June 16, 1931. G. KELEMEN 1,810,564

SAFETY DEVICE FOR SHIPS

Filed Dec. 19, 1930

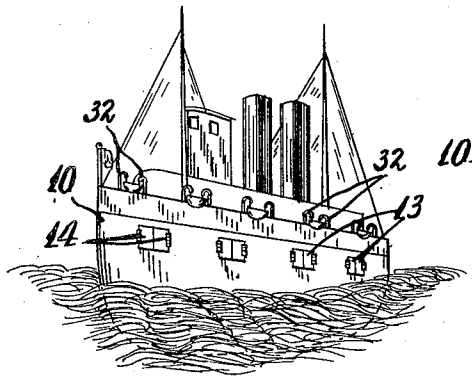


FIG 1

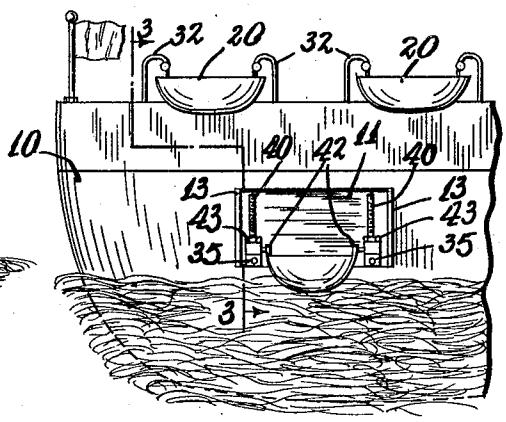


FIG 2

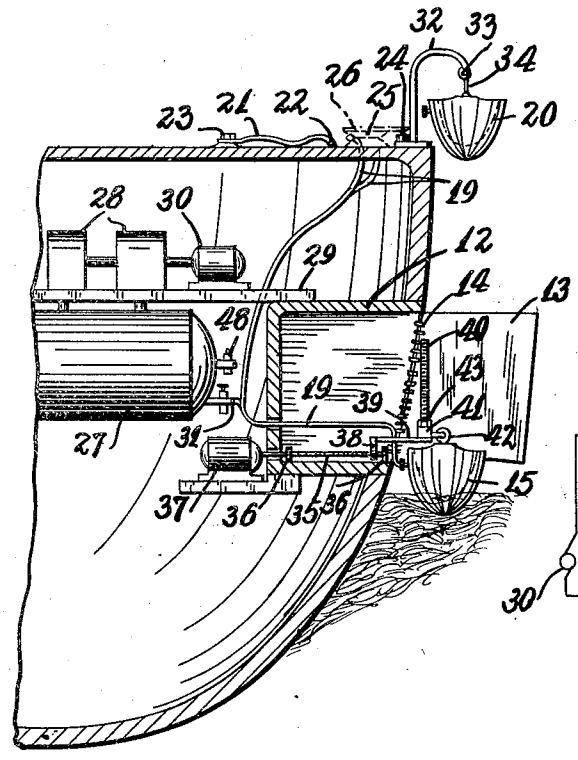


FIG 3

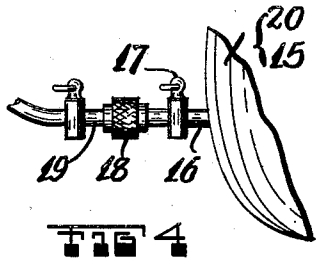


FIG 4

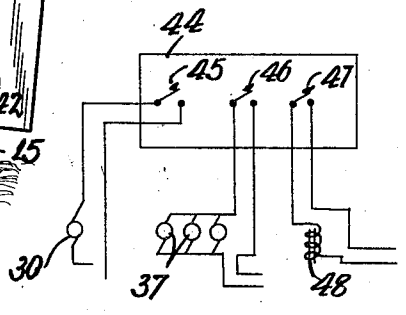


FIG 5

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UNITED STATES PATENT OFFICE

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SAFETY DEVICE FOR SHIPS

Application filed December 19, 1930. Serial No. 503,369.

This invention relates to new and useful improvements in a safety device for sinking ships.

The invention has for an object the provision of a safety device for sinking ships characterized by a plurality of inflatable boats on the deck of the ship adjacent derricks for lowering the boats into the water, and other inflatable boats in compartments on the sides of the ship, and means for holding the latter boats in various adjusted elevational positions for supporting the sinking ship when in inflated conditions.

The invention has for another object the arrangement of machinery and mechanism for accomplishing the inflating of the boats above the water line of the ship so that during the initial filling up of the ship with water in sinking the apparatus will not be subjected to the water.

