No. 704,000. Patented July 8, 1902.

G. B. CONLEY.

LIFE PRESERVER.

(Application filed Jan. 13, 1902.)

(No Model.) 2 Sheets—Sheet 1.

FIG. I.

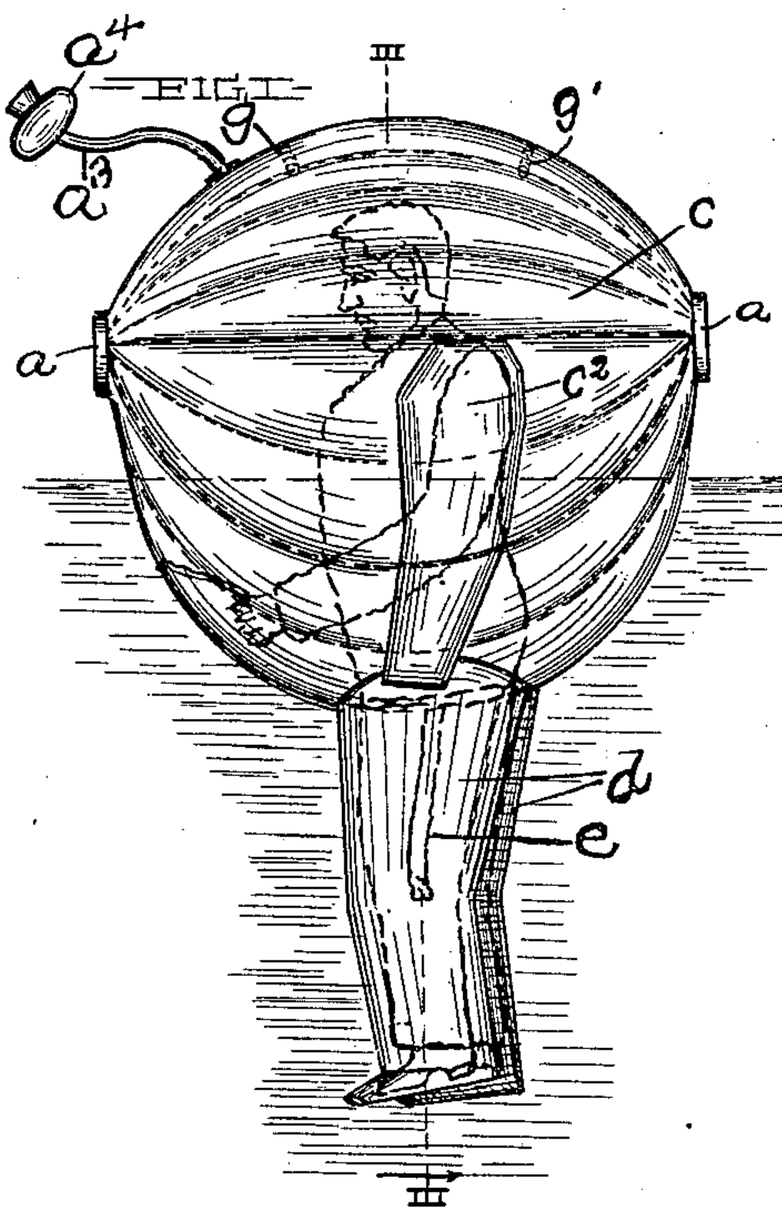


FIG. II.

