(No Model.)

H. A. STEVENS.

LIFE SAVING APPARATUS.

No. 494,090. Patented Mar. 21, 1893.

FIG. 1.

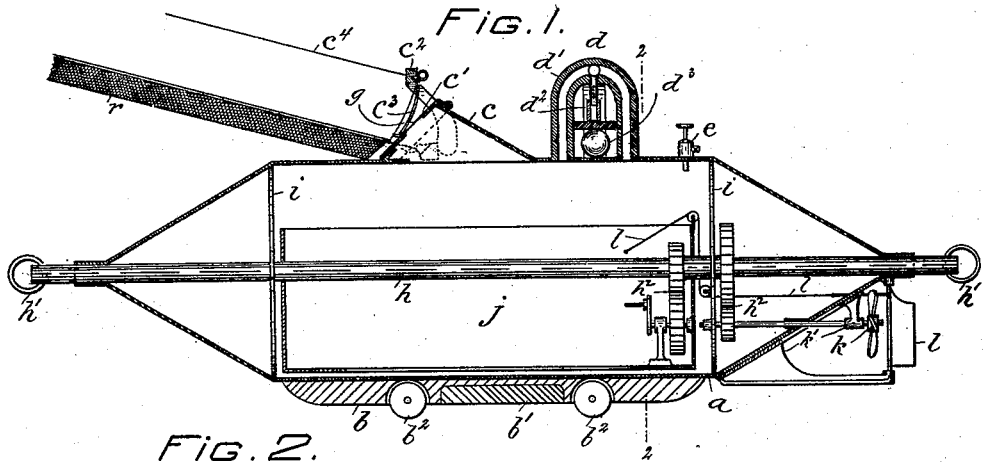

FIG. 2.

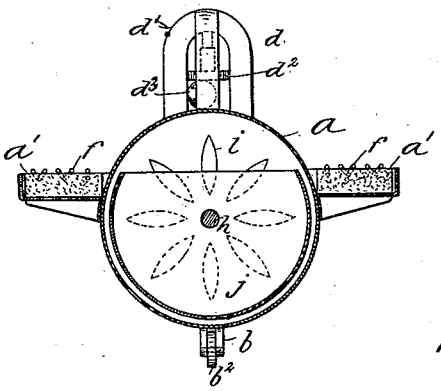

FIG. 3.

WITNESSES:
Thomas M. Smith.
Richard B. Maxwell.

INVENTOR.
Henry A. Stevens,
BY J. Walter Douglas.
ATT'Y.

UNITED STATES PATENT OFFICE.

HENRY ALEXANDER STEVENS, OF NORRISTOWN, ASSIGNOR OF ONE-HALF TO J. WALTER DOUGLASS, OF PHILADELPHIA, PENNSYLVANIA.

LIFE-SAVING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 494,090, dated March 21, 1893.

Application filed September 10, 1892. Serial No. 445,539. (No model.)

To all whom it may concern:

Be it known that I, HENRY ALEXANDER STEVENS, a citizen of the United States, residing at Norristown, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Life-Saving Apparatus, of which the following is a specification.

The principal objects of my present invention are first, to provide a strong, durable, efficient, seaworthy and practically unsinkable hollow life-car or boat within which ten or more passengers may be comfortably transported and which may be safely and advantageously used during severe storms or hurricanes for ferrying persons from a stranded or disabled ship or craft to the shore, or as a means of escape from a ship or craft sinking in the open sea; second, to provide means for permitting the passengers to safely disembark from a sinking or stranded ship or craft and to embark in the life-car or boat; third, to provide such a life-car or boat with appliances for maintaining it in normal position; fourth, to provide means for admitting air to the interior of the life-car or boat while the same is in normal position and for automatically excluding any possible ingress of water through air supply channels when the car or boat is buffeted or otherwise shifted by the waves out of its normal position; fifth, to afford the exterior shell of the car or boat a range of movement independent of the portion thereof that accommodates the passengers, whereby the latter are protected from accidental injury; sixth, to provide means for automatically closing the hatch-way in order to prevent accidental admission of water and for opening the same in order to permit of the ingress and egress of passenger; seventh, to provide devices for propelling, steering and otherwise navigating the life-car or boat; and eighth, to provide the life-boat or car with attachments to enable it to be drawn onto the shore or beach.

My invention consists of a life-boat or car having lateral wings, an internal swinging car, propelling appliances and mechanism, means for permitting of the ingress of air in its normal position and for preventing ingress of water in its abnormal position and spring controlled means for affording access to the internal swinging car, the construction being such that water is prevented from entering the internal portions while at the same time sufficient light is afforded the pilot to enable him to discern at all times external surroundings for the guidance and direction of the car or boat with respect to its position in the water and its proximity to the sinking ship or craft.

My invention further consists of a life boat or car comprising a hollow shell or skin tapering to a point or made conical at each extremity and having buoyant projecting wings, a passenger basket suspended within the shell or skin, and automatic means for permitting of the ingress of air when the boat or car is in normal position; and my invention further consists of the improvements in life saving apparatus hereinafter described and claimed.

The nature, scope and general characteristic features of my invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof; and in which

Figure 1, is a view illustrating a central section of a life-boat or car embodying features of my invention. Fig. 2, is a transverse section taken on the line 2—2, of Fig. 1; and Fig. 3, is a diagrammatic view illustrating one way in which my life saving apparatus may be employed.