It is a still further object of this invention to arrange control switches for the operation of the mechanism to inflate the various boats.

A still further object of this invention is to arrange covers in various boats on the deck which may instantly be moved to positions in which the boats are exposed for inflation.

As a still further object of this invention it is proposed to provide means within said compartments for ejecting the collapsed boats, and means for holding the boats in various elevated positions so as to be adjustable against the water line to support the ship.

And as a still further object of this invention it is proposed to provide a device of the class mentioned which is of simple durable construction, dependable in use and efficient in action, and which can be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:—

Fig. 1 is a perspective view of a ship on a body of water and equipped with a safety device according to this invention.

Fig. 2 is a fragmentary enlarged side elevational view of the ship shown in Fig. 1 with the boats in inflated condition.

Fig. 3 is a fragmentary sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a fragmentary enlarged detailed view of a portion of one of the inflatable boats.

Fig. 5 is a schematic wiring diagram of the device.

The invention is shown installed upon a ship 10, which may be of any design and construction. Preferably, it should be of the ocean-going type. A series of compartments 11 are formed along the side of the ship 10. Each of these compartments are closed on three sides by partitions 12 so that only the fronts are open. Doors 13 are hingedly mounted on the sides of the ship so as to cover the opened fronts of the compartments 11. Coaxial springs 14 are arranged upon the hinge points of the doors 13 for normally urging them into a closed position as illustrated in Fig. 1. The compartments 11 are constructed slightly above the water line of the ship as shown on the drawings.

An inflatable boat 15 is provided for each of the compartments 11. These boats preferably should be of rubber and of the conventional type which may be inflated with air or gas. Each of the boats is provided with an inlet pipe 16 having a control cup 17 immediately behind a coupling 18. This allows connection with a gas or air supply pipe 19.

A series of inflatable boats 20 are arranged upon the deck of the ship. These boats should be so positioned that they straddle the compartments 11 as clearly shown in Fig. 2 so that they may be lowered without interfering with the lower boats 15. Means are provided for covering each of the boats 20 when in the collapsed condition. This means is in the form of cloth material 21 attached along one of their edges 22 onto the deck of the ship and along all other edges being provided with snap fasteners 23 adapted to engage with complementary elements 24 attached upon the ship 10. This allows the cloth material

21 to be engaged over the collapsed boat, as for example indicated in Fig. 3. In this figure dot and dash lines 25 indicate the boat in a collapsed condition and dot and dash lines 26 the cover extended thereover.

A means is also provided for inflating each of the boats 20. This means is in the form of large reservoir tanks 27 supported within the boat 10 above the water. Pumps 28 are mounted upon a support 29 and connected for discharging into the tanks 27. A motor 30 is connected with the pumps 28 for their turning. A discharge pipe 31 extends from the tank 27 and connects with a plurality of branches 19 which terminate in the vicinity of the various boats 20 along the deck. The branches 19 are adapted for connection with the boats 20 for the inflation of the latter elements by the coupling 18.

As shown on the drawings, a means is also provided for lowering the inflated boats 20 into the water. This is accomplished by a plurality of derricks 32, or similar constructions, mounted upon the deck of the ship 10 and adapted to support pulleys 33 provided with hoisting ropes 34 adapted to accomplish the raising and lowering of the boats 20.

In collapsed condition of the boats 15, they are stored within the compartments 11. A means is provided for moving the boats from each of the compartments to the exterior when this is desired. This means is in the form of screws 35 rotatively mounted along the sides of the compartments 11 in standards 36. A motor 37, or motors connect with the inner ends of the screws 35. A follower 38 is threadedly engaged upon each of the screws 35 and act against the bottom of the compartment 11 so as to limit movements to positions along the screws.

Arms 39 project from the followers 38 and support vertical members 40. Slides 41 engage upon the vertical members and have ears 42 to which the ends of the boats 15 are connected. Branch pipes 19 extend from the tank outlet 31 to the boats 15 and are connected therewith by the coupling 18 as before described.