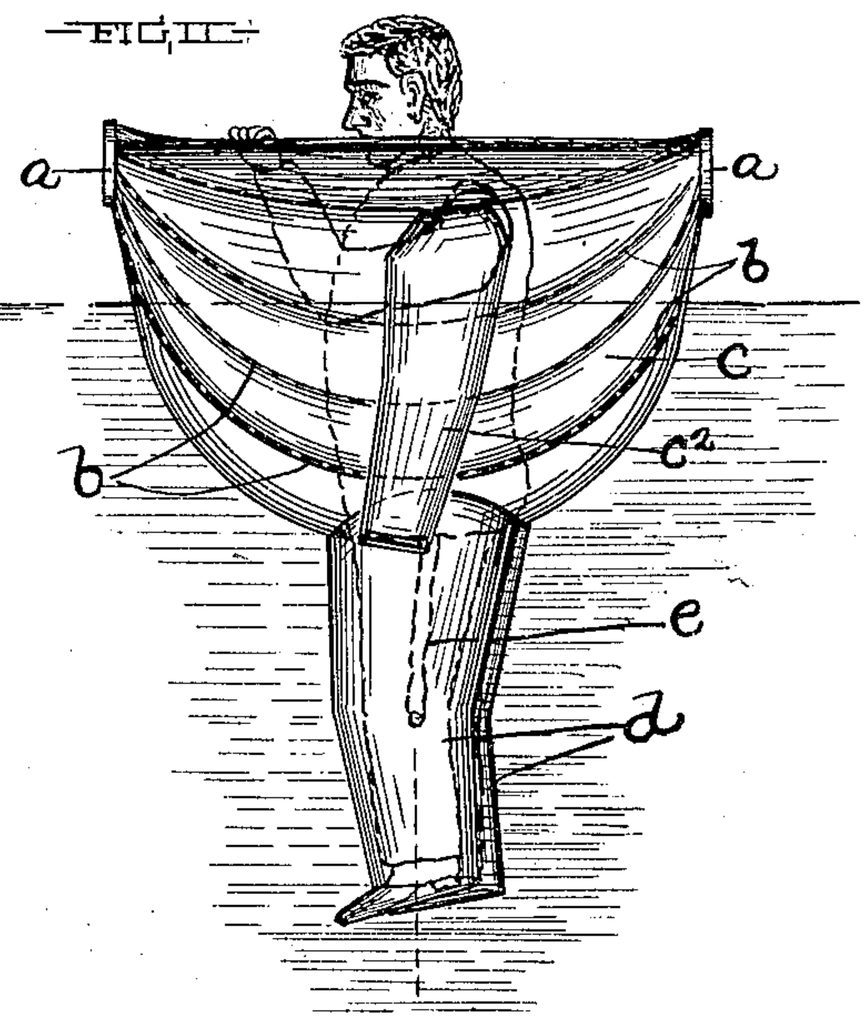


FIG. III.

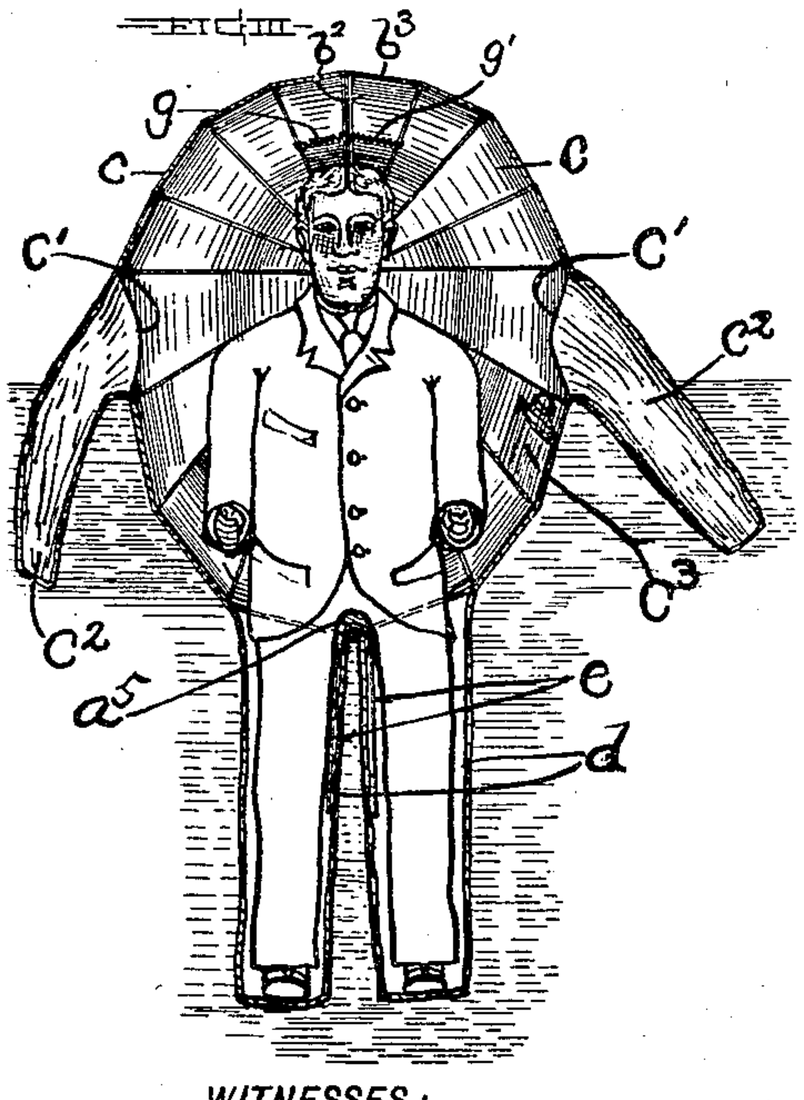
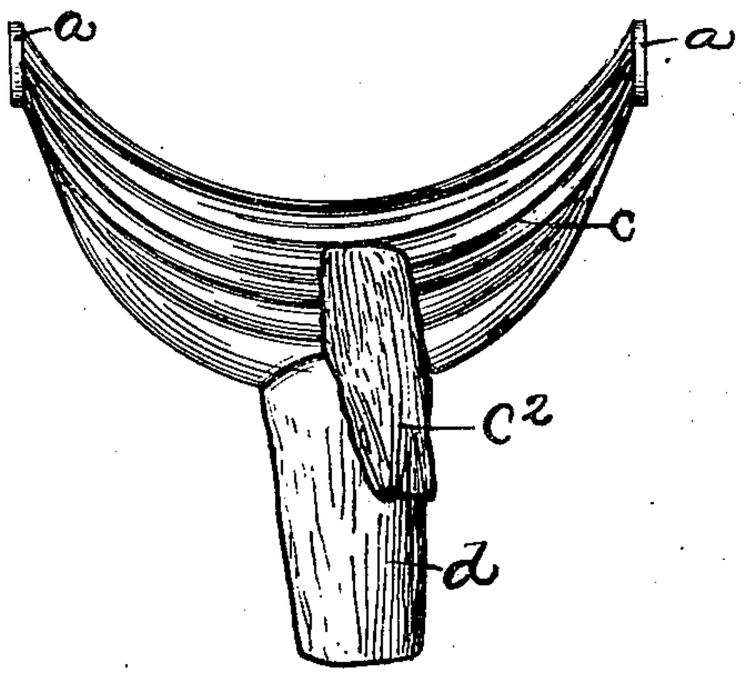


