No. 676,836. Patented June 18, 1901.

E. P. BROWN.

LIFE PRESERVER.

(No Model.) (Application filed Mar. 24, 1900.)

Fig. 1,

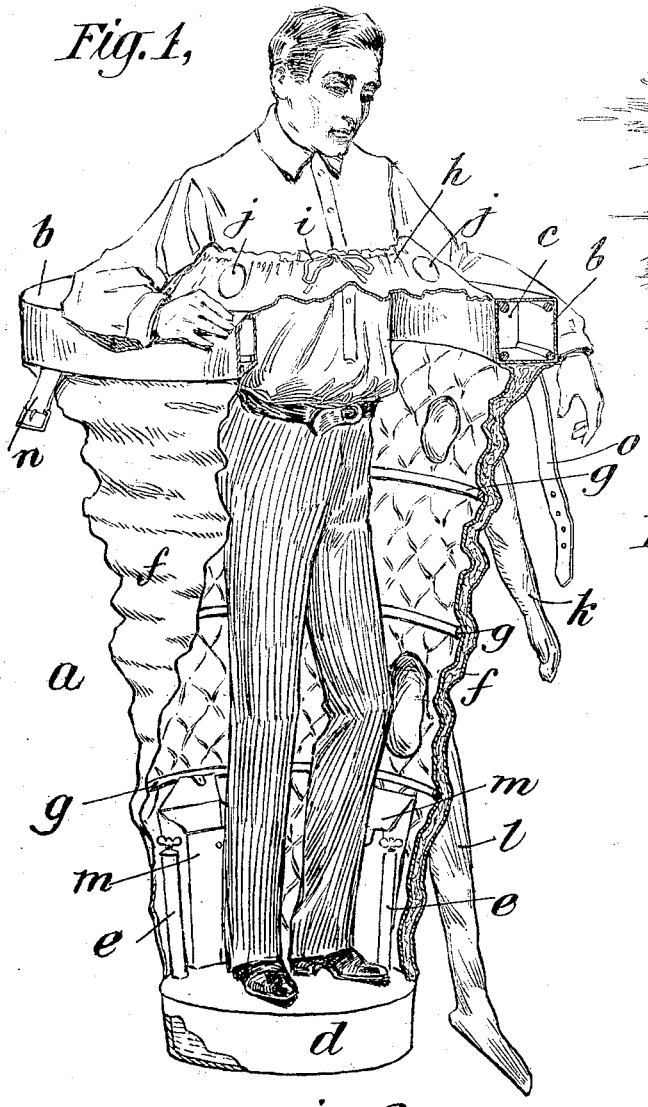


Fig. 4,

Fig. 3,

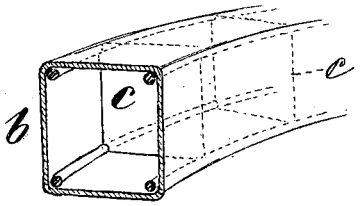
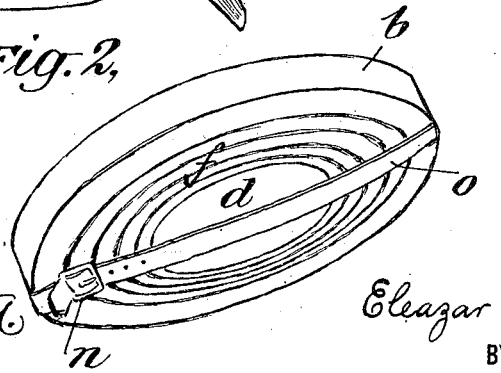


Fig. 2,



WITNESSES:

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ELEAZAR PARMLY BROWN, OF NEW YORK, N. Y.

LIFE-PRESERVER.

SPECIFICATION forming part of Letters Patent No. 676,836, dated June 18, 1901.

Application filed March 24, 1900. Serial No. 10,040. (No model.)

To all whom it may concern:

Be it known that I, ELEAZAR PARMLY BROWN, a citizen of the United States of America, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Life-Preservers, of which the following is a specification.

My invention relates to life-preservers designed to save life from drowning, and particularly to that class which are adapted to be carried on vessels for such purpose and which may be folded up into a small compass when not in use.

My invention consists in a device which may be so folded up, but which when opened for use will form a water-tight structure in which a person may be entirely or partially enveloped and which will displace such an amount of water as to result in a sufficient buoyancy to support the required weight.

My invention further contemplates constructing the upper portion of the device of greater buoyancy than the lower portion in order that when placed in the water the inherent tendency thereof will be to retain an upright position.

My invention also consists in providing means whereby life may be sustained for a considerable length of time and in certain details of construction and combination of parts to be hereinafter fully described.

I will now proceed to describe my invention with reference to the accompanying drawings and will then point out the novel features in claims.

In the drawings, Figure 1 is a perspective view broken away to show the interior of a life-preserver embodying my invention and of the application of the same for the purpose of saving life. Fig. 2 is a perspective view of the life-preserver closed up and out of operation. Fig. 3 is a detail view showing the preferred form of construction of the upper support. Fig. 4 is a pictorial representation showing the practical application of the device.

