March 23, 1926. **1,577,475**

F. W. LISKA

LIFE SAVING DEVICE

Filed June 9, 1925

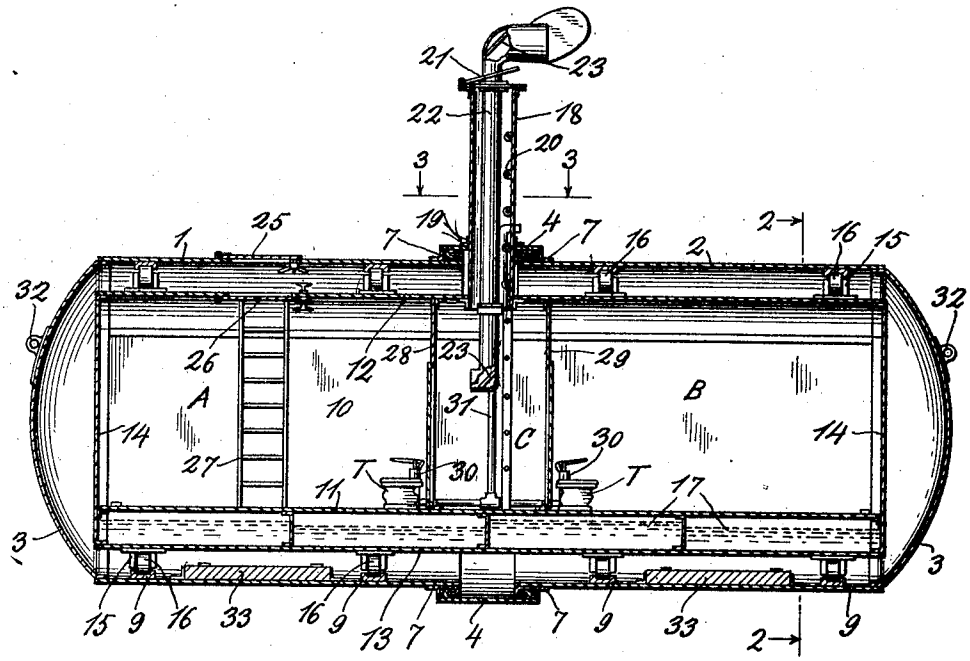


Fig. 1.

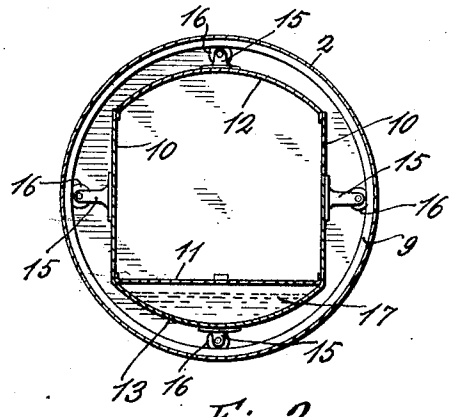


Fig. 2.

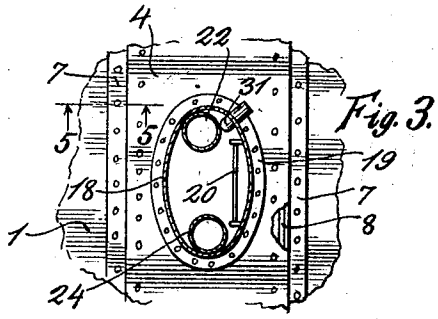


Fig. 3.

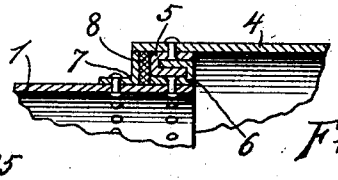


Fig. 5.

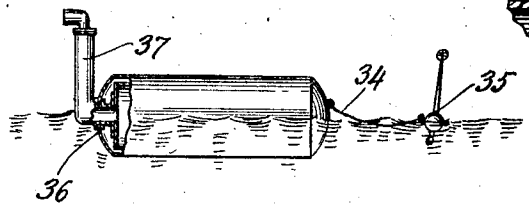


Fig. 4.