FIG. IV.



WITNESSES:

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FIG. V.

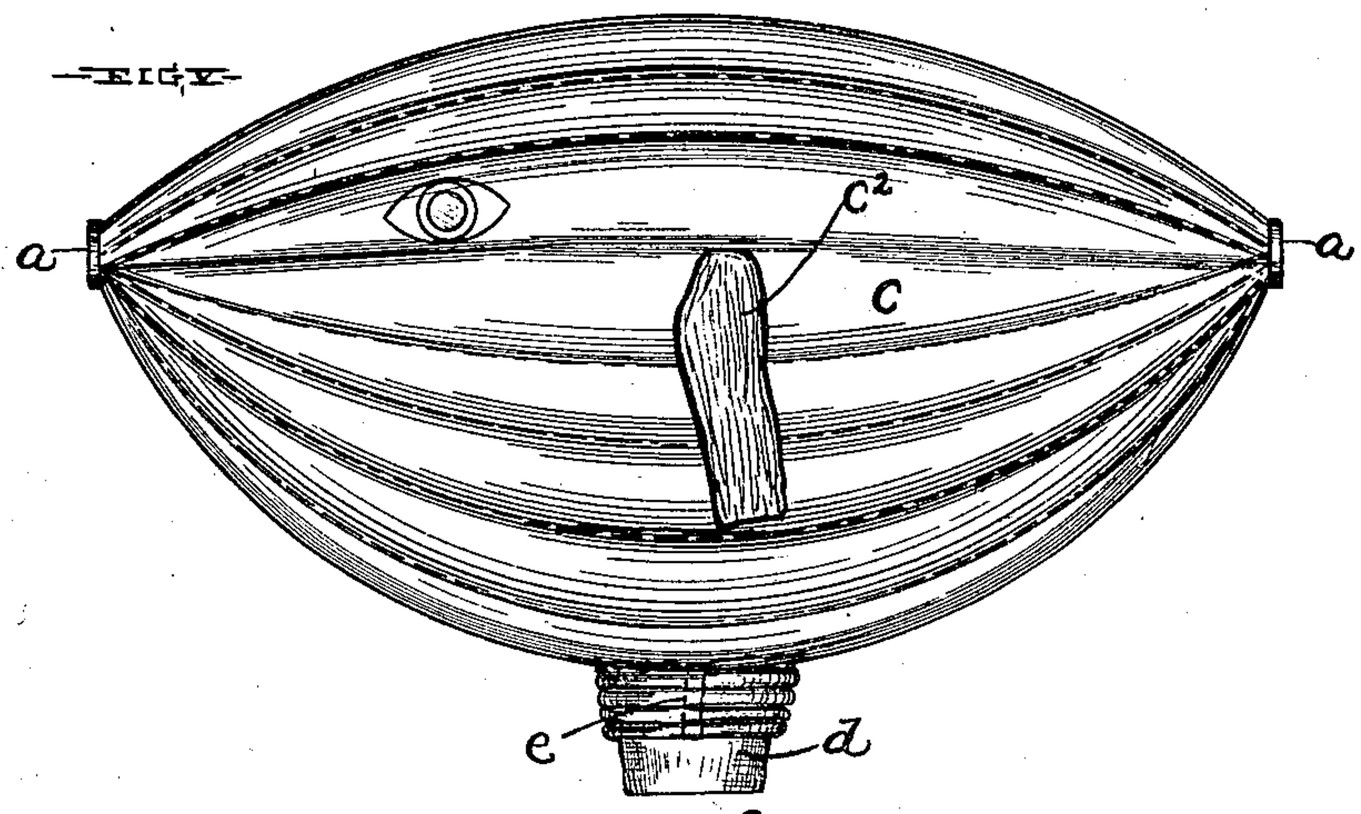
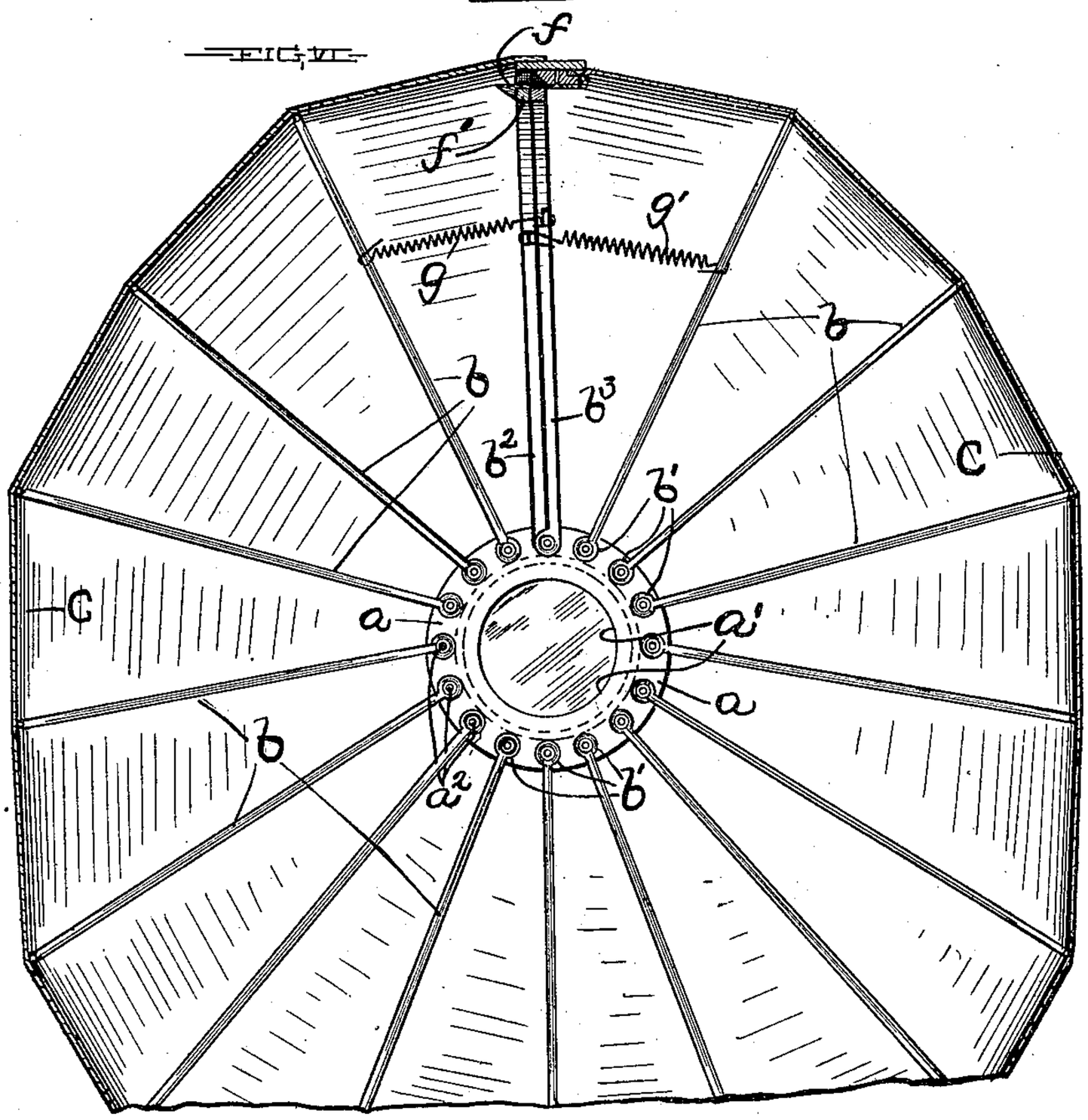


