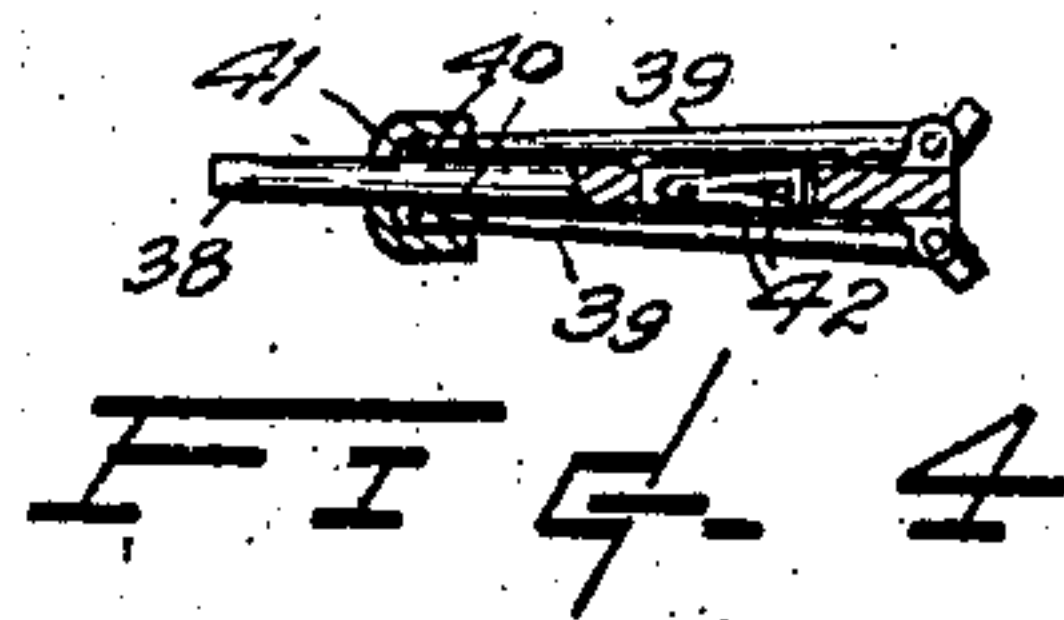