The inflated boats 15 may be held in various adjusted vertical positions so as to act against the surface of the water and support the ship 10 against sinking. As the ship 10 sinks further and threatens to submerge the boats 15, their vertical positions may be changed to prevent such action. The change in position is accomplished by nuts 43 threadedly engaged upon the members 10 and acting against the top faces of the slides 40. When it is necessary to allow upward motion of the boats 15, the screws 43 should be turned so as to travel up on the members 40. When the buoyancies of the boats 15 will cause them to rise. The various motors 37 and the motor 30 may be controlled from a panel board 44 in the vicinity of the captain's or pilot's chamber of the ship. A switch 45 is mounted upon the panel board 44 and is connected in series with the motor 30 to control its operation. Another switch 46 is connected for controlling the operations of the motors 37, and another switch 47 is mounted upon the panel board for controlling the action of a solenoid 48 interposed in the outlet 31 for the control of the discharge of the air or gases from the tank 27.

The operation of the safety device may be traced by assuming the ship in a condition illustrated in Fig. 1. In the event that the ship starts sinking, the operator closes the switches 45, 46 and 47 so as to energize the motor 30 for operating the pumps 28 to supply additional air or gas to the tanks 27 and also for operating the motor 37 to eject the boats 15. The closing of switch 47 causes the solenoid 48 to act for opening the discharge from the tank 27 into the various branches 19, and this causes the inflation of the boats 15 and 20. As the boats 20 become inflated, the air pressure automatically snaps the snap fasteners 23 and 24 open so that the boats are ready for use.

The upper boats 20 may be lowered into the water with the aid of the derricks 32 and rope ladders may be used for persons from the deck entering the boats 15. It is intended that the boats 15 be used to support the ship 10, but if the case is hopeless then the boats 15 should be cut loose from the ears 42 and the passengers should work for their own safety.

While I have shown and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:—

1. A safety device for sinking ships and the like, comprising a series of compartments along the side of a boat, an inflatable boat in each compartment, means for moving said boats from each compartment to the exterior, means for inflating said boats, and means for holding said inflated boats at various adjusted heights so as to hold the boats against the water line to support the sinking ship.

2. A safety device for sinking ships and the like, comprising a series of compartments along the side of a boat, an inflatable boat in each compartment, means for moving said boats from each compartment to the exterior, means for inflating said boats, and means for holding said inflated boats at various adjusted heights so as to hold the boats against the water line to support the sinking ship, doors being hingedly mounted upon the sides of

said ship for normally closing said compartments.

3. A safety device for sinking ships and the like, comprising a series of compartments along the side of a boat, an inflatable boat in each compartment, means for moving said boats from each compartment to the exterior, means for inflating said boats, and means for holding said inflated boats at various adjusted heights so as to hold the boats against the water line to support the sinking ship, said means for moving said boats from each compartment to the exterior includes screws connected for rotations with motors and supporting followers provided with arms supporting vertical members, slides on said vertical members connected with said boats, and nuts threadedly engaged on the vertical members.

4. A safety device for sinking ships and the like, comprising a series of compartments along the side of a boat, an inflatable boat in each compartment, means for moving said boats from each compartment to the exterior, means for inflating said boats, means for holding said inflated boats at various adjusted heights so as to hold the boats against the water line to support the sinking ship, a series of inflatable boats on the deck of said ship, means for covering said boats, means for inflating said boats, and means for lowering the inflated boats into the water.

5. A safety device for sinking ships and the like, comprising a series of compartments along the side of a boat, an inflatable boat in each compartment, means for moving said boats from each compartment to the exterior, means for inflating said boats, means for holding said inflated boats at various adjusted heights so as to hold the boats against the water line to support the sinking ship, a series of inflatable boats on the deck of said ship, means for covering said boats, means for inflating said boats, and means for lowering the inflated boats into the water, said means for covering said boats being in the form of cloth material permanently attached along one of their sides onto the deck and detachably connected along their other sides onto the deck.

6. A safety device for sinking ships and the the like, comprising a series of compartments along the side of a boat, an inflatable boat in each compartment, means for moving said boats from each compartment to the exterior, means for inflating said boats, means for holding said inflated boats at various adjusted heights so as to hold the boats against the water line to support the sinking ship, a series of inflatable boats on the deck of said ship, means for covering said boats, means for inflating said boats, and means for lowering the inflated boats into the water, comprising derricks mounted upon the decks of said ship and provided with suitable hoisting ropes connected with the boats.

7. A safety device for sinking ships and the like, comprising a series of compartments along the side of a boat, an inflatable boat in each compartment, means for moving said boats from each compartment to the exterior, means for inflating said boats, and means for holding said inflated boats at various adjusted heights so as to hold the boats against the water line to support the sinking ship, said means for moving the boats from each of the compartments and a means for inflating said boats being controlled by the operation of switches.

In testimony whereof I have affixed my signature.

GEORGE KELEMEN.