FIG. VI.



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UNITED STATES PATENT OFFICE.

GEORGE B. CONLEY, OF CLEVELAND, OHIO.

LIFE-PRESERVER.

SPECIFICATION forming part of Letters Patent No. 704,000, dated July 8, 1902.

Application filed January 13, 1902. Serial No. 89,495. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. CONLEY, a citizen of the United States of America, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Life-Preservers; and I 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 pertains to make and use the same.

This invention relates to life-saving devices, and especially to that class termed "life-buoys."

The object of this invention is to provide a collapsible water-tight vessel or receptacle which when expanded and partially submerged in water will have sufficient buoyancy to sustain the weight of the occupant and which when closed or folded up will occupy little space and can be easily stored on board ship.

With these objects in view my invention consists in providing a vessel or receptacle comprising a waterproof envelop or cover supported on a series of curved ribs which are hinged together at their respective ends and arranged to fold closed upon each other and which when properly spaced will form a strong light framework.

My invention further consists in the features of construction and combinations of parts, as illustrated in the drawings and hereinafter set forth in the specification and pointed out in the claims.

Referring to the drawings, Figure I shows a view of my life-preserver expanded. Fig. II is a view showing my life-preserver with the upper portion folded down on the bottom portion. Fig. III is a section on line III III, Fig. I. Fig. IV shows my life-preserver completely folded up. Fig. V shows a modification of my invention. Fig. VI is a central section.

Again referring to the drawings, a and a represent end plates. These end plates are preferably circular in form, and in the center of each plate is formed an opening a', which is closed with a pane of glass or other transparent material. Curved ribs b are arranged between the end plates a and a and are secured at their respective ends to the said plates by means of a pivotal or hinge connection. As shown in the drawings, this hinge connection is made by forming eyes b' on the end of each rib, through which pins a^3 are passed and secured in the rims of the respective plates a and a'. Two ribs b^2 and b^3 at the center of the top of the framework are preferably made flat, so that when they are brought together they will form a close joint. The ribs are preferably formed of spring-steel, and the ribs forming the lower part of the frame are preferably longer than those forming the top part of the frame, thus giving an oval form to the framework. This particular shape, although not essential, is deemed preferable, as the pointed end of the frame will readily enter the water, thus greatly lessening the shock attendant upon the contact of the life-preserver with the water. Over the entire framework is secured an envelop or cover c of some strong flexible material, preferably canvas. In order to place the cover on the framework, the ribs are first properly spaced, preferably the same distance apart, except at the top where the two ribs b^2 and b^3 are arranged close together. Then beginning with one of the two top ribs the cover is secured to each rib in turn all around the frame until the other top rib, to which the end of the cover is secured. The two top ribs b^2 and b^3 are therefore not directly secured together by the cover, but are free to fold back upon the other ribs. Over the canvas cover is placed an outer covering of some waterproofing material, preferably a coating of rubber.

In the sides of the cover c are formed armholes c' and c', to which are secured sleeves c^2 and c^2. These sleeves are formed of some flexible waterproof material and are closed at their lower ends. A seat-forming pad a^5 is arranged on the central bottom rib, and on each side thereof are formed openings in which are secured sleeves or leg-pieces d and d, which are arranged to receive the lower limbs of the person occupying the life-preserver. The leg-pieces are shaped to conform somewhat to the limbs of the wearer, but are left sufficiently wide so that the feet may be quickly inserted therein. The leg-pieces

are made somewhat long, and on the inside of each is arranged an elastic tape *e*, one end of which is secured to the seat a^5, and the other end is secured at a convenient point to the leg-piece. The elastic tape serves to draw up any excess of material in the leg-piece and causes the bottom of the leg-piece to conform to the foot of the wearer.

