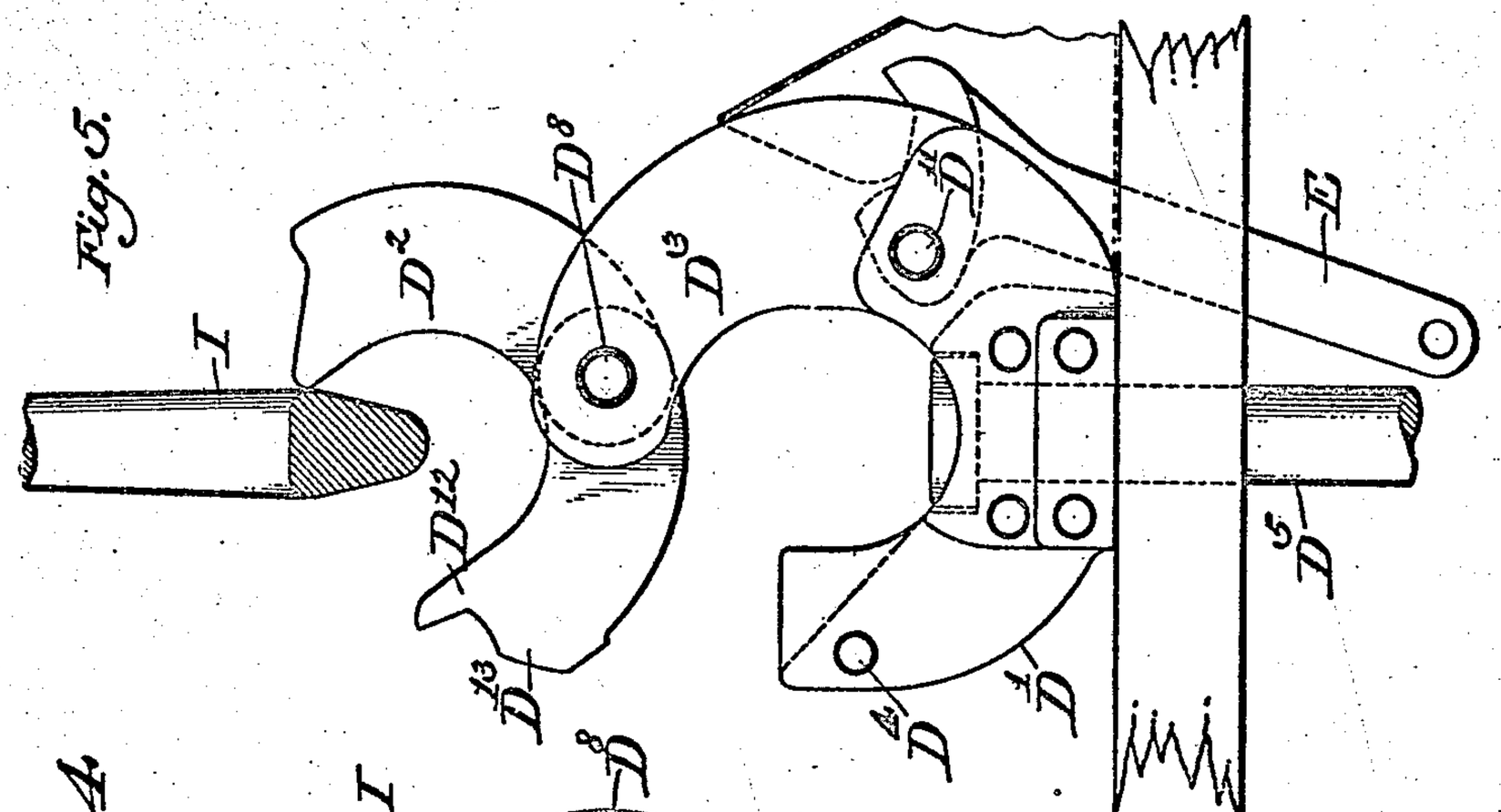