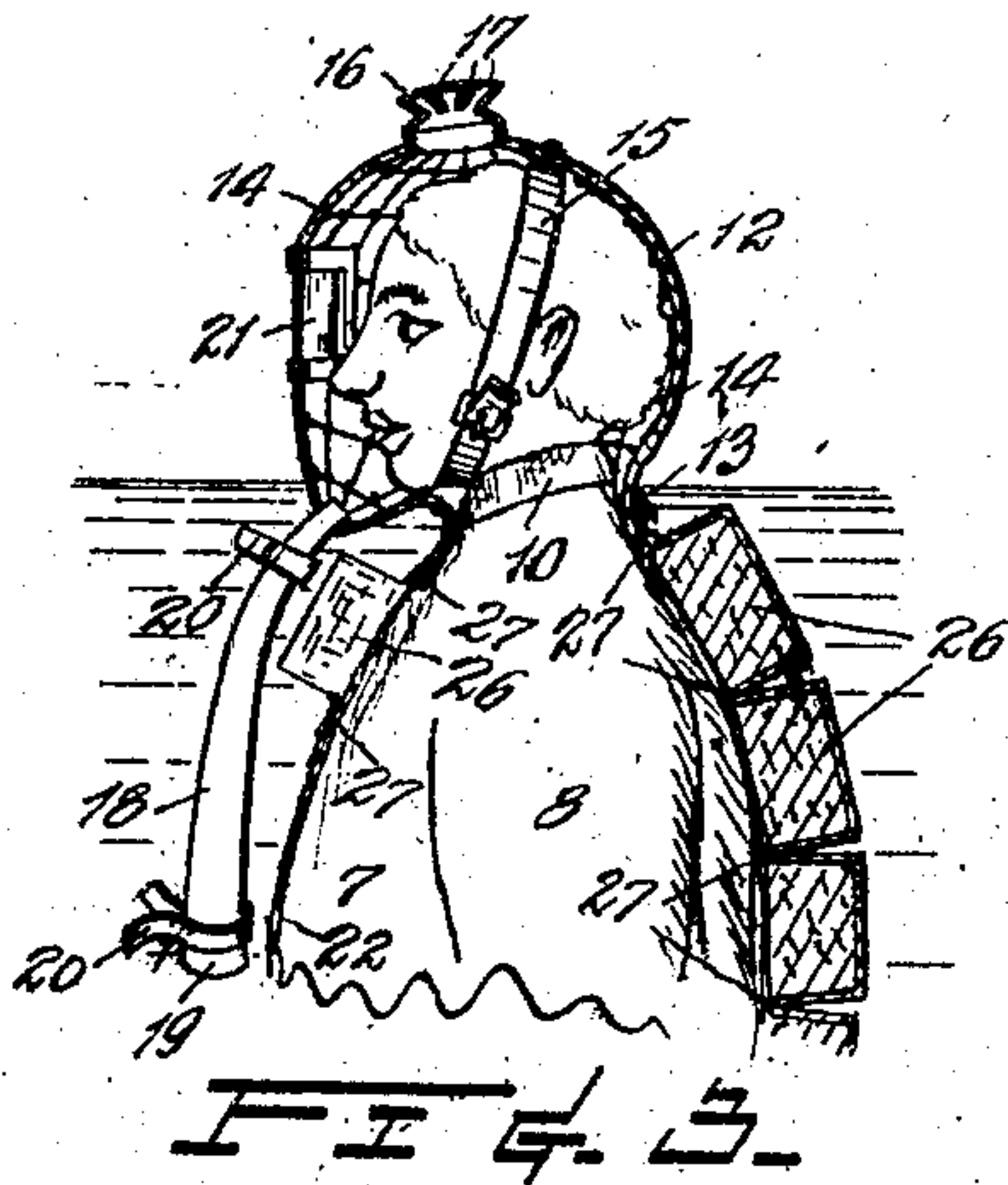
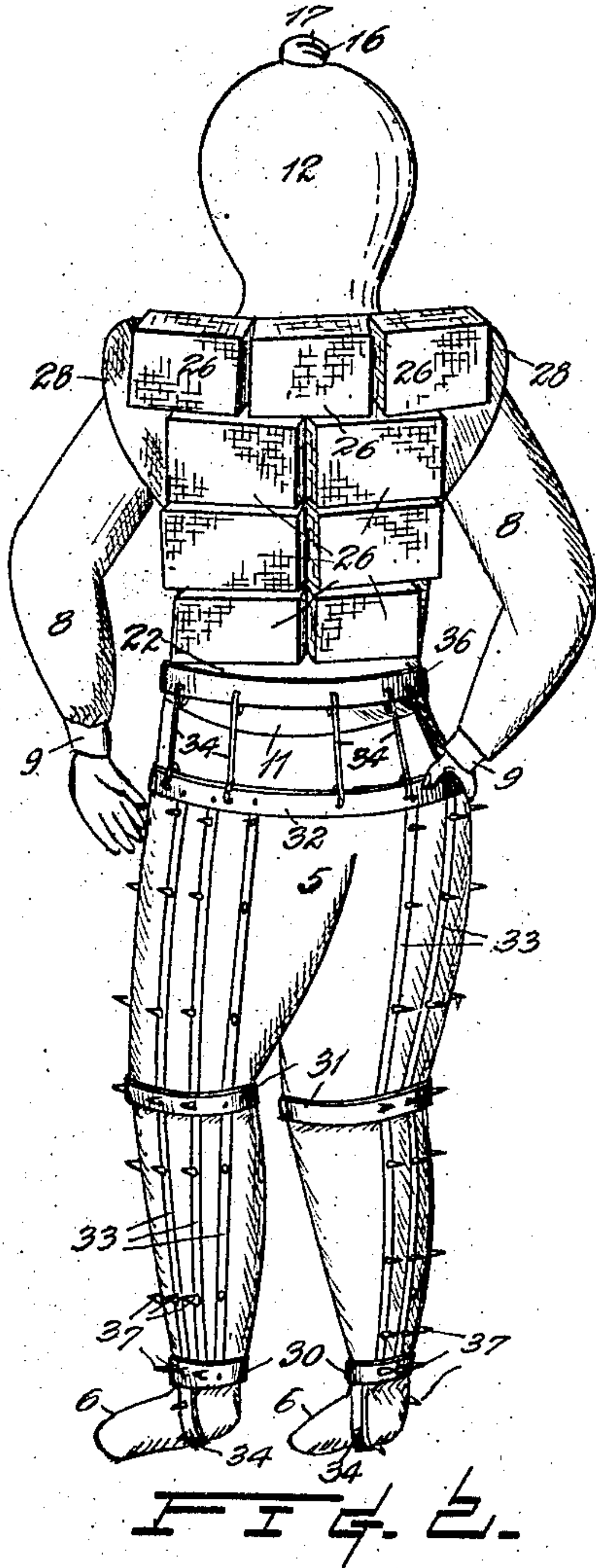
