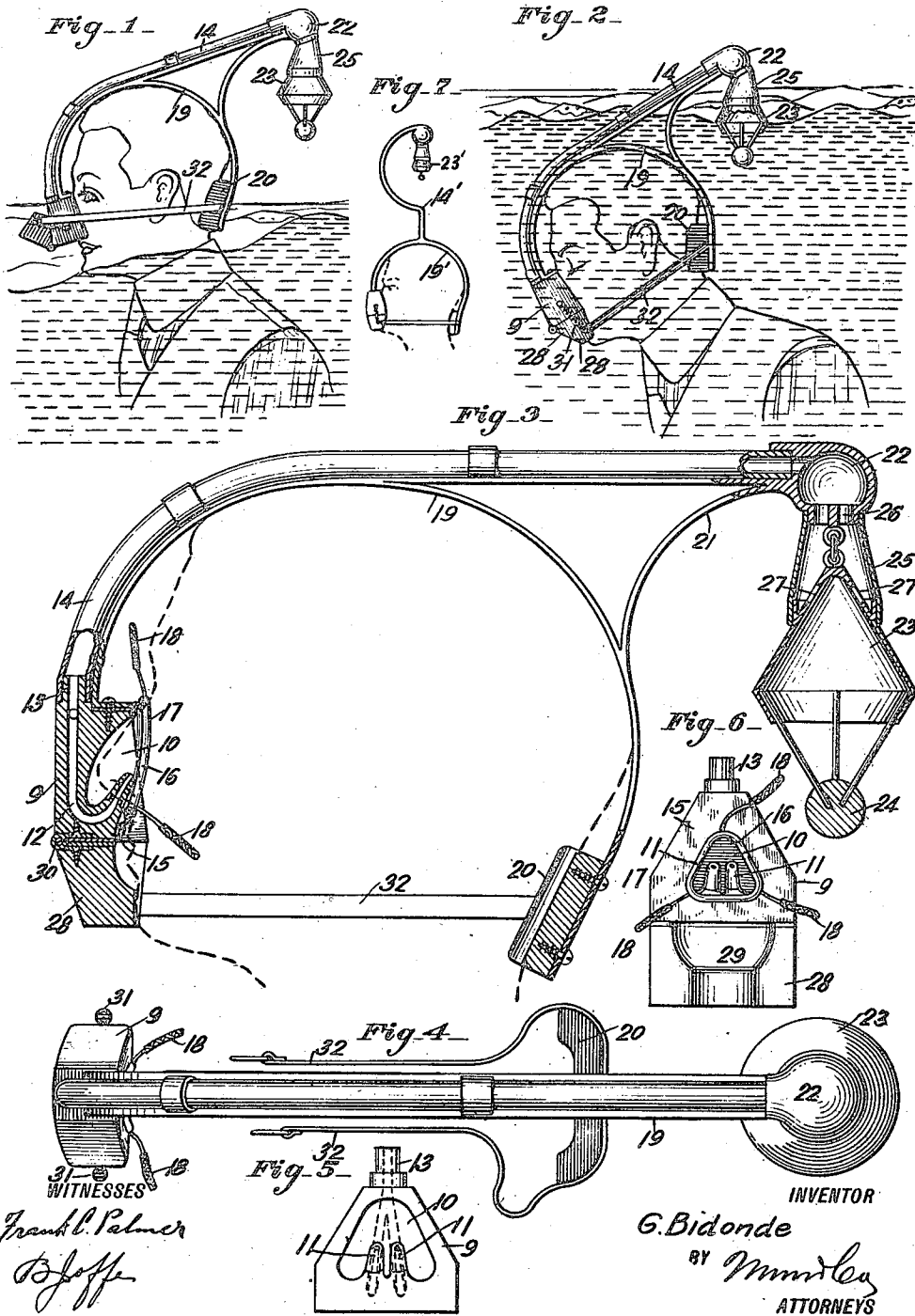


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LIFE PRESERVER.
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GRATIEN BIDONDE, OF NEW YORK, N. Y.

LIFE-PRESERVER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GRATIEN BIDONDE, a citizen of the United States, and a resident of the city of New York, Richmond Hill, borough of Queens, in the county of Queens and State of New York, have invented a new and Improved Life-Preserver, of which the following is a full, clear, and exact description.

10 The invention relates to life preservers and has reference more particularly to an apparatus for supplying air to a person having his head partially or totally submerged.

15 An object of the invention is to provide a simple and inexpensive apparatus which can be easily and quickly adjusted on the head of a person and engaged with his nostrils so that air can be received by the person from a point above the head.

20 Another object of the invention is to provide a device in which the air inlet is in the shape of an air bell and, therefore, when the same strikes the surface of the water, water is prevented from entering into the apparatus.

25 With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts as herein fully described, illustrated and claimed.

30 In the accompanying drawings, forming part of the application, similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of my apparatus as it would appear on a person swimming;

40 Fig. 2 shows the apparatus when the person is submerged and the air bell strikes the surface of the water;

Fig. 3 is an enlarged sectional view through the apparatus showing the details of construction;

45 Fig. 4 is a top plan view;

Fig. 5 is a side elevation of the nose piece, the rubber diaphragm being removed;

Fig. 6 is an inside elevation of the nose piece and the mouthpiece; and

50 Fig. 7 is a diagrammatic view of a modified form of the apparatus.

Referring to the drawings, 9 is the nose piece. It has a recess 10 on the inner face which forms the cavity for the nose. It has also a pair of tubular nostril plugs 11 which enter the nostrils when the nose piece is

fitted on the nose. It is self-evident that the nostril plugs 11 will vary, and they are preferably made detachable so they can be enlarged and made adaptable to different noses. 60 The tubular nostril plugs 11 register with passages 12 in the nose piece, the passages merging into a nipple 13 to which a tube 14 may be attached.

