

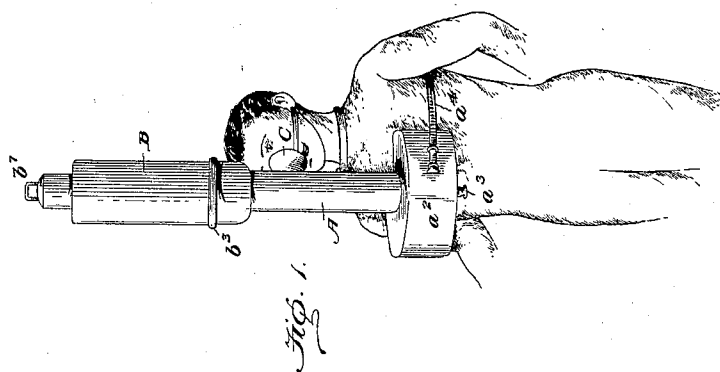
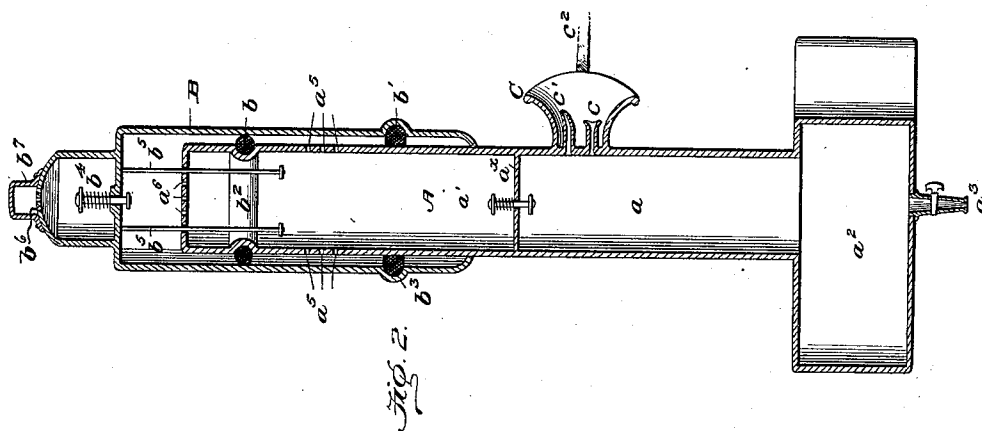
No. 639,790.

Patented Dec. 26, 1899.

F. STRATTNER.
LIFE PRESERVER.

(Application filed Apr. 22, 1899.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

FREDERICK STRATTNER, OF SALISBURY, MARYLAND.

LIFE-PRESERVER.

SPECIFICATION forming part of Letters Patent No. 639,790, dated December 26, 1899.

Application filed April 22, 1899. Serial No. 714,097. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK STRATTNER, a citizen of the United States, residing at Salisbury, in the county of Wicomico and State of Maryland, have invented certain new and useful Improvements in Life-Preservers; and I do hereby 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.

My invention relates to certain improvements in life-preservers and is equally applicable for submarine purposes.

It has for its object principally to promote safety and endurance of the person in the water or surf and to enable his descent therein for submarine purposes.

It consists of the detailed construction and combination of parts, substantially as hereinafter more fully disclosed, and specifically pointed out in the claims.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a perspective view showing the application thereof for use. Fig. 2 is an enlarged sectional elevation thereof.

In carrying out my invention I employ a preferably cylindric closure or chamber A, subdivided into two compartments a' by a valved partition a^x , the lower or respiratory compartment terminating in a laterally-extended chamber or enlargement a^2 , if preferred, to increase buoyancy. Said last-described chamber or enlargement has a waste cock or valve a^3 for the discharge of any water which might have entered the closure or chamber A through the air inlets or openings hereinafter referred to. The chamber or enlargement a^2 is adapted to conform to the outline of the cross-section of the body of the person to be equipped with the same, and to the exterior of said chamber are suitably attached straps a^4 or other like means adapted to be secured around the body.

The upper compartment a' of the chamber or closure A has a series of air inlets or openings a^5 and similar air inlets or openings a^6 in its upper end or top, and compassing the upper-compartment end of said closure or chamber is a lower open-ended cylinder or piston B, with said end of said piston fitted

closely to said chamber. Around the piston B and between it and the chamber A are arranged packing-rings $b b'$, of rubber or flexible material, suitably seated in cavities $b^2 b^3$, formed in said piston and chamber, respectively, to effectively pack the parts at said points. By this arrangement it will be seen that an air-pump is provided to charge or supply the reservoir-compartment a' of the chamber or closure A with air under pressure to aid respiration, said air being properly delivered into the respiratory compartment a of said closure by means of the valve in the partition a^x . The piston B has a spring-pressed air-inlet valve b^4 in its upper end, being normally closed when the piston is at rest. Said piston has also depending from its upper end rods b^5 , passing through the upper end of the chamber or closure A and adapted to limit the upward movement or stroke of said piston, also to prevent the contacting of the packings $b b'$ in the movement of the piston. In the extreme upper end of the piston is a series of air-inlet openings b^6 , through which the external air passes into the chamber A via the valve b^4 . For convenience to actuate the piston it is provided with a handle b^7 upon its extreme upper end.