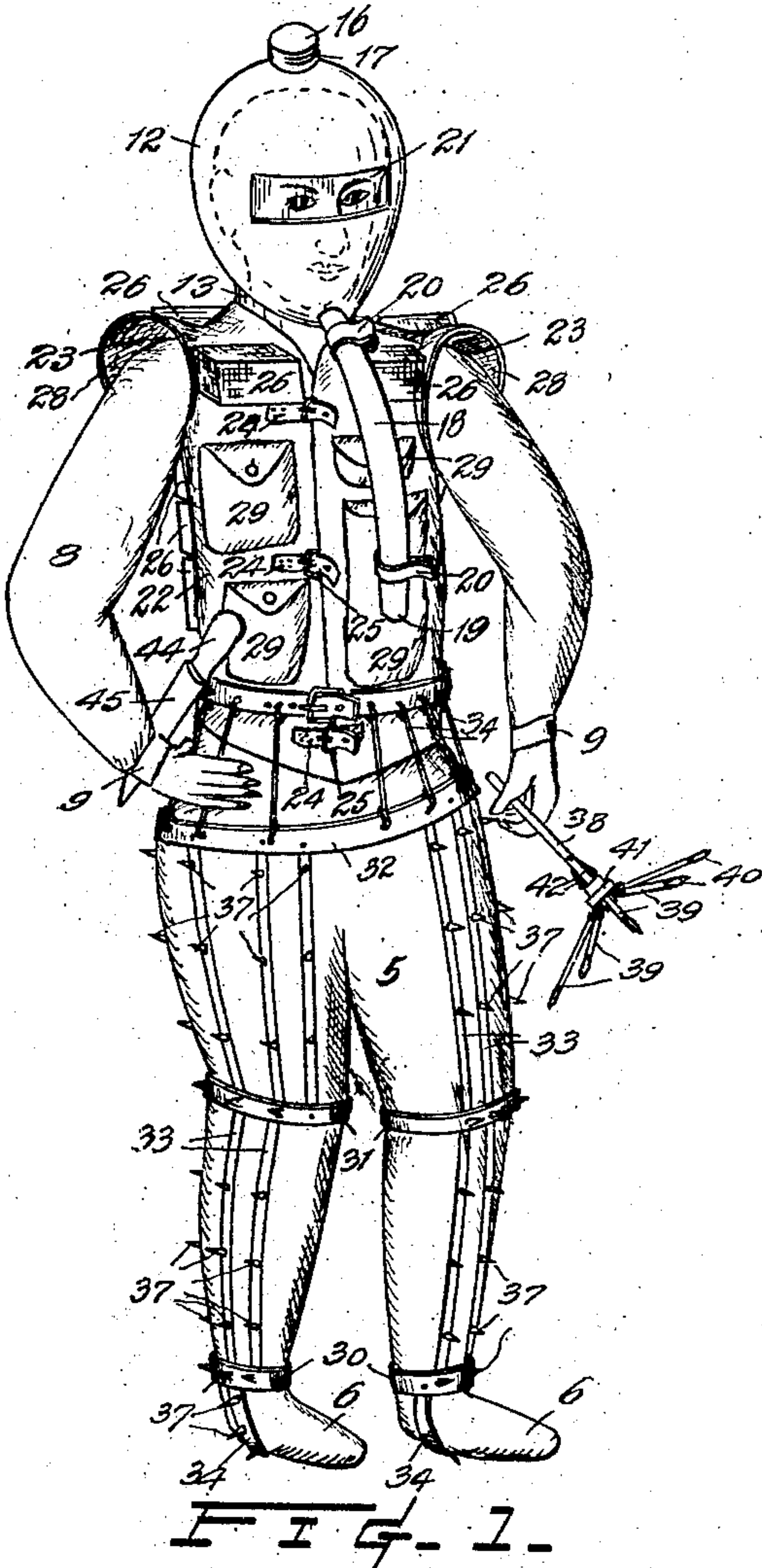


