A. E. KROSENG.

LIFE BOAT.

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1,285,241. Patented Nov. 19, 1918.

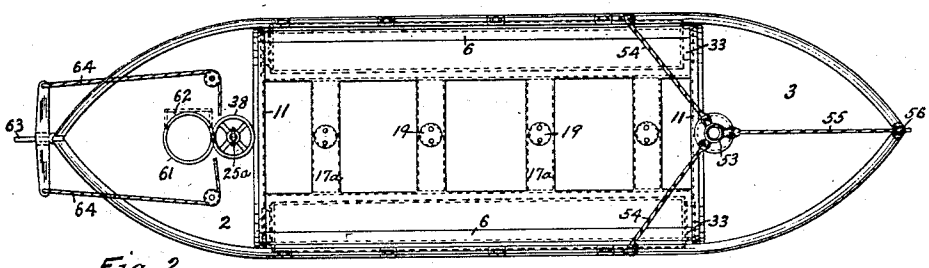


Fig. 2.

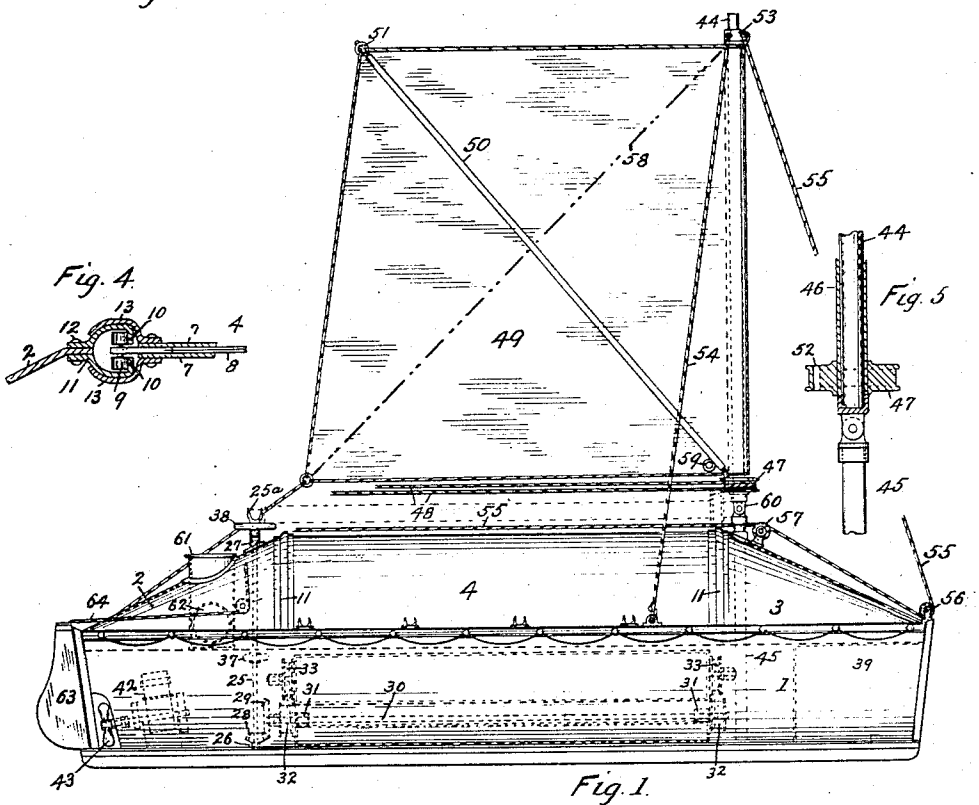


Fig. 1.

Fig. 4.

Fig. 5.

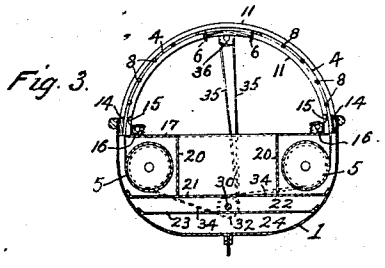


Fig. 3.

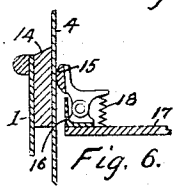


Fig. 6.

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LIFE-BOAT.

1,285,241. Specification of Letters Patent. Patented Nov. 19, 1918.

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To all whom it may concern:

Be it known that I, AXEL E. KROSENG, a subject of the King of Norway, and resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Life-Boats, of which the following is a specification.

The invention relates to improvements in lifeboats of the partially open type, and the object of the same is to provide a folding roof or closure for the open section thereof, that may be readily closed or opened for affording complete protection to the passengers against weather and sea conditions, and for securing the necessary ventilation and the desired freeboard. Further objects include means for providing a water tight joint between the movable closure and the body of the vessel, means for operating the closure both from the inside or the outside of the boat, means for increasing the ship's buoyancy in case of accidental leakage, and means for folding the ship's sail about the mast and housing the same when not required for use. And the invention also includes certain details of construction hereinafter set forth.

