June 6, 1944. W. FRASER ET AL 2,350,344

DEVICE FOR STORING AND DISCHARGING LIFE RAFTS, BOATS, OR OTHER ARTICLES

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Fig. 3

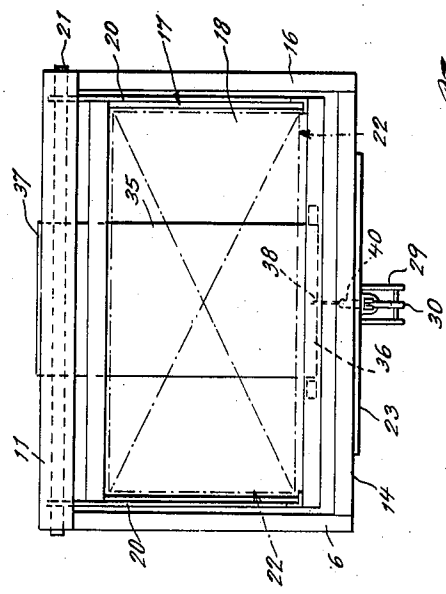


Fig. 2

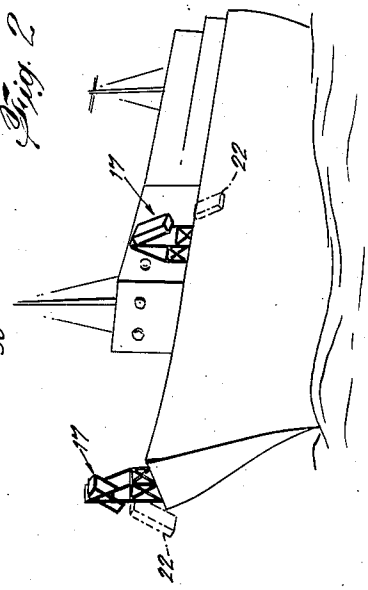
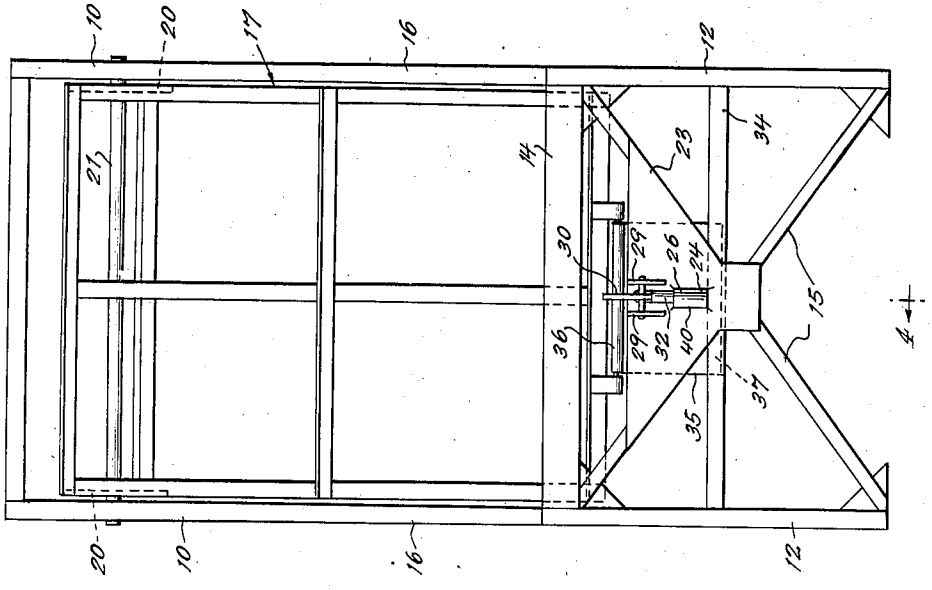


