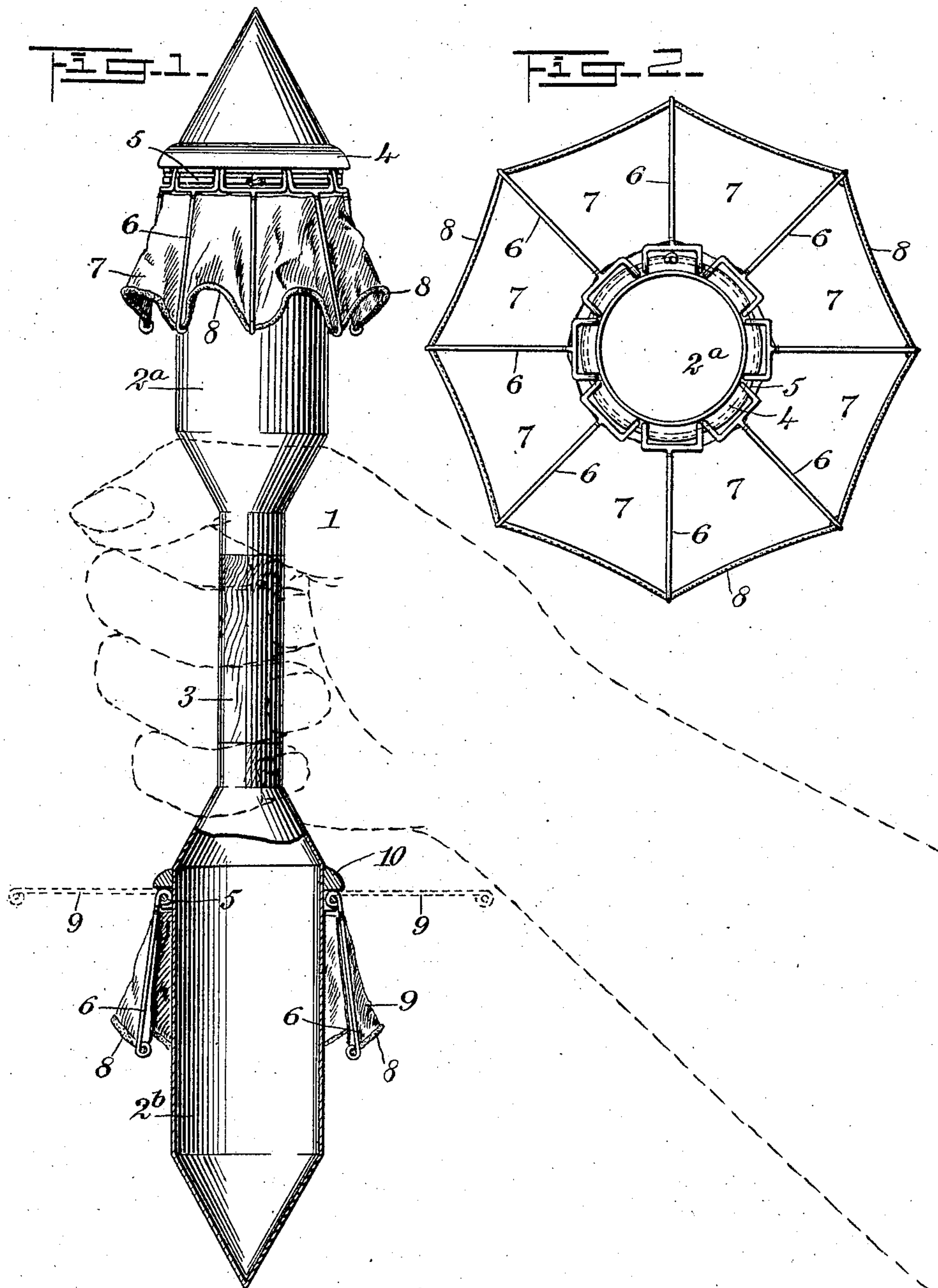


No. 845,659.

PATENTED FEB. 26, 1907.

W. LUCE.  
AUTOMATIC PROPELLING LIFE PRESERVER.  
APPLICATION FILED MAY 16, 1906.



WITNESSES

*L. G. Ford Handley*  
*F. D. Ammer*

INVENTOR

*William Luce*  
BY *Munn & Co*  
ATTORNEYS



# UNITED STATES PATENT OFFICE.

WILLIAM LUCE, OF SEASIDE, OREGON.

## AUTOMATIC PROPELLING LIFE-PRESERVER.

No. 845,659.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed May 16, 1906. Serial No. 317,098.