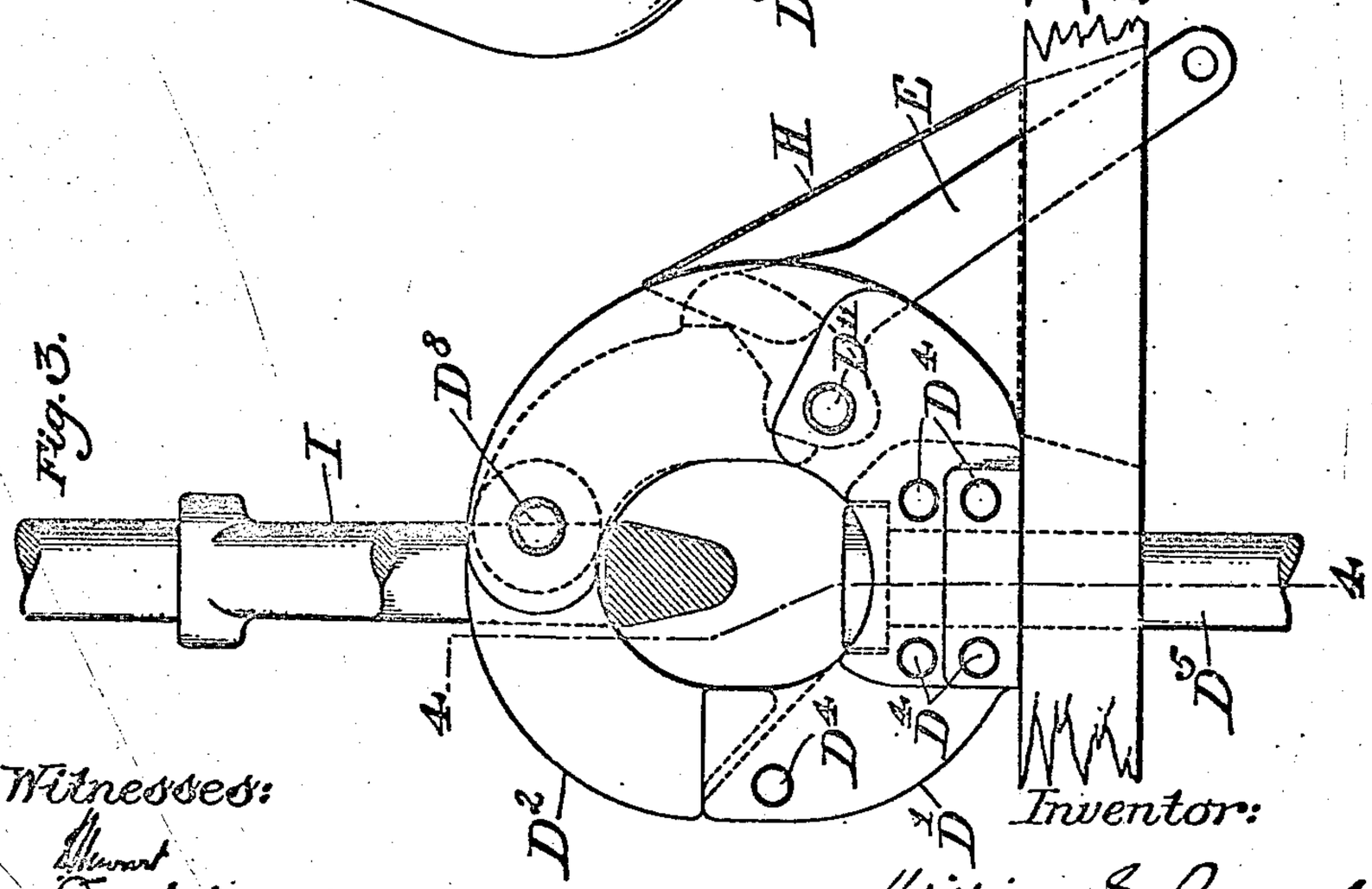


