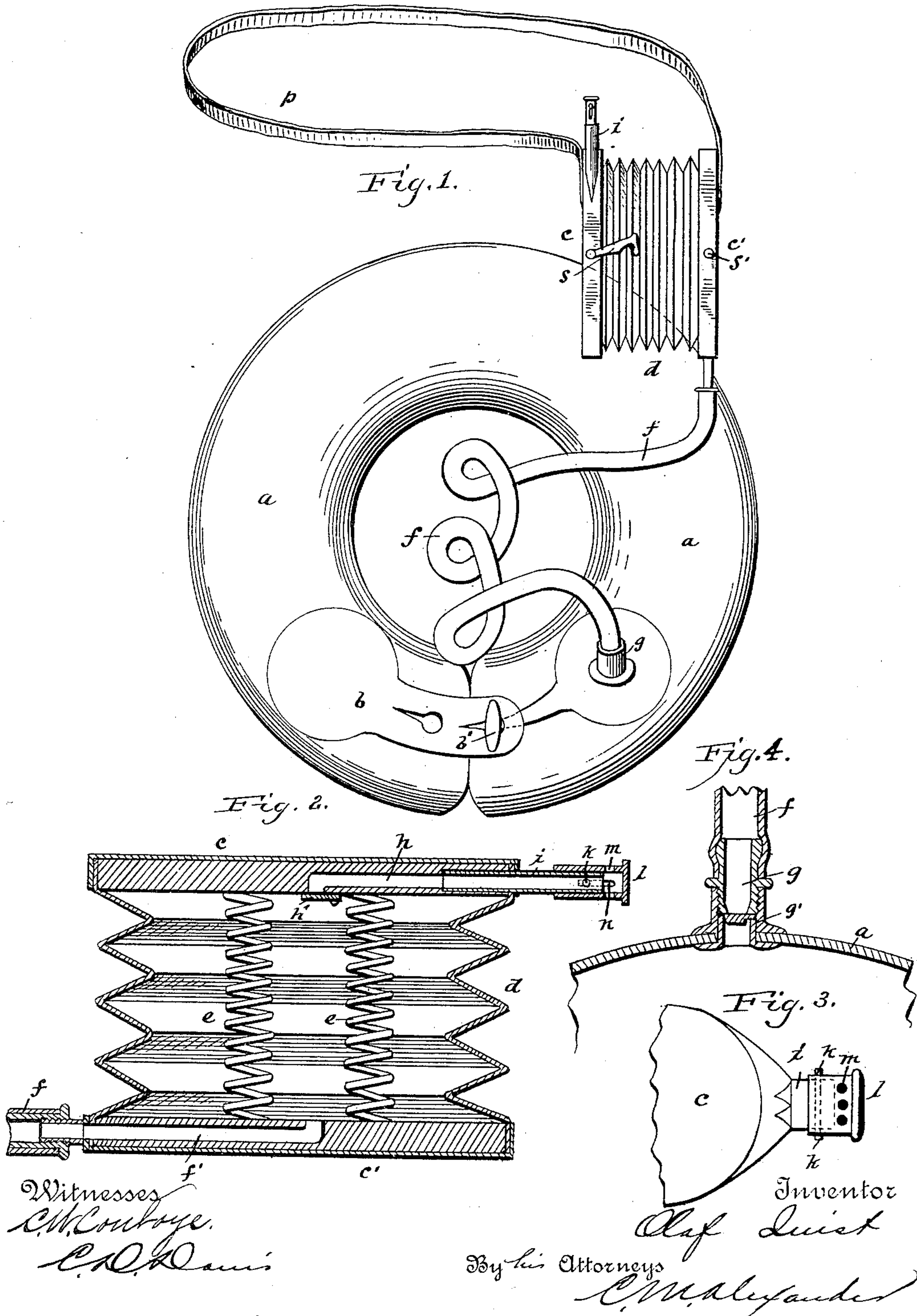


(No Model.)

O. QUIST.  
LIFE PRESERVER.

No. 419,066.

Patented Jan. 7, 1890.





# UNITED STATES PATENT OFFICE.

OLAF QUIST, OF COLTON, CALIFORNIA.