No. 363,787.

PATENTED AUG. 20, 1907.

L. D'ELIA.  
LIFE SAVING APPARATUS.  
APPLICATION FILED FEB. 13, 1906.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

LOUIS D'ELIA, OF SEATTLE, WASHINGTON.

## LIFE-SAVING APPARATUS.

No. 863,787.

Specification of Letters Patent.

Patented Aug. 20, 1907.

Application filed February 13, 1906. Serial No. 300,845.

To all whom it may concern:

Be it known that I, LOUIS D'ELIA, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Life-Saving Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a front perspective view of my invention shown in operative position upon a person; Fig. 2 is a like rear view; Fig. 3 is a fragmentary sectional view; and Fig. 4 is a detail view of a fish guard.

This invention has for its object the preservation of human life while in the water and contemplates not only the protection against drowning, but also from the onslaught of ravenous fish.

With these ends in view the invention consists in the novel construction, adaptation and combination of devices as hereinafter described and pointed out in the appended claims.

In the said drawings, the reference numeral 5 designates trousers having desirably, feet 6 formed integral therewith. The trousers are supported by shoulder straps, not shown in the drawings, and its waist band is of an elastic material or otherwise formed so as to make a non-leakable fit with the wearer's body thereat.

7 is a blouse, or shirt, having arms 8 which terminate in elastic wrist bands 9 and is provided with similar bands 10 and 11 at the neck and waist, respectively.

12 is a helmet adapted to entirely inclose the head and is provided with an elastic neck portion 13.

All of the aforesaid parts are of water-proof material, or of fabric lined or treated with such material so as to be impervious to water.

The helmet is provided interiorly with a frame-work of wire gauze 14, or an equivalent, capable of maintaining the fabric covering in a distended state; and is provided with a strap 15 adapted to be secured under the chin to reliably hold the back of the helmet against the person's head and thus insure an air space at the front.

Air is admitted and discharged from and to the external atmosphere through a turret 16 provided with vent apertures 17 at the upper end of its peripheral wall which is desirably formed with an annular inwardly extending V-shaped depression so that such apertures may be disposed obliquely and be less liable to admit water from the wave swash than if presented at right angles thereto. A supplemental air passage may likewise be had through a drainage tube 18 when its orifice 19 is held above the surface of the surrounding water. This

tube is connected to the helmet at such a place as to receive any water which has been admitted therinto, and, when unemployed, is closed by detachable spring-clips 20. Directly in front of the person's eyes in the helmet is a suitable transparent pane 21, such as isin-glass or celluloid, and through which an outlook is had.