Reference character *a* designates my life-preserver as a whole. It comprises an upper buoyant annular support, a comparatively heavy and closed lower support, and a flexible conical section arranged between them and supported thereby. Preferably a plurality of ring-like supports are arranged between the upper and lower supports to keep the flexible section distended. The supports are made progressively larger, commencing from the lowermost one, so that the device is collapsible and can be folded into a very small space.

b designates the upper annular support, which is preferably made up of four hoops covered with waterproofed canvas and having a plurality of bulkheads *c*, which perform the double function of dividing the support into a plurality of water-tight compartments and of keeping the canvas covering distended and the hoops in their proper relative position.

d designates the lowest support, which is, in contradistinction to the annular supports, a closed support. This support must be a heavy one, comparatively with the upper support, in order that the inherent tendency of the device will be to maintain its upright position. In order that the device when out of use shall not be unduly heavy, I have provided means whereby the said support *d* may be loaded. I have shown the support as formed of a hollow tank adapted to hold liquid, and in the tubes *e* and *e* I have provided means for filling and emptying the said tank.

f designates the flexible conical waterproof section, which is arranged between the said supports *b* and *d* and is supported thereby. The flexible section *f* is preferably made of two casings, one within the other, each waterproof, and the space between them filled with some very light material, such as down, cotton, or the like. The effect of this is to make the flexible section *f* itself very buoyant, and, in conjunction with the upper buoyant support *b*, capable of forming a material support to a person inclosed or partially inclosed within it, even should it through some unforeseen accident become filled with water, and also act as a protection against injury or cold.

g g designate a plurality of ring-like supports arranged to keep the flexible section *f* distended.

h designates a cover for the upper annular support *b*. It is arranged with means for closing it entirely or for closing it around the body of a person within the device, as illus-

trated in the drawings. The said means may conveniently be a draw-string, as *i*, which may be drawn tightly around the body and under the arms of the person within the device while in use with the water comparatively calm, or should the water be exceedingly rough or for any other purpose it be desirable that the person be wholly inclosed the draw-string may be drawn tight and secured from the inside. In either case water is effectually prevented from entering the interior.

j j designate "lookouts," with which the cover *h* is provided for use when the person is entirely inclosed.

k designates sleeves or arm-shields, into which a person inclosed may insert his arms for any purpose that may be desired—as, for instance, to manipulate a paddle. *l* designates a similar provision for the insertion of the legs. These leg-pieces may be used when the device is first adjusted, if on board a vessel, in order to walk to the vessel's edge, or they may be used when shore is reached to walk ashore.

I have arranged a series of compartments or pockets *m* within the device, in which may be stored necessaries of life, such as food and drinking-water, and in these compartments may also be kept day and night signaling devices, a sponge for the purpose of baling the life-preserver out should water get in, and any other articles that may be desired.

n and *o* designate a buckle and strap for fastening the device together in a closed position, as shown in Fig. 2. If it be desired to secure several of these devices together, these buckles and straps may be conveniently used for this purpose.

I may, if desired, prepare the canvas of which the device is preferably constructed with a fireproof material, and in case of fire at sea persons may completely inclose themselves and walk through the flames without injury. The said fireproof material may be one of any of the well-known materials already on the market.

A suitable orifice or orifices may be arranged to permit air to enter the device when a person is within same.

I have used the term "annular" throughout the description and claims to describe the upper supports and the flexible section. In this term I intend to include other than merely cylindrical forms. Square, pentagonal, hexagonal, or other forms would answer the purpose and be an obvious equivalent. In fact, many modifications of my device as described and illustrated might be resorted to without departing from the spirit and scope of my invention. It is evident that in an emergency my device will serve for two persons, especially if one be a child.

What I claim is—

1. The combination in a life-preserver of a plurality of rigid supports, the upper support or supports being annular and the lowest support closed, each of said supports from the lowest to the uppermost being progressively larger, and a flexible, waterproof section arranged between the said supports and supported thereby.

2. The combination in a life-preserver of an upper, hollow, water-tight annular support and a lower, hollow closed support, means whereby the said lower support may be filled with liquid to add weight thereto, and an annular, flexible, waterproof section arranged between the said supports and supported thereby.

3. The combination in a life-preserver of an upper, annular support and a lower, closed support, of a flexible, waterproof section between the said supports and supported thereby, the said flexible section having a bifurcated extension arranged to receive portions of the legs of a person within the device, and thereby to permit locomotion.

4. The combination in a life-preserver of an upper, hollow support comprising a plurality of rings, and a plurality of water-tight bulkheads by which the said rings are supported and spaced, the said rings and bulkheads surrounded by a flexible, waterproof material, a lower, closed support, and an annular, flexible section arranged between the said support and supported thereby.

5. The combination in a life-preserver of an upper, annular support and a lower, closed support, of a flexible, waterproof section between the said supports and supported thereby, the said flexible section comprised of two casings, one within the other, and a flexible filling material between them.

Signed by me at New York, N. Y., this 3d day of January, 1900.

ELEAZAR PARMLY BROWN.

Witnesses:
ANTHONY WINCHESTER BROWN,
H. COURTNEY BROWN.