## LIFE-PRESERVER.

SPECIFICATION forming part of Letters Patent No. 419,066, dated January 7, 1890.

Application filed October 24, 1889. Serial No. 328,034. (No model.)

*To all whom it may concern:*

Be it known that I, OLAF QUIST, a citizen of the United States, residing at Colton, in the county of San Bernardino and State of California, have invented certain new and useful Improvements in Life-Preservers, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

10 Figure 1 represents a perspective view of my improved life-preserver complete; Fig. 2, a detail sectional view of the air-pumping apparatus; Fig. 3, a detail view of the cap-valve placed over the inlet end of the air-pump; 15 Fig. 4, a detail view of the coupling between the girdle and connecting-tube.

It is the design of this invention, principally, to produce a life-preserver that will be light and durable, and which will occupy but 20 a minimum of space when folded and not in use, enabling it to be carried about upon the person, at hand ready for instant use when required, that may be readily adjusted to the person of the wearer and quickly inflated 25 by him, and which will be effectual in use, as will more fully hereinafter be set forth.

In the drawings, *a* designates a girdle or belt of rubber or other air-tight and impervious material, which is adapted to be inflated with air and buckled around the 30 waist or other portions of the body of the wearer, straps *b* and buttons *b'* being provided for this purpose. These inflatable belts are to be made various sizes to suit persons of various weights, as is evident. The material of 35 which this girdle is constructed is very thin and strong, so that when not inflated it may be folded or rolled up into a small package, enabling it to be conveniently carried about 40 in the pocket, or it may be worn all the time beneath the clothing, in order that it will be ready for instant use in case of accident.

The girdle is inflated by means of a bellows, which consists of the two end blocks *c* 45 *c'*, connected by the collapsible side *d*, coil-springs *e* being interposed between the end blocks to keep the bellows normally distended. The rubber or other tube *f* connects the girdle with the interior of the bellows, a passage 50 *f'* being formed in the head-block to lead the

air from the bellows into the tube. This tube is provided at its end with an externally screw-threaded coupling-section *g*, which screws into an internally-threaded tube *g'*, secured in the girdle and communicating with 55 its interior. This coupling may be provided with a valve opening inwardly, to prevent the escape of air from the girdle when the same is inflated.

The head-block *c* is provided with the inlet-passage *h* to the bellows, the inner end of which is closed by an inwardly-opening valve *h'* to prevent backflow of air when the bellows is being compressed. Communicating with the outer end of this inlet-passage is a 60 short flat tube *i*, provided upon its opposite sides with two short pins *k*. Over this tube is fitted a cap-piece *l*, provided with inlet-apertures *m* near its closed end, and longitudinal slots *n* for the reception of the guid- 65 ing-pins *k*. The pins and slots enable the cap to be moved back and forth a limited distance upon the tube, but prevent its removal. When the cap is pulled out to the end of the slot, the air may pass freely into the bellows 75 through the openings *m*; but when it is pushed in as far as it will go upon the tube *i* the openings *m* will be closed and no air or water allowed to enter the bellows. The tubes fit 80 each other snugly, so that the friction will be sufficient to hold the cap in either adjusted positions.

To inflate the belt or girdle with air it is simply necessary to pull out the cap *l* and operate the bellows (accordion fashion) until a 85 sufficient quantity of air has been pumped into the girdle to distend it. Instead of pumping the girdle full of air in the above manner, the wearer may inflate it by placing his mouth over the cap *l* and blowing into the 90 girdle through the bellows; or the bellows may be removed and the tube alone used in case the bellows becomes injured in any way.

A band *p* may be attached to the bellows to enable the wearer to suspend the same 95 from his neck while he is pumping the air into the girdle. The bellows may be provided upon two of its opposite sides with pivoted hooks *s* and pins *s'*, whereby it may be held in a compressed state while not in use. 100

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

5 The combination of an inflatable girdle, a tube connected to this girdle by a detachable valved coupling, a bellows connected to the other end of this tube, springs for distending this bellows, a tube communicating with this inlet-tube, and a sliding perforated cap

upon this tube, substantially as hereinafter is described.

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

OLAF QUIST.

Witnesses:

W. W. WILCOX,  
GEO. M. HUBBARD.