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UNITED STATES PATENT OFFICE.

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LIFE-SAVING DEVICE.

Application filed June 9, 1925. Serial No. 35,889.

To all whom it may concern:

Be it known that I, FREDERICK W. LISKA, a citizen of the United States, residing at Englewood, the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Life-Saving Devices; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in life saving devices.

In spite of the greatly improved construction of ocean going ships and their great size and strength, the yearly toll of human life is large. An analysis of the various sea disasters that resulted in loss of life shows that the immediate cause of death was exposure or injury received while launching the life boats or drowning due to the smashing of the life boats while being launched. It is evident that the launching of open life boats in a rough sea is a very hazardous undertaking as they are often smashed by striking the side of the ship while they are suspended from the davits, as the ship often rolls to a great extent. If the boats are not smashed they are liable to be overturned as they strike the water and are released. If the boats survive the various hazards of launching, the passengers are still almost sure of being drenched to the skin and when the weather is cold, this means death from exposure. Even in summer the cold winds of the sea are sufficient to reduce the temperature of a person's body, dressed in wet clothes, so low that death will ensue.

It is evident that the dangers attendant upon the saving of lives at sea are very great with my present apparatus. The danger of death from exposure has been long recognized and attempts to guard against this by means of waterproof suits has been made. This is successful to some extent, but as only a very small percentage of the passengers are equipped with such suits, this does not offer a satisfactory solution.

It is the object of this invention to produce a life saving device that shall be adapted to replace the ordinary life boats now in use and which will be free from the most serious objections to the latter.

My invention, briefly described, consists in an outer cylindrical steel shell within which is rotatably mounted an elongated housing. The outer cylinder is preferably provided with a member of spaced circular tracks that cooperate with rollers attached to the housing so that the latter may rotate with respect to the cylinder. The housing has a ballast which tends to maintain it in vertical position. Means is provided for entering and leaving the housing, for providing ventilation and for toilet facilities, light, radio reception and sending, etc. The passengers are placed within the housing and the whole assembly launched in the same manner as is now employed with life boats. With my device there is no possibility of capsizing, nor can the passengers become wet as when they are in an open boat.

In order to explain more clearly, my invention, its construction and the manner in which it is employed, I shall have reference to the accompanying drawing in which one embodiment thereof has been illustrated and in which:

Fig. 1 is a vertical longitudinal section of my improved life saving device;

Fig. 2 is a transverse section taken on line 2—2, Fig. 1;

Fig. 3 is a transverse section taken on line 3—3, Fig. 1;

Fig. 4 is a view, partly broken away, showing a proposed modification and

Fig. 5 is a section showing a detail of the construction.

Numerals 1 and 2 show the two sections that form the outer cylindrical member. These sections are identical in shape and size. Each section has one end closed by a convex end plate 3. These sections are held together at their open ends by means comprising a ring 4 having secured to each edge a ring 5 having a U-shaped cross section. These rings interlocked with similar rings 6 riveted to the outside of each of the sections 1 and 2. The parts are held in assembled relation by means of an angle 7 that is spaced from the bar 5 by a sealing gasket 8 made of some suitable material such as or-