Fig. 1



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Fig. 5

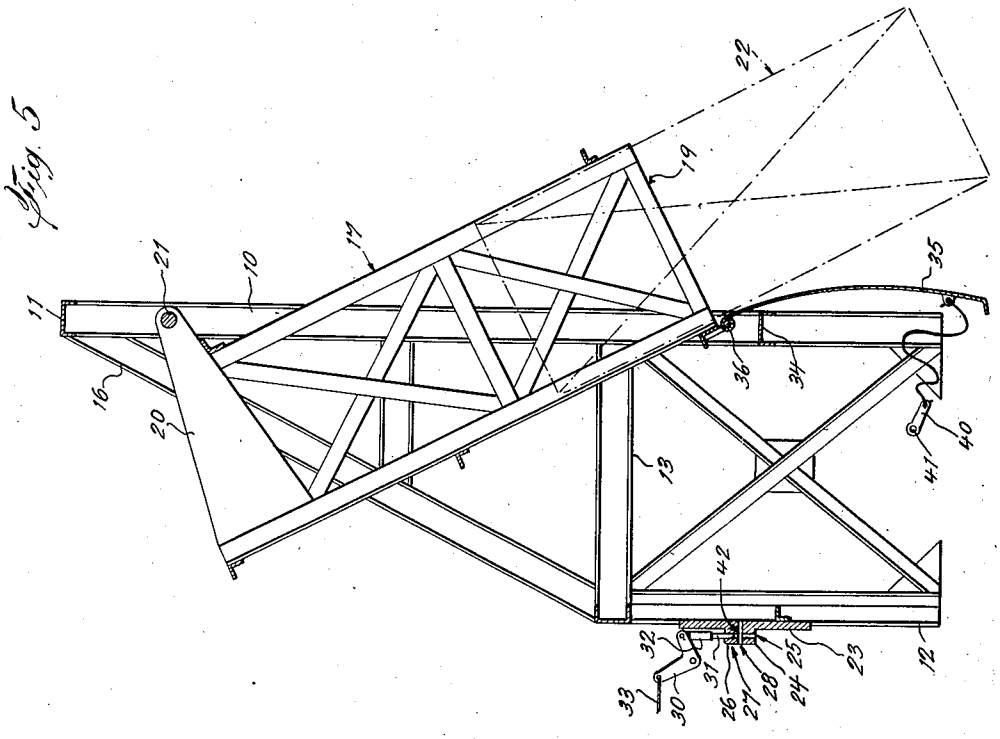
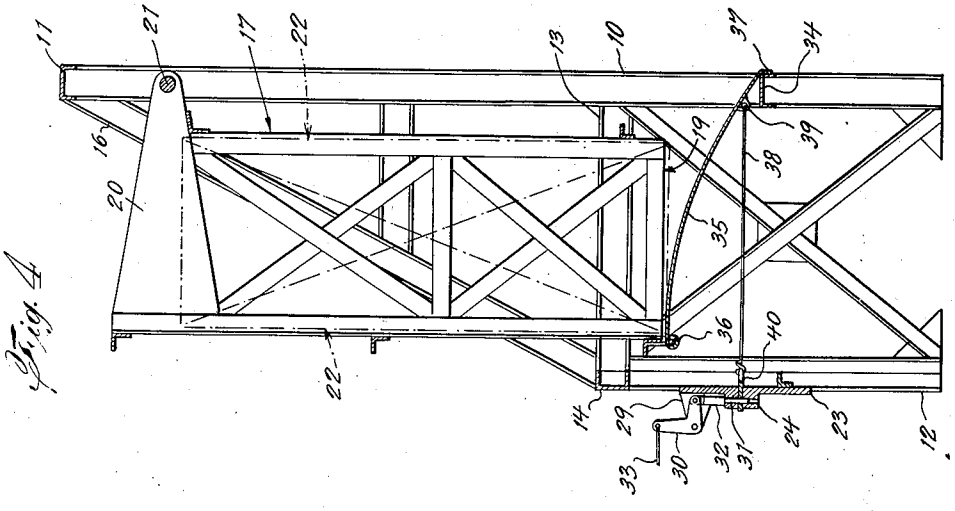


Fig. 4



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DEVICE FOR STORING AND DISCHARGING LIFE RAFTS, BOATS, OR OTHER ARTICLES

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Application August 20, 1943, Serial No. 499,362

7 Claims. (Cl. 9—22)

This invention relates to life saving rafts, boats or similar articles, and the manner or means of mounting or storing them on the deck of a ship, and aims to provide useful and practical means by providing a vertical or upright mounting for the raft so that the deck area occupied by each raft is substantially reduced, thus providing a saving in deck space which may be appropriated for freight, particularly war material. Since the problem of shipping a maximum amount of war or war accessory materials is of prime importance at this time, the present invention, through its saving of deck space, offers assistance in the solution of shipping problems.

Another object of the invention is the provision of means associated with the mounting means for the raft or boat, for releasing and discharging the raft over the side of the ship almost instantaneously.