Fig. 4.

Fig. 3.



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3 SHEETS—SHEET 3.

UNITED STATES PATENT OFFICE.

WILLIAM G. RANDLE, OF CHESTER, PENNSYLVANIA.

RELEASING DEVICE FOR BOATS.

No. 899,072. Specification of Letters Patent. Patented Sept. 22, 1908.

Application filed March 23, 1907. Serial No. 364,050.

To all whom it may concern:

Be it known that I, WILLIAM G. RANDLE, a citizen of the United States of America, residing in Chester, in the county of Delaware and State of Pennsylvania, have invented a certain new and useful Improvement in Releasing Devices for Boats, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to means for detaching or releasing boats swinging from davits at the sides of ships and the main object of my invention is the provision of simple and effective means by which the connections between the two ends of the boats and the davits may be simultaneously broken at the proper time, thus avoiding any possibility of sinking a boat by releasing one end without releasing the other, and to carry out my invention I have devised mechanism which is comparatively simple in construction, but is positive in its action and may readily be so disposed in the boat that it is out of the way and not liable to accidental operation while at the same time it may be easily operated by the proper person whenever necessary.

The various features of novelty which characterize my invention are pointed out with particularity in the claims annexed to and forming a part of this specification. For a better understanding of my invention and the advantages possessed by it, however, reference may be had to the accompanying drawings and descriptive matter in which I have illustrated and described one of the forms in which my invention may be embodied.

Of the drawings, Figure 1 is a section on the line 1—1 of Fig. 2, but taken on a larger scale than Fig. 2. Fig. 2 is a plan view of a boat equipped with my invention. Fig. 3 is an elevation showing a portion of the securing device with the davit block secured by it. Fig. 4 is a section on the line 4—4 of Fig. 3. Fig. 5 is a view similar to Fig. 3 with the davit block released. Fig. 6 is an end elevation. Fig. 7 is a side elevation on a larger scale than Fig. 3 of the securing device, and Fig. 8 is an elevation of a guard frame or hood for covering a portion of the mechanism.

In the drawings, A represents a boat such as a life boat ordinarily carried by ships, the boat having the usual cross seats B, and side seats C. Adjacent each end of the boat is secured a davit connection securing device D.

As shown each securing device comprises a main stationary portion D^1 in the form of a portion of a ring or link, and a movable retaining member or tumbler D^2 pivoted to the portion D^1 and adapted to complete the link. For convenience the portion D^1 may be formed of two similar members D^3 secured together by rivets D^4 and shaped to form a passage for the headed securing bolt D^5 and shafts D^8 and D^{11} and a space for the tumbler D^2 and the locking dog E. The bolt D^5 is secured to the boat keel F^5 as by means of the nut D^6. In the form shown the bolts D^5 hold the eyes down against the end seats B through which the bolts pass and spacers or bushings D^7 surrounding the bolts serve to properly space apart the portions of the boat through which the bolt passes.

Between the upper ends of the members D^3 the tumbler D^2 is pivoted on an enlarged portion of the shaft D^8, the enlargement of the shaft D^8 serving as a spacer between the members D^3. The member D^2 comprises arms D^9 and D^{10}. When the member is in the retaining position the arm D^9 unites with part D^1 to complete the link, and the arm D^{10} at the opposite side of the pivotal connection lies between the upper ends of the members D^3. The arm D^{10} is adapted to be engaged by a locking dog or lever E, pivoted between the parts D^3 on an enlargement of the shaft D^{11}. The arm D^{10} has formed on it teeth like projections D^{12} and D^{13} which interlock with teeth like projections E^1 and E^2 on the locking dog.

When the parts are in the position shown in Figs. 3 and 7 the eye is closed and the tumbler D^2 held against movement by the locking dog. Each locking lever has a portion projecting through a slot in the supporting seat B, and is normally held in the locking position by means of a spring E^3 located below the seats of the boat and having one end secured to the locking dog and the other to the frame work of the boat. The means for releasing the tumblers D^2 comprising chains or the like F and F^1 which are connected to the short arms G^1 and G^2 respectively, of the operating lever G, which is pivoted at G^3 beneath one of the side seats C in any desired place as in one end of the boat as shown in Fig. 2. The chains F and F^1 are located entirely beneath the seats and out of

danger of accidental manipulation, the chain F^1 being guided by rolls F^2. Hoods or shrouds H, which may be of sheet metal and are secured to the seats B, unite with the members D^3 to form housings inclosing the portions of the locking dogs E above the boat seats.

With the upper ends of the members D^3 extending slightly past the top of the links as shown, a large portion of the pull exerted by the davits is taken by the stationary parts of the links directly and not through the pivoted retaining members.