In the drawings a, is an exterior shell or skin tapering to a point at each of its extremities. This shell is provided with sidewise projecting wings a', of buoyant material as cork, that serve to cause the shell a to float upon the water like a duck and to prevent rolling out of normal position therein.

b, is a keel applied to the lower portion of the shell or skin a, and provided with a counter weight b', for righting the boat or car, and with wheels or rollers b^2, to facilitate the operation of drawing the boat or car onto shore or over a plank on the beach.

c, is a hatchway provided with a pivotal hatch c', and with a yoke c^2.

c^3, are springs for normally closing the hatch c', and for maintaining it water-tight.

c^4, is a cord passing through a suitable pul-

ley or eye in the yoke c^2, and adapted to afford means for opening the hatch c', in the manner to be hereinafter more fully explained.

d, is a valve adapted to admit air to the interior of the shell or skin when the same is in normal position, and constructed in such manner that it is automatically closed to prevent the admission of water when the shell or skin is shifted out of normal position. In the present instance this valve d, comprises a spider-frame provided with an air-inlet, a sleeve d^2 for opening and closing the air-inlet and a ball d^3, working within the spider frame d', and acting by gravity to shift the sleeve d^2, out of its normal position into position for closing the air inlet or inlets whenever the shell or skin a, is inverted.

e, is a pump and its complemental connections for permitting of the removal of any water that may incidentally accumulate within the shell or skin.

f, are life lines suitably secured to the wings a'.

g, is a window of canvas or other preferred material inserted in the hatch c'. The life-lines f, and window g, are availed of in the ordinary working of the life-boat or car.

h, is a spar or rod that extends longitudinally of the shell or skin a, and projecting from the respective extremities of the points thereof.

h', are eyes attached to the projecting ends of the spar or rod h, for a purpose to be presently explained.

i, are transversely ranging partitions that serve to add rigidity and strength to the shell or skin a, and serve to form air chambers or compartments at the respective extremities thereof.

j, is a basket or cradle adapted for the accommodation of passengers and suspended from the spar or rod h, in such manner that it remains in upright position even when the exterior shell or skin a, may by a storm or the waves be caused to roll over and over.

k, is a screw propeller carried by a suitable frame-work k', secured to the exterior of the shell or skin a. This screw propeller k, may be rotated through the instrumentality of suitable gearing k^2, either by means of an electric motor and its complemental storage battery or as in the present instance by a hand operation.

l, is a rudder and its complemental steering gear suitably connected with the frame-work k', and adapted to direct the course of the life boat or car.

The hereinabove described life-boat or car may be employed to ferry passengers from a stranded or disabled ship, craft or vessel to the shore or land in the following manner:—Referring more particularly to Fig. 3, a life-line is shot or otherwise propelled from the shore m, to the stranded or disabled vessel n, and the block or pulley o, is drawn on board the ship by means of the life line. This block or pulley carries a rope q, the respective extremities of which are made fast to the rings or eyes h', of the life-boat or car, so that by connecting the block o, with the ship, craft or vessel, and by employing a suitable winch p, it is possible to tow the life car or boat back and forth between the vessel and the shore and to transfer persons safely from the former to the latter. In order to enable the passengers to descend safely from the stranded craft or vessel n, to the life-car or boat, use may be made of a canvas chute or ladder r, one end of which is secured to the side of the hatchway c, and the other end of which may be drawn on board the ship, craft or vessel n, by means of a hand line and then secured thereto. When not in use the chute or ladder may be stowed inside or lashed outside of the life-boat or car. The passengers slide, walk, creep or otherwise traverse the chute or ladder from the vessel or ship to the life-boat or car. In such case the hatch c', may be opened from the ship, craft or vessel by means of the cord c^4, in order to permit of the ingress of passengers from the ladder or canvas r. When the life-boat or car is intended to be towed, for example, in the manner above explained, the screw-propeller k, rudder l, and their accessories may be omitted.

The hereinabove described life-boat or car may also be advantageously employed as a means of escape from a vessel or ship that is sinking in mid-ocean or upon the open-sea. In such case the passengers may be placed on board the life-boat or car and the hatch c', closed before the boat or car is lowered into the water. After the life-boat or car has been launched and cast adrift, the screw-propeller k, rudder l and their accessories afford means whereby the same may be navigated.

It will be obvious to those skilled in the art to which my invention appertains that modifications may be made in details without departing from the spirit of the invention, hence I do not limit myself to the arrangement of the parts or appliances hereinbefore explained and illustrated in the drawings.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A life-boat or car having a hollow shell or skin tapering to a point at each extremity and provided with buoyant projecting wings, a pivotally supported passenger basket or cradle mounted therein, automatic means for admitting air to and excluding water from the interior of the car, a spar or rod ranging longitudinally of said shell or skin and forming the support for said car or cradle, and provided with eyes or rings, and a rope and its complemental connections, substantially as and for the purposes set forth.

2. A life-boat or car, comprising a hollow

shell or skin tapering to a point at each extremity, buoyant projecting wings, automatic means consisting of an air inlet, a sleeve, a spider-frame and a weight working within the spider-frame and adapted to operate the sleeve, substantially as and for the purposes set forth.

3. In a life saving apparatus, a car or boat consisting of a hollow shell or skin tapering to a point at each extremity and having buoyant projecting wings and a normally closed hatch provided with a flexible ladder or chute, and a cord and its complemental connections for opening the hatch, substantially as and for the purposes set forth.

4. A life saving boat or car provided with buoyant wings, an internally swinging cradle or basket, automatic means for the admission of air and exclusion of water, and a spring controlled hatch, substantially as and for the purposes set forth.

5. In a life saving apparatus, a car or boat consisting of a hollow shell or skin tapering to a point at each extremity and having buoyant projecting wings, means for admitting air to and excluding water from the basket or cradle, and a spar or rod ranging longitudinally of said shell or skin and forming the support for said basket or cradle, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

HENRY ALEXANDER STEVENS.

Witnesses:
EUGENE D. EGBERT,
H. T. ROYER.