C is a flexible or elastic walled open chamber arranged upon the side of the closure or chamber A, and within said chamber are arranged two tubes $c c'$ for the mouth and nose, respectively, communicating with the respiratory compartment a , said chamber being adapted to be held to the face of the person by straps c^2 , suitably adapted to be passed around and fastened upon the head.

It will be understood that a chute (not shown) may be put into communication with the respiratory compartment a of the chamber or closure A, leading out beyond the outer end of said chamber or closure and having a valved outlet communicating with the external air, its valve adapted to open outward to permit egress of the air, but to cut off accidental ingress of water.

It will be seen that with the device suitably strapped to the body and other part or head of the person to be equipped therewith, as herein illustrated, after said device has been charged with air by suitably actuating the piston B the person will be sustained or

floated in the water in case of a shipwreck or like emergency by reason of the buoyancy of said device; also, by the air circulation set up by the air under pressure in the closure-compartment a' , delivered via the valve in the partition a^x into the respiratory compartment a and thence to the breathing-organs of the person through the tubes $c c'$ in the chamber C and by the valved tube aforesaid, the person is enabled to "hold out" or possessed of greater endurance than could be otherwise the case. It will also be observed that this device could be used for submarine purposes or as a diving-bell by connecting therewith a pipe or tube extending to the surface and applying the piston thereto above the surface and otherwise adapting it to serve as an air-pump. It will also be seen that the tubes $c c'$ may be omitted and direct communication effected between the flexible or elastic walled chamber C and the respiratory compartment a of the chamber or closure A; also, if desired, the lateral extension or enlargement a^2 at the lower end of the chamber or closure A may be omitted or dispensed with.

It is obvious that the device may be applied to the back by suitable straps, &c., instead of as shown. I have details of construction and further improvements upon this invention in view, which may be made the subject of a later application; but the case herein shown and described embodies the salient features of my invention.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The life-preserver or float, comprising the chamber or closure, having respiratory and air-charged compartments, respiratory tubes, and a piston compassing the air-charged compartment of said chamber, and means adapted to permit the application of said closure or chamber to the body of a person, substantially as set forth.

2. The closure or chamber having an air-receiving compartment, and respiratory tubes, and a hollow piston compassing said chamber or closure and adapted to serve as a pump, and means adapted to permit the application of said closure or chamber to the body of a person, substantially as set forth.

3. The closure or chamber having air-charged and respiratory compartments and respiratory tubes, said compartments being separated by a valved partition, and a piston compassing said chamber or closure, and means adapted to permit the application of

said closure or chamber to the body of a person, substantially as set forth.

4. The closure or chamber having air-charged and respiratory compartments, separated by a valved partition, and a piston compassing the air-charged compartment of said closure, said chamber or closure having a flexible or elastic walled open chamber in communication with the respiratory compartment and adapted to be applied to the face; substantially as set forth.

5. The closure or chamber having air-charged and respiratory compartments, a piston compassing the air-charged compartment of said closure, and the lateral flexible or elastic walled face-chamber having breathing-tubes therein, and means to connect it to the head.

6. The closure or chamber having air-charged and respiratory compartments, the lower end lateral enlargement or compartment, the flexible or elastic walled face-chamber in communication with the respiratory compartment, and the hollow piston compassing the air-charged compartment of said chamber or closure and adapted to serve as an air-pump, substantially as set forth.

7. The combination of the closure or chamber subdivided into air-charged and respiratory compartments, and provided with respiratory tubes, the hollow piston compassing the air-charged compartment and packing arranged in cavities or depressions formed in said chamber or closure and piston, respectively, substantially as set forth.

8. The combination of the chamber or closure having respiratory and air-charged compartments separated by a valved partition, the respiratory compartment having a flexible or elastic walled face-chamber, and the hollow piston compassing the air-charged compartment and provided with a valved air-inlet and pendent guide-rods adapted to move through the upper end of said chamber or closure a predetermined extent, said chamber or closure and piston, each having air-inlet openings, means for actuating said piston, and means for applying or connecting said closure or chamber to the body, substantially as specified.

In testimony whereof I affix my signature in the presence of two witnesses.

FREDERICK STRATTNER.

Witnesses:

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HERBERT D. LAWSON.