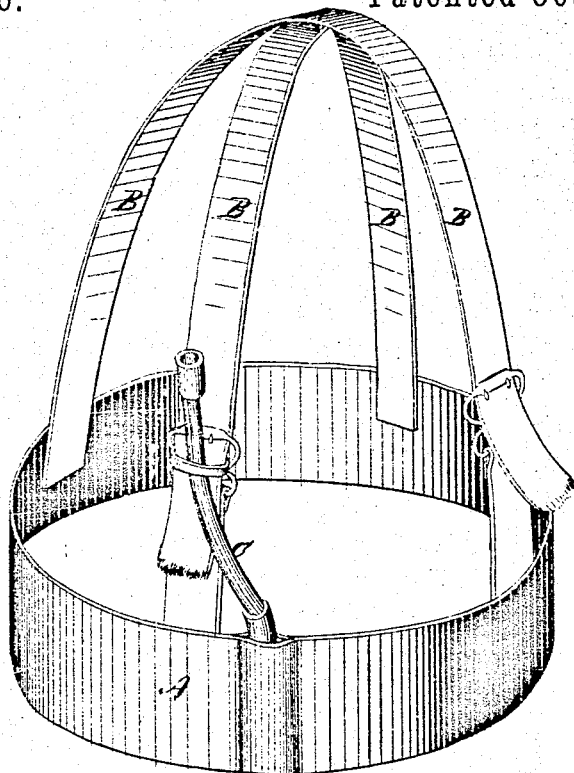


E. M. CRANDAL.  
LIFE PRESERVER.

No. 108,006.

Patented Oct. 4, 1870.



Witnesses

John A. Ellis  
Henry N. Miller

Inventor  
E. M. Crandal.  
By  
J. Y. Alexander  
Atty.

# United States Patent Office.

EDWARD M. CRANDAL, OF MARSHALLTOWN, IOWA.

Letters Patent No. 108,096, dated October 4, 1870; antedated September 26, 1870.

## IMPROVEMENT IN LIFE-PRESERVERS.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern :*

Be it known that I, EDWARD M. CRANDAL, of Marshalltown, in the county of Marshall and State of Iowa, have invented certain new and useful Improvements in Life-Preservers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

My invention consists in the combination and arrangement of the parts hereinafter set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, which represent a perspective view of my life-preserver.

A represents a sack, made of very thin vulcanized rubber, covered with a suitable silk covering, and rendered air-tight. This sack is placed around the body, immediately under the arms, and under the shirt. It is prevented from sliding down by means of the straps B B, which pass over the shoulders, and it can be inflated with air at any moment by means of the tube

C, which leads into the sack, and is provided with a suitable valve for retaining the air.

When an emergency arises the person wearing the life-preserver can readily unbutton the shirt, and place the tube to the mouth to inflate the sack, making it impossible for the person to get his or her head under water.

By being able to wear this when on the water, and knowing it can be inflated in a moment, insures confidence, and thereby prevents the absent-mindedness which is caused by sudden fear.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letter Patent, is—

The combination of a flexible band, A, tube C, and straps B B, all arranged to operate substantially as and for the purpose described.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

EDWARD M. CRANDAL.

Witnesses:

SAML. PEPPER,  
ROBERT N. MARTIN.