22 represents a vest openable in front and having arm holes 23, and straps 24 and buckles 25, or equivalents, for securing the same about the trunk and over the aforesaid blouse. Secured to the vest, and principally at the back, are buoyant bodies 26 which may be of blocks of cork or hermetically tight cans of metal and are desirably connected to the vest by sewing covering cloths thereabout and furnishing marginal flaps 27 which can be conveniently sewed to the vest. In order that the upper row of said bodies may be extended beyond the breadth of the vest proper I form the epaulettes 28 to which the extremities of the outermost such bodies can be fastened without materially interfering with movements of the arms. The purpose of placing, as aforesaid, the greater number of the buoyant bodies at the back is to normally support the person in a forwardly inclined posture suitable for swimming and which posture may, if desired, be altered by a suitable positioning of the limbs.

The vest is provided with a number of pockets 29, 29', for the reception of provender, bottled beverages, and various devices which will be presently described.

Fitted loosely over the aforesaid trousers is a net-work comprising ankle belts 30, knee belts 31, a hip belt 32 and longitudinal strips 33 and is held in place by foot stirrup straps 34, secured to the lower ends, and supporting straps 35, connecting the hip-belt with a waist belt 36. Attached to and protruding outwardly from the strips 33 and the straps 34 are sharp pointed barbs 37 for the purpose of protecting the legs from being bitten by a man-eating shark commonly found in certain portions of the globe. To protect the remainder of the body, harping irons, see Figs. 1 and 4, are provided and are adapted, when distended, to be thrust into the mouth of an attacking fish.

The harping irons would desirably be carried in one of the said pockets, as 29', of the vest. 44 represents a knife carried in a sheath 45 attached to the belt 36, and may be utilized for a number of purposes, such as in offensive or defensive uses in the water, or in various employments after leaving the water.

The operation and advantages of the invention will, it is thought, be understood from the foregoing, and furnishes means to preserve a person's life against dangers which have heretofore been believed to be insurmountable as well as against the ordinary dangers of the sea brought about by shipwrecks or the like.

Having described my invention, what I claim as new and desire to secure by Letters-Patent, is—

1. In life saving apparatus, the combination with the water-proof garments including trousers and blouse, and a vest having buoyant bodies connected thereto, of a net-work adapted to be drawn over said trousers and provided with a plurality of barbs, and means to secure said net-work in place.

2. In life saving apparatus, the combination with the



water-proof garments including trousers, blouse and helmet, and a vest having buoyant bodies connected thereto, of a net-work adapted to be drawn over said trousers and provided with a plurality of barbs, and means to secure said net-work in place.

3. A life saving apparatus, comprising a vest having arm holes and extensions which surround such arm holes and project outwardly beyond the shoulders of the wearer, buoyant bodies secured to said vest on the back thereof and to said extensions, trousers, and protecting means engaging over said trousers and supported from said vest.

4. A life saving apparatus, comprising a vest, trousers, a waist belt, a hip belt, supporting straps connected to said waist and hip belts, longitudinal barbed strips connected to said hip belt, ankle belts connected to said longitudinal strips and foot stirrups connected to said ankle belts.

5. A life saving apparatus embodying a helmet formed with a turret, said turret having a closed top and being formed with an annular V-shaped depression in its peripheral wall and having apertures formed in the upper

portion of said depression to be thereby obliquely disposed.

6. A life saving apparatus embodying a helmet formed with a turret having vent apertures in its peripheral wall, said wall being formed with an annular depression to thereby dispose said apertures obliquely.

7. A life saving apparatus embodying trousers, a vest, longitudinal barbed strips supported at one end from the foot of the wearer and at the opposite end from said vest, and barbed ankle and knee belts engaging said strips.

8. A life saving apparatus embodying trousers; a vest, and a barbed net work comprising longitudinally and laterally extending strips adapted to be drawn over said trousers.

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

LOUIS D'ELIA.

Witnesses:

PIERRE BARNES,

LOUIS B. MAXSON.