When it is desired to disconnect the boat from the davits the lever G is turned in the direction indicated by the arrow in Fig. 2. This turns each lever E from the position shown in Figs. 3 and 4 to that shown in Fig. 5. As soon as the levers turn so that the teeth E^1 clear the teeth D^{12} the tumblers D^2 are free to open under the pull exerted upon them by the davit fall eyes I. Moreover, the tumblers are given a positive opening movement by the locking levers by means of the projections E^4 on the locking levers, which engage the teeth D^{12} and give a positive opening movement to each tumbler D^2 as the teeth E^1 clear the teeth D^{13}, so that the arms D^{10} move into the eyes of the links and prevent the davit connections from holding on the upper ends of the members D^3.

The tumblers D^2 are shaped and arranged so that when they are in the retaining position, the inner edge of each arm D^{10} is protected from engagement by the davit connection by the adjacent parts of the members D^3. As a result, in ordinary operation the pull of the davit connections will act on the tumblers through the arms D^9 only and will open the links as soon as the tumblers are released. The extreme ends of the arms D^9 are protected and supported by the adjacent portions of the parts D^3 which unite to form pockets receiving the arm ends.

It will be observed that the mechanism just described is simple and comprises no parts apt to get out of order and that it provides means for simultaneously and positively releasing the two ends of the boat when the lever G is operated and that it is practically impossible to release the locking levers except by means of the lever G. These are important considerations, especially with life boats, which are primarily for use only in times of stress and are filled with people before being lowered from the ship to which they belong. The advantage of locating the releasing mechanism so that it may not be operated in an improper manner by any excited passengers on the boat is obvious.

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

1. A davit connection securing device comprising a stationary part in the form of a vertical link open at one side of and adjacent the top of the link, a movable part pivoted to said stationary part at the top of the link and provided with arms at opposite sides of the pivotal connection, said arms being so shaped that when the movable part is in the retaining position, one arm completes the link and the other arm extends along the stationary part of the link, and a locking dog normally holding said movable part in the position in which the link is closed, but being movable to release said movable part, said movable part and dog having cam surfaces which cooperate as the dog is moved to release the movable part to turn the latter about its pivotal support so that the link-closing arm swings outward and upward and the other arm moves into the link.

2. A davit connection securing device comprising in combination a partly open stationary link, a movable part pivoted to said stationary link and adapted to be locked in the position in which it completes the link and is directly engaged by the davit connection, said movable part being provided with a dog engaging extension D^{10} having teeth D^{13} and D^{12}, and the locking dog E pivotally connected to said stationary link and provided with a tooth E^1 which enters between the teeth D^{12} and D^{13} on said movable part when the parts are in the locking position, and with a cam portion E^4 adapted to engage one of the teeth D^{12} of the movable part and positively move the latter to release the davit connection when the locking dog is turned on its pivotal connection, the tooth E^1 and the cam portion E^4 of the locking dog being so arranged that the locking dog can be moved to release said movable part before causing any movement of the latter.

3. In combination, a boat having seats and provided at each end with a davit connection securing device projecting above said seats, each device having a pivoted retaining member for, and adapted to directly engage said connection and a locking dog having a portion projecting below the seats, normally holding said member in the retaining position, but movable to release said member, said member and dog having cam surfaces which directly engage to move the retaining member out of the retaining position, when the dog is moved to release the retaining member, and means located beneath the seats and engaging the portions of the locking dogs projecting below the seats for simultaneously moving the locking dogs to release the retaining members controlled by them.

4. In combination, a boat having seats and provided at each end with a davit connection securing device projecting above said seats, each device having a pivoted retaining member, a locking dog having a portion projecting below the seats, and a housing for the portion of the locking dog projecting above

the seats, said locking dog normally holding said member in the retaining position, but being movable to release said member, said member and dog having parts which cooperate to move the retaining member out of the retaining position, when the dog is moved to release the retaining member, and means located beneath the seats and engaging the portions of the locking dogs projecting below the seats for simultaneously moving the locking dogs to release the retaining members controlled by them.

5. In combination a horizontal support, a davit connection securing device comprising a stationary part in the form of a vertical link bearing at its lower end against the upper side of said support, said link being open at one side of and adjacent its top and having a slot formed in its long side, a tumbler pivoted to said stationary part at the top of the link and between the side walls of said slot, a locking dog for the tumbler also pivoted to the said stationary part between the side walls of said slot, said locking dog having a portion extending down through said support and a housing bearing against the long side of said stationary part and uniting with it to form a casing about the portion of the locking dog, above said support.

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Witnesses:
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