The above and other objects will become apparent in the description below, wherein reference numerals refer to like-numbered parts in the accompanying drawings. It is to be noted that the drawings are intended for the purpose of illustration only, and that it is neither intended nor desired to limit the invention necessarily to the specific details illustrated excepting insofar as they may be essential to the invention.

Referring briefly to the drawings, Fig. 1 is a rear elevational view of the device, showing the raft mounted or stored therein ready for discharge over the side of the ship.

Fig. 2 is a perspective view of a ship equipped with these devices and showing them in the act of discharging the rafts.

Fig. 3 is a plan view of the device.

Fig. 4 is a cross-sectional view taken on the line 4—4 of Fig. 1.

Fig. 5 is a view similar to Fig. 4, but showing the positions of the various parts after the device has been released to discharge the raft.

Referring in detail to the drawings, the numeral 10 indicates a pair of spaced uprights joined at the top by a cross-member 11. Rearward of the uprights 10, are a second pair of substantially shorter uprights 12, and joining the upper ends of the latter with the uprights 10 are side frame members 13. On the same level as the members 13, front and rear cross-members 14 join the upper ends of the uprights 12 and also join the uprights 10.

It is to be understood that the word "front" as applied herein refers to the outboard side of the device when mounted on a ship's deck, and the word "rear" refers to the inboard side. The members above set forth form the outline of the frame of the device, which may be said to simulate the outline of a chair. Additional frame members, such as the diagonal rear members 15, are provided in accordance with the usual practice in structures. Bracing side members 16 extend downward and rearward from the top of the uprights 10 to the top of the uprights 12.

A substantially rectangular cradle is shown at 17, and may be similarly constructed of a plurality of skeleton frame members, with its top 18 and its bottom 19 both open. The cradle 17 is intended to serve also as chute as will become apparent below, and at its upper end it is provided with a pair extending arms or ears. A horizontal rod 21 is supported in the upper ends of the uprights 10, and passes through openings in the extremities of the ears 20, thereby pivotally suspending the cradle 17 therefrom. As the points of suspension are outside the outline of the cradle, it is obvious that when the cradle is freely suspended from the rod 21, it will swing forward, as shown in Fig. 5. The outline of a standard life raft is shown in broken lines at 22, and is adapted to be inserted into the cradle 17 through the top opening 18 and into the position shown in Fig. 4.

A plate 23 is secured to the diagonal members 15 at the rear of the device, and has attached thereto or formed integrally therewith a vertical sleeve 24 whose opening is indicated at 25. Directly above and in vertical alignment with the sleeve 24 is a second identical sleeve 26, with the opening 27, spaced from the sleeve 24 by the space 28. An ear 29 extending out from the plate 23 has a bell crank 30 pivotally mounted thereon. A bolt 31 is slidably mounted in the upper sleeve 26 and has its upper extremity pivoted to the lower end of the bell crank 30. The upper portion 32 of the pin 31 is enlarged to provide a limit stop to the descent of the pin or bolt. A string or cable 33 is secured to the other end of the bell crank 30.

A horizontal cross-member 34 is secured between the uprights 10 at about the level of the sleeve 24. Pivotally secured to the rear lower edge of the cradle 17, at 36, is an arched tongue 35, which may possess a degree of resiliency, and whose free extremity 37 is deformed in a downward direction (Fig. 4). Assuming that the cradle has been positioned as shown in that figure, and that the tongue 35 has been swung to the position shown therein with the extremity 37 retained against the member 34, it is obvious that the cradle will thereby be maintained in upright

position, as shown, and the raft 22 will likewise and thereby be restrained within the cradle. In order to retain the extremity 37 in the said position, a string or cable has one end anchored to an ear 39 near the free end of the tongue, and its other end secured to one end of a lug 40 provided with an opening 41 through the free end thereof. A horizontal slot 42 is provided through the plate 23 in horizontal alignment with the space 28 between the sleeves 24 and 26. By inserting the lug 40 through the slot 42 and bringing the opening 41 into vertical alignment with the sleeve openings 25 and 27, and then turning the bell crank in a clockwise direction (Fig. 5), the bolt 31 will pass through the opening 41 into the opening 25 and thus hold the member 35 in the cocked position above set forth. If desired, a spring, not shown, might be provided to cooperate with the bell crank to normally urge the pin 31 downward.