In describing the invention in detail, reference is had to the accompanying drawings, forming a part of this specification, and wherein like characters of reference are used to designate corresponding parts throughout the several views, and in which:

Figure 1 is a side elevation of the boat, showing the closure in closed position; Fig. 2, a ground plan of the same, with the closure open; Fig. 3, a transverse section through the boat and closure; Fig. 4, an enlarged sectional detail view of the marginal connections of the closure and the runway therefor; Fig. 5, a detail view of the mast connections, shown partially in section; and Fig. 6 is a detail sectional view showing means for making a tight joint between the movable closure and the body of the boat.

In the drawings numeral 1 designates the hull or body of the boat, provided with the fore and aft closed deck sections 2 and 3 respectively, the same being spaced apart and bounding amidship opening in the deck arranged to be inclosed by the two-part flexible folding closure 4, the two parts or sections closing together at the top.

At their lower longitudinal ends, the closure sections are mounted upon the rotatable hollow cylinders or drums 5, while their opposite upper ends are carried by longitudinal angle bars 6. The closure sections are preferably made of a double layer of flexible material 7, composed of canvas, or a union of canvas and rubber, the layers being connected together in any approved manner and provided with a series of interposed longitudinal reinforcing wires or rods 8, to the terminals of which are secured the roller connections 9, arranged to engage the interior seats 10, formed on the runways 11. As herein shown, each runway is formed of two members, constituting a semicircular frame, open at opposite ends, and provided along its inner face with a slot, forming a passage for the roller connections 9. The runways are fixed to the opposite inner edges of the deck sections 2 and 3 by the rivets 12, and an exterior sliding joint is made between the same and the closure sections by means of the packing strips 13, the latter being preferably formed of rubber, shaped to yieldingly engage and slide over the surface of the runways, and for fixed connection to the closure sections. On opposite sides of the boat and fixed to the gunwales thereof are longitudinal packing strips 14, which slidingly engage the outer surfaces of the closure sections between the packing strips 13 thereon.

To effect the adjustment and the water-tight engagement between the longitudinal packing strips 14 and the closure sections, the latter are engaged at their inner opposite surfaces by the longitudinal tension bars or shoes 15, pivotally mounted upon the longitudinal angles 16, fixedly secured to the runways 11 and to the platform 17. As indicated more clearly in Fig. 6, the tension bars are provided with convex bearing surfaces which yieldingly engage the interior surface of the closures by means of the compression springs 18, the tension of which may be adjusted in any approved manner, and in case of high seas may be locked to any desired degree, whereupon, in its action in opposition to the exterior packing strips 14, will secure the interposed closure sections in water-tight relation with the body of the boat.

The platform 17 serves as seats or for general purposes of the passengers, cross seats 17^a, on a corresponding level being provided for the oarsmen, which latter seats are also preferably utilized as the upper walls

of provision chambers, accessible through the flush covers 19. The platform is supported through the vertical walls 20 from the floor 21, the latter being closely jointed to the walls of the boat serves as the upper wall of the air-chamber 22, the lower wall 23 of which, being also closely jointed to the side walls of the boat, serves as the upper wall of a fresh-water chamber 24.

In the operation of the two-part closure, the upper part of the sections are movable toward and from each other by means (indicated in dotted lines) of the vertical shaft 25, rotatably supported in the bearings 26 and 27, and arranged to transmit its movement through gears 28 and 29 to the horizontal shaft 30, carried in the bearings 31 and provided at its opposite ends with the fast rope-wheels 32, adapted through a series of ropes to engage and exert a uniform tension on the opposite ends of the closure sections to effect an even movement thereof throughout its entire length. As heretofore mentioned the lower ends of the closure sections are connected directly to the drums 5, the length of the latter corresponding with that of the straight surface of the closure sections between the inside edges of the packing strips 13. At opposite ends of the drums rope-wheels 33 are provided, on which are coiled around and fixed one end each of a set of ropes 34 (two for each drum), the opposite ends being coiled around and fixed to the shaft wheels 32, the ropes from the separate drums leading respectively to the upper and lower sides of the shaft wheels to effect a corresponding opening action from both drums by the rotation of shaft 30. In the opposite rotation of the latter, the tension on ropes 34 is released and transferred to the ropes 35, which serve to unfold and close up the closure sections. Ropes 35 are separate from those marked 34, but like the latter require a corresponding number for the set, the lower ends thereof being coiled around in one direction and fixed to the wheels 32, while the upper ends pass in opposite directions around wheels 36, the latter being loosely mounted centrally to the inside of the runway frames 11 and disposed tangent to the circular path of the upper legs of the angle bars 6, carrying the upper ends of the closure sections. The upper ends of the ropes 35 in passing around the wheels from one side are connected to the angle bars on the opposite side in such manner that a pulling action on the ropes tends to draw the angle bars toward each other and effect the closing movement of the closure sections. For the motion of the latter an interior hand-wheel 37, fast upon the shaft 25, is provided, and for effecting this movement from the outside, a hand-wheel 38 is secured to the outer end thereof.