To insure a tight joint between the nose 65 and the nose piece 9, a rubber diaphragm 15 is provided on the inner face of the nose piece. The diaphragm has a substantially triangular aperture 16 reinforced at the edge by a rubber bead 17. The diaphragm 15 can 70 be stretched by flexible members 18 anchored to the diaphragm at the bead, preferably at the corners, which are rounded to obtain a better fit between the nose and the nose piece. By pulling on the flexible members 75 18 the diaphragm may be drawn tight about the nose engaged in the recess 10 and with the nostril plugs 11.

The nose piece 9 is suspended from one end of a yielding brace 19, the other end of 80 which carries a neck piece 20. The brace is shaped to straddle the head of a person, as shown in the drawing; and the resiliency is such that when it is brought into engagement with the head the nose piece is drawn 85 tightly against the face. The brace 19 has a bracket 21 extending rearwardly which carries a socket 22, the socket being connected to the tube 14 so that the nipple 13 of the nose piece is in communication with 90 the socket 22. An air bell 23 of the diver type is suspended from the socket 22 to swing. A weight 24 extends from the air bell so that the air bell is always suspended from the socket in a substantially vertical 95 position. The air bell is in addition connected to the socket 22 by a flexible sleeve 25 into which openings 26 from the socket and openings 27 from the bell enter. This sleeve 25 allows free swing to the bell with- 100 out cutting off communication between the openings 26 and 27; therefore, air can easily circulate from the bell through the tube 14 and through the nostril plugs.

The device when fitted on to a person will 105 allow the person to inhale through the nostrils even when the nose is below the water level, providing the air bell is above the water level. If a wave strikes the bell the air therein prevents the water from entering 110 and a number of breaths can be taken by the person before the water will have a

chance to enter the tube 14. It is self-evident that the person exhales through the mouth, and to prevent an accidental inhalation through the mouth during excitement, I provide a mouthpiece 28 which is hinged to the nose piece and which has a suitable recess 29 to better fit the person's mouth. The hinge 30 is located on the outer face so that the mouthpiece can be thrown outwardly to allow the person to expectorate. Preferably springs 31 are provided on the sides to retain the mouthpiece 28 in either operative or in inoperative position. To better retain the device against the face, I provide in addition elastic members 32 which extend from the mouthpiece to the neck piece 20.

In cases where it is desirable to allow the person a greater submergence, the tube 14 may be extended vertically above the brace 19, as shown in Fig. 7, in which case the tube 14' is raised materially above the brace 19' and the bell 23' suspended in a manner as described at the end of the tube. It is self-evident that if the tube 14' is of flexible material an extension from the brace must be made for the purpose, but if the tube is of rigid material then such an extension to the brace is not necessary.

A person equipped with such a device when thrown into water, even if not able to swim, will be able to maintain himself above the water for a long period, due to the fact that it would be impossible for the person to swallow water in the first excitement, which is generally the cause of drowning.

I claim:—

1. In a life preserver of the class described, a brace for engaging the head of a person, a nose piece attached to the brace having means for engaging the nostrils of a person, an air bell suspended from the brace, which is adapted to maintain the bell above the surface of the water, and a tube connecting the nose piece to the air bell whereby air may be supplied to the means for engaging the nostril.

2. In a life preserver of the class described, a brace for engaging the head of a person, a nose piece secured to the brace and having tubular nostril plugs for engaging the nostrils of a person engaged by the brace, a rubber diaphragm on the face of the nose piece having an opening for the nose, flexible means for stretching the diaphragm whereby the opening in the same may be drawn tightly about the nose, an air bell suspended from the brace to be maintained by the brace above the surface of the water, and a tube connecting the air bell to the tubular nostril plug.

3. In a life preserver of the class de-

scribed, a brace for engaging the head of a person, a nose piece secured to the brace and having tubular nostril plugs for engaging the nostrils, stretchable means on the face of the nose piece for forming a tight joint between the nose and the nose piece, means for stretching the stretchable means, a mouthpiece hinged to the nose piece to swing outwardly, yielding means connecting the nose piece to the mouthpiece, so that the same may be maintained in operative or in inoperative position by said yielding means, said nose piece having a passage leading to said tubular nostril plugs, an air bell suspended from the brace, means associated with the air bell to maintain the same in vertical position, and a tube connecting the air bell to the passage in the nose piece.

4. In a life preserver of the class described, a brace, a nose piece secured to the brace and having means for engaging the nostrils, means on the inner face of the nose piece for forming a tight joint between the nose and the nose piece, said nose piece having passages to said means for engaging the nostrils, a socket carried by said brace, a tube connecting said socket to the passages in the nose piece, an air bell suspended from the socket, a weight for maintaining the bell in vertical position, and a sleeve connecting the bell to the socket, said bell and socket having openings in said sleeve.

5. In a life preserver of the class described, a brace for engaging the head of a person, a nose piece attached to the brace and having means for engaging the nostrils of a person, an air bell suspended from the brace, means for maintaining said air bell in vertical position, and a tube from the nose piece to the air bell, including a flexible connection at the air bell to allow said bell to be maintained in a vertical position.

6. In a life preserver of the class described, a brace for engaging the head of a person, a face piece having means for engaging the nostrils of a person, an air bell, flexible means suspending the bell from the brace, a weight associated with the bell for maintaining the same in a vertical position and a tube connecting the face piece to the bell whereby air may be supplied to the means for engaging the nostrils.

7. In a life preserver of the class described, a brace for engaging the head of a person, a nose piece attached to the brace, air-supplying means suspended from the brace so that said air-supplying means are adapted to be above the water level when said brace engages the head of a person swimming, and a tube connecting the nose piece to the air-supplying means.

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