The device is mounted adjacent the side of the ship, on the deck, as shown in Fig. 2. When it is desired to float the raft, the cable 33 is pulled, thus releasing the lug 40 from the pin 31, and permitting the cradle 17 to swing, by gravity, into the position shown in Fig. 5. As this swinging progresses, the lower end of the raft 22 will constantly be supported by the tongue 35 until the extreme position shown in Fig. 5 is reached so that the tongue may fall or swing out of the way of the cradle opening 19 and thus permit the raft to fall out of the cradle. Owing to the angle at which the raft is thus discharged, it will clear the side of the ship and fall into the water. By this means a raft may be floated almost instantly and with a minimum of effort or labor.

The advantages, as far as storage deck space is concerned, of storing the raft in an upright or up-ended position, is obvious. Obviously, a life boat or any other article may be substituted for the raft 22, and other modifications in form and structure may be made without departing from the spirit and scope of the invention. The manner of inserting the raft into the cradle and cocking the device, is readily apparent.

We claim:

1. A device comprising a pair of spaced uprights, an elongated cradle open at both ends and having ears projecting beyond the confines of the cradle in a direction substantially at right angles to the longer sides of the cradle, the extremities of said ears being pivotally mounted to said uprights near the top thereof, a frame mounted rearward of and secured to said uprights, said cradle by virtue of said pivotal mounting being swung in a forward direction to extend angularly downward between said uprights when freely suspended from said pivotal mounting, said cradle being adapted to have a life raft or other article inserted thereinto through the upper end, releasable means for simultaneously closing the lower end of said cradle to retain said raft therein and for locking said cradle in upright position within the confines of said frame, and means for tripping said releasable means.

2. A device comprising a pair of spaced uprights and a cradle pivotally suspended from the upper ends thereof, the pivotal points of said cradle being offset from the median line thereof to cause said cradle to be urged by gravity when freely suspended to extend forward at an angle between said uprights, the ends of said cradle being open, said cradle being adapted to have a life raft or other article inserted thereinto and to be swung into upright position, releasable means for simultaneously closing the lower end to retain said raft in said cradle and locking said cradle in said upright position, and means for tripping said releasable means to permit said cradle to swing to said freely suspended position and to open said lower end to permit said raft to fall therethrough.

3. A device comprising a pair of uprights, a cradle open at the top and bottom and having ears extending from the upper end thereof beyond the lateral boundaries thereof, the extremities of said ears being pivotally mounted on said uprights, said cradle being adapted to be swung into upright position, said cradle by virtue of said pivotal mounting extending angularly forward between said uprights when freely suspended, a tongue pivotally secured at one end to the lower rearward end of said cradle and adapted to be swung across said lower end to close the same, said cradle being adapted to have a life raft or other article inserted thereinto, said tongue when swung as aforesaid restraining said raft from falling out of said cradle, a rigid member secured to said uprights below the lower extremity of said cradle, said tongue having a deformed extremity adapted to embrace said rigid member when in said cradle closing position with said cradle in said upright position, releasable means for locking said tongue in said position with said extremity thereof embracing said rigid member, and means for tripping said releasable means to permit said cradle to swing by gravity to said angular position, said tongue upon said tripping of said releasable means being free to swing away from said lower end to open the same to permit said raft to fall out of the cradle.

4. A discharging device for a life raft or other article, comprising an upright frame having a cradle pivotally suspended therefrom in a non-vertical position, said cradle being adapted to be swung into a vertical position, the lower end of said cradle being open, said cradle having a life raft inserted thereinto, and releasable means for simultaneously closing said lower end and locking said cradle in said upright position, and means for tripping said releasable means.

5. A discharging device for a life raft or other article, comprising an upright frame having a cradle pivotally suspended therefrom in a non-vertical position, said cradle being adapted to be swung into a vertical position and having a life raft loosely inserted thereinto, the lower end of said cradle being open, releasable means for closing said lower end to retain said raft therein, additional releasable means associated with said first means for simultaneously locking said first means in closing position and locking said cradle in upright position, and means for tripping said last named releasable means.

6. The device set forth in claim 5, wherein said first-named releasable means comprises a tongue pivotally secured at one end to the lower edge of said cradle and swingable across said open end to close the same.

7. The device set forth in claim 5, having in addition to said first-named releasable means additional means cooperating therewith for retarding the opening thereof until said cradle has been swung by gravity to substantially the balanced non-vertical position thereof when freely suspended.

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