In order to provide buoyancy for the boat in case of accidental leakage, a series of air-chambers, indicated by numerals 22 and 39 are fitted within the hull, and for securing a further buoyant effect the closure-drums 5 are formed of comparatively thin cylindrical shells constituting water-tight air-chambers, adapted by their relative size to largely offset the weight of the interior parts.

The boat is also provided along its opposite sides with looped safety-lines 40, and is also fitted with oarlocks 41 that may be used when the closure sections are open for propelling the boat by means of oars from the seats 17ª. Power propulsion is also provided for by the engine 42 and the screw 43.

Means are likewise provided for sailing the boat consisting of the central mast member 44, pivotally mounted above the forward deck section 3 upon the step-post 45. Upon the mast member 44 is rotatably mounted the tubular sail member 46, upon which is fixed the rope-wheel 47, provided with the ropes 48, adapted to rotate the tubular sail member for winding up and unwinding the sail 49, fixed thereto, the sail being provided with a diagonal spar 50, having offset ends, loosely fitted for detachment at the upper end in the sail-ring 51 and at the lower end in the perforation 52 of the rope-wheel 47. At the upper end of the central mast member 44, a stay-block 53 is secured and provided with the stay-ropes 54 and 55, the former being made fast to the gunwales of the boat and the latter passed around a sheave-wheel 56 at the bow and led to the stern over the wheel 57. The sail may be regularly used in the form shown, or, in heavy weather, the spar 50 may be removed and the sail folded along the broken line 58, with the free upper corner 51 reeved to the sail-ring 59, thus forming a triangular sail that may when required be readily wound up about its supporting member 46 by means of the ropes 48. In which folded position the mast may be housed by releasing the stay-rope 55, allowing the mast to swing sternward about the hinge 60, and rest in a horizontal position, with the free end carried in the swivel fork member 25ª, loosely mounted in the upper end of shaft 25, the lower position of the mast being indicated in dotted lines.

Extending downwardly through the deck section 2 into the body of the boat is a water-tight pilot-pit 61, provided near the base with a man-hole 62, the latter having a hinged cover fitted with a gasket in well-known manner for making a tight joint. Communication may be had through the man-hole between the interior of the boat and the pilot-pit, from which latter point the closure sections may be readily operated by means of the hand-wheel 38, shaft 25, gears 28 and 29, shaft 30 and through the several connected ropes. Also from the pilot-pit the rudder 63 may be operated to

steer the boat by means of the ropes 64, likewise the sail may be controlled from this point by the several ropes and lines leading thereto.

As thus constructed, it will be obvious that the boat may be navigated by a single man and that full protection against adverse sea and weather conditions and imperfect ventilation will be afforded the passengers.

What I claim as my invention and desire to secure by Letters Patent, is:

1. A lifeboat comprising a hull, a deck extending above the gunwales of the boat and provided with an opening therein, a flexible closure for said opening having slidable connections with the inner edges thereof, means for packing said slidable connections, and joint means for operating said closure from above and below said decks.

2. A lifeboat comprising a hull, a deck extending above the gunwales of the boat and provided with an opening therein, a flexible two-section closure for said opening having slidable connections with the inner edges thereof, means for packing said slidable connections, and joint means for operating said closure sections from above and below said decks.

3. A lifeboat comprising a hull having fore and aft deck sections bounding a midship opening, a pilot-pit extending through and opening above one of said deck sections and provided with a closed bottom, runways provided along the opposite inner edges of said deck sections, a flexible closure mounted in said runways and arranged to close said opening, and means leading exterior of said boat and adjacent said pilot-pit for operating said closure.

4. A lifeboat comprising a hull, a deck therefor extending above the gunwales of the boat and provided with an opening therein, a two-section closure for said opening having the meeting edges of said closure sections extending longitudinally of the boat, means for mounting said closure sections in sliding engagement with the inner edges of said opening, and means for jointly operating said closure sections to vary the freeboard of the boat.

5. A lifeboat comprising a hull, a deck therefor extending above the gunwales of the boat and provided with an opening therein, runways formed along the transverse opposite inner edges of said opening, a two-section flexible closure mounted in said runways and engaging the longitudinal edges of said opening and having the upper meeting edges of said closure sections extending longitudinally of said boat, drums rotatable within the boat and connected to the opposite lower longitudinal edges of said closure sections, and means acting through said drum for jointly operating said closure sections to vary the freeboard of the boat.

6. In a lifeboat the combination with the deck having an opening therein, of a flexible closure for said opening having slidable connection with the inner edges of said opening, means for packing said slidable connection, and means for operating said closure.

7. In a lifeboat the combination with the deck having an opening therein, of a flexible two-section closure for said opening having slidable connections with the inner edges of said opening, means for packing said slidable connections, and means for operating said closure.

8. In a lifeboat the combination with the deck having an opening therein, of a flexible closure for said opening, a tubular air-chambered drum connected to said flexible closure, and means for rotating said drums.

9 In a lifeboat the combination with the deck having an opening therein, of a flexible two-section closure for said opening, tubular air-chambered drums connected to said closure sections, and means for rotating said drums.

Signed at New York, in the county of New York and State of New York, this 17th day of June, A. D. 1918.

AXEL E. KROSENG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."