In the top of the cover *c* is formed an air-hole in which is preferably secured a rubber tube a^3, the free end of which is provided with a float a^4, of cork or similar material. On the interior of the cover are arranged pockets c^3, in which may be stored provisions, water-flasks, and the like.

Secured to the rib b^3 is a spring-controlled catch *f*, which is arranged to engage a projection *f'* on the rib b^2 and lock the two ribs close together.

g and *g'*, respectively, represent springs which hold the framework either in its open or closed position. One end of the spring *g* is secured to the rib b^3 and the other end is secured to the rib *b* next below the rib b^2. One end of the spring *g'* is secured to the rib b^2, and the other end is secured to the rib *b* next below the rib b^3. When the receptacle is partly open, the springs *g* and *g'* will span the opening, and as long as the ribs b^2 and b^3 remain above the center line of the end plates *a* and *a* the springs *g* and *g'* will have a tendency to pull the ribs b^2 and b^3 together at the top, thus holding the receptacle in its expanded form. When the ribs b^2 and b^3 are folded down below the center line of the plates *a* and *a*, the springs *g* and *g'* will tend to pull the ribs b^2 and b^3 back on the rest of the ribs, causing the whole to fold compactly, as shown in Fig. IV.

In Fig. V is shown a modification of my life-preserver wherein the framework is made sufficiently large to allow the occupant to lie full length therein, if he so chooses.

What I claim is—

1. A life-preserver comprising the combination of a folding framework consisting of a series of curved ribs hinged together at their respective ends, means for engaging two of the said ribs, a flexible waterproof cover secured at one end to one of the said engaging ribs and at its other end to the other of the said engaging ribs, and arranged to completely envelop the said framework, and springs secured within the said framework and arranged to hold the said ribs properly spaced when the framework is expanded and to cause the ribs to lie closely on each other when the frame is folded up, substantially as described and for the purpose set forth.

2. A life-preserver comprising the combination of an oval framework adapted to fold upon itself, consisting of a series of curved ribs hinged together at their respective ends, means for causing an engagement between two of the said ribs, a flexible waterproof covering secured to one of the last-mentioned ribs and extending around the framework and secured to the other of the last-mentioned ribs, springs secured within the said framework and arranged to hold the said ribs properly spaced when the framework is expanded and to cause the ribs to lie closely upon each other when the frame is folded up, closed sleeves arranged in the sides and bottom of said cover, and means for automatically adjusting the length of the said sleeves, substantially as described and for the purpose set forth.

3. A life-preserver comprising the combination of a folding framework consisting of a series of curved ribs hinged together at their respective ends, means for engaging two of the said ribs, and a flexible waterproof cover secured at one end to one of the said engaging ribs and at its other end to the other of the engaging ribs and arranged to completely envelop the said framework, substantially as described and for the purpose set forth.

4. A life-preserver comprising the combination of a folding framework consisting of a series of curved ribs hinged together at their respective ends, means for causing two of the said ribs to engage with each other, a flexible waterproof cover secured at one end to one of the said engaging ribs and at its other end to the other of the said engaging ribs and arranged to completely envelop the said framework, an air-tube arranged in the top of the said cover, sight-holes formed in the sides of said cover, springs secured at their respective ends to ribs at each side of the said engaging ribs and arranged to hold the ribs of the said framework properly spaced when the framework is expanded and to cause the said ribs to lie closely upon each other when the frame is folded up, closed sleeves secured in the sides and bottom of said cover and strips of resilient material secured within the said sleeves, substantially as described and for the purpose set forth.

5. In a life-preserver, the combination of a framework comprising two end plates and a series of curved ribs hinged at their respective ends to the said end plates, sight-holes arranged in the said end plates, a flexible waterproof covering secured to said framework, said covering having an opening at its top, springs having their respective ends secured to the ribs on opposite sides of said opening, and means for locking together the ribs adjacent to the said opening, substantially as described and for the purpose set forth.

6. In a life-preserver, a framework comprising two end plates, a series of curved ribs hinged at their respective ends to the said end plates, sight-holes arranged in the said end plates, a flexible waterproof covering secured to said framework, said cover being ar-

ranged to separate at the top, sleeves secured to the sides of the said cover, leg-pieces secured at the bottom of said cover, and means for adjusting the length of said leg-pieces, substantially as described.

In testimony whereof I sign the foregoing specification, in the presence of two witnesses, this 4th day of January, 1902, at Cleveland, Ohio.

GEORGE B. CONLEY.

Witnesses:
VICTOR C. LYNCH,
HELSA SCHWARTZ.