dinarily employed for this purpose, or of some soft material such as copper or babbitt. When sections 1 and 2 are connected in the manner shown they form a cylindrical waterproof housing. The ring 4 can rotate with respect to sections 1 and 2 and, in the construction shown, the two sections can rotate with respect to each other, although this is not necessary and may, if desired, be prevented by connecting the two sections by suitable braces. On the interior of each of the sections 1 and 2, I secure channel iron tracks 9 that extend entirely around the interior in the manner shown most clearly in Fig. 2. Enclosed within the cylindrical compartment formed by sections 1 and 2 is a housing which I have shown as comprising vertical side walls 10, a floor 11 and an arched roof 12. Underneath the floor is a chamber that is bounded by the floor and the arched bottom member 13. The housing has end members 14. Secured to the top, bottom and sides of the housing are brackets 15 carrying rollers 16 that cooperate with the tracks 9. The compartment 17 below the floor is intended to serve as a reservoir for fresh water and when it is full of water the weight of the water acts as a ballast that tends to keep the floor 11 level. The outer cylindrical housing may rotate about its central axis, while the inner housing remains stationary. A pipe 18 of oval or elliptical cross section (Fig. 3) is secured at one end to the roof 12 of the inner housing and extends upwardly and outwardly through the ring 4 to which it is secured by means of the angle 19. This pipe is of sufficient size to admit the body of a man and is provided on its inner surface with steps 20 that form a ladder. The top of pipe 18 has a cover 21 that may be closed and locked and which when closed excludes water. An air exhaust pipe 22 extends from the interior of the inner housing to a point above the pipe 18 and is provided at its top with a funnel that is rotatable so that it will always point in the direction that the wind is blowing, whereby a suction is produced and water is prevented from entering. The upper and the lower ends of pipe 22 may be provided with mirrors 23 that convert the tube into a periscope. A second pipe 24 also projects upwardly within the pipe 18 and serves as an intake. The cylindrical housing has a door 25 which is located directly over a similar door 26 in the inner housing. These doors permit people to enter and to leave the inner housing. A ladder 27 extends from the door 26 to the floor 11. The interior housing is divided by means of partitions 28 and 29 into two large compartments A and B and a small controlled compartment C. Each of the major compartments A and B are provided with toilets T of the type usually employed on yachts and which are provided with pumps 30 by means of which the sewage may be elevated and discharged through the pipe 31. The ends 3 are provided with eyelets 32 to which the chains of the davits are secured.

Let us now suppose that a ship is equipped with one or more of my life saving devices and that occasion arises for its or their use. The doors 25 and 26 are opened and the passengers enter the inner housing after which the doors are closed. The device is then launched in the same manner as a life boat. There can be no danger from capsizing as the outer cylindrical housing may roll as much as it pleases without rotating the inner housing through more than a few degrees. The cylindrical housing is provided with ballast 33 that tends to keep it in position with the door 25 to the top, so that when the waters become quiet the two housings will automatically assume a relative position in which the doors 25 and 26 are directly over and under each other. It is evident that when my device is employed, the passengers will remain dry and warm. As plenty of fresh water and food can be carried the passengers can exist indefinitely. Radio equipment for receiving and sending may be provided, also electric lights. Rockets and other signals may be set by the man who goes up the tube 18. A rope 34 may be attached to one of the eyelets 32 and a buoy 35 attached to the end thereof, so that rescuers may conveniently clamp the rope and tow the device.

In Fig. 4 I have shown a modified form in which the cylindrical housing is made in one section and in which the inner housing is supported at one end by a trunnion 36 that is hollow and to which the pipe 37, which corresponds to pipe 18, is secured. By this construction the ring 4 and the means by which it is attached to the sections 1 and 2 is eliminated.

From the above description, it will be apparent that I have produced a life saving device that can be safely launched in any kind of weather, which cannot capsize and which will keep the passengers dry.

In this application I have shown one embodiment of my invention, but it is evident that such modifications may be made as may be found necessary without departing from the invention as defined in the attached claims.

Having described my invention, what I claim as new is:

1. A life saving device comprising, in combination, an elongated cylindrical member formed of two sections each being closed at one end and open at the other end, the open ends being placed in juxaposition, means for connecting the adjacent ends, said means being movable with respect to both sections, an elongated housing within said

cylindrical member and means for permitting said housing to rotate with respect to the cylindrical member.

2. A life saving device comprising, in combination, an elongated cylindrical member formed of two sections, each being closed at one end and open at the other end, the open ends being placed in juxtaposition, a U-shaped ring secured to each section adjacent the open end thereof, a ring member having a U-shaped ring secured to the inside thereof near each end, the rings on the ring member interengaging with the rings on the sections and means to hold the parts in assembled relation.

In testimony whereof I affix my signature.

FREDERICK W. LISKA.