*To all whom it may concern:*

Be it known that I, WILLIAM LUCE, a citizen of the United States, and a resident of Seaside, in the county of Clatsop and State of Oregon, have invented a new and Improved Automatic Propelling Life-Preserver, of which the following is a full, clear and exact description.

This invention relates to life-preservers.

The object of the invention is to produce a device which will assist the swimmer to float and to propel himself through the water.

The invention consists in the construction and combination of parts to be more fully described hereinafter, and particularly set forth in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a side view showing the upper portion of the device in elevation and the lower portion thereof in section, and Fig. 2 is a plan or end view of the device.

Referring more particularly to the parts, 1 represents the body of the device, which consists of a float formed of two heads 2<sup>a</sup> and 2<sup>b</sup>, of substantially cylindrical form, connected by a reduced neck or handle 3. These heads 2<sup>a</sup> and 2<sup>b</sup> are preferably of sheet metal and of tubular form, and their extremities are preferably of substantially conical form, as indicated. Near the outer extremity of the head 2<sup>a</sup> a rigid collar 4 is attached, the same being preferably composed of hard rubber or similar material. Just below this collar I provide a ring 5, which is attached to the head in any suitable manner, as indicated. Upon this ring 5 I attach a plurality of stretchers or ribs 6, which ribs are preferably formed with forked inner extremities, which are loosely mounted upon the ring 5. It should be understood that these stretchers may lie close against the side of the head 2<sup>a</sup>, or they may be extended radially, so as to project out from the head, as indicated in Fig. 2. To the ribs or stretchers 6 I attach a web 7, which is preferably formed of oil-silk or similar material. The outer extremities of the ribs 6 are formed with eyes, through which passes an elastic cord 8. A web 9, similar to that just described, is attached to the head 2<sup>b</sup> near the inner extremity thereof, as shown, the construction and manner of mounting

this web being substantially similar to that described above. The construction at this point includes a rigid collar 10, similar to the collar 4.

It should be understood that in using this device the swimmer seizes the handle 3 with the head 2<sup>a</sup> disposed forwardly or in the direction in which the swimmer wishes to advance. Now if the device is moved forwardly the webs 7 and 9 will lie close against the sides of the heads 2<sup>a</sup> and 2<sup>b</sup>, so that little resistance is afforded to the advance of the device. However, if the device is moved in the opposite direction the webs immediately operate to expand, so that the ribs 6 dispose themselves in an extended position, as indicated in the dotted lines at the lower portion of Fig. 1. When the ribs extend themselves in this manner the collars 4 and 10 operate as stops to limit the movement thereof. Of course when the webs are expanded in this manner, they offer great resistance in being moved through the water, so that the swimmer may progress at a rapid rate. As soon as the device is moved forwardly again the elastic cord at the edge of the web and to which the web is attached assists in bringing the web to a folded condition. As the heads 2<sup>a</sup> and 2<sup>b</sup> are tubular, they operate effectively as floats, so that their buoyancy assists in supporting the swimmer in the water. By reason of the fact that the ends of the heads 2<sup>a</sup> and 2<sup>b</sup> are sharpened the resistances in moving the device in a forward direction are reduced. In practice all the metal parts will be plated, so as to preserve them from the corrosive effects of the sea water and air.

Obviously the improvement may with great advantage be employed in pairs, one for each hand, the swimmer using them by moving his arms first forward and then outward and rearward, as is customary in swimming. This will collapse the webs on their forward movement and expand them when they are swung outward and rearward. On account of the buoyancy afforded but little fatigue will be experienced in swimming rapidly, and a swimmer may support himself in the water a long time if the improved floating and swimming device is used. The elastic cord operates to open the web promptly on the commencement of the back stroke.

In the practical construction of the device suitable means may be employed for attaching



ing the device to the hand. In this way there will be no danger of losing the device out of the hand.

Having thus described my invention, I  
5 claim as new and desire to secure by Letters Patent—

1. A device of the class described, comprising a body having a plurality of pivotally-attached radially-disposed ribs adapted to  
10 fold against the sides thereof, said body having a projection constituting a stop adapted to be struck by said ribs to limit the outward movement thereof, and a web attached to said ribs.

15 2. A device of the class described, comprising a body presenting buoyant heads con-

nected by a handle, said heads having laterally-projecting collars near the forward extremities thereof respectively, rings attached to said bodies respectively near said collars, a plurality of ribs attached to said rings and adapted to extend radially therefrom, said collars constituting stops for said ribs, and webs attached to said ribs.

In testimony whereof I have signed my  
name to this specification in the presence of  
two subscribing witnesses.

WILLIAM LUCE.

Witnesses:

CHARLES E. DU BOIS,  
SAMUEL MILLER.