

P. A. KEELER, O. UPDIKE & J. LONGYEAR.

Life-Boats.

No. 151,400.

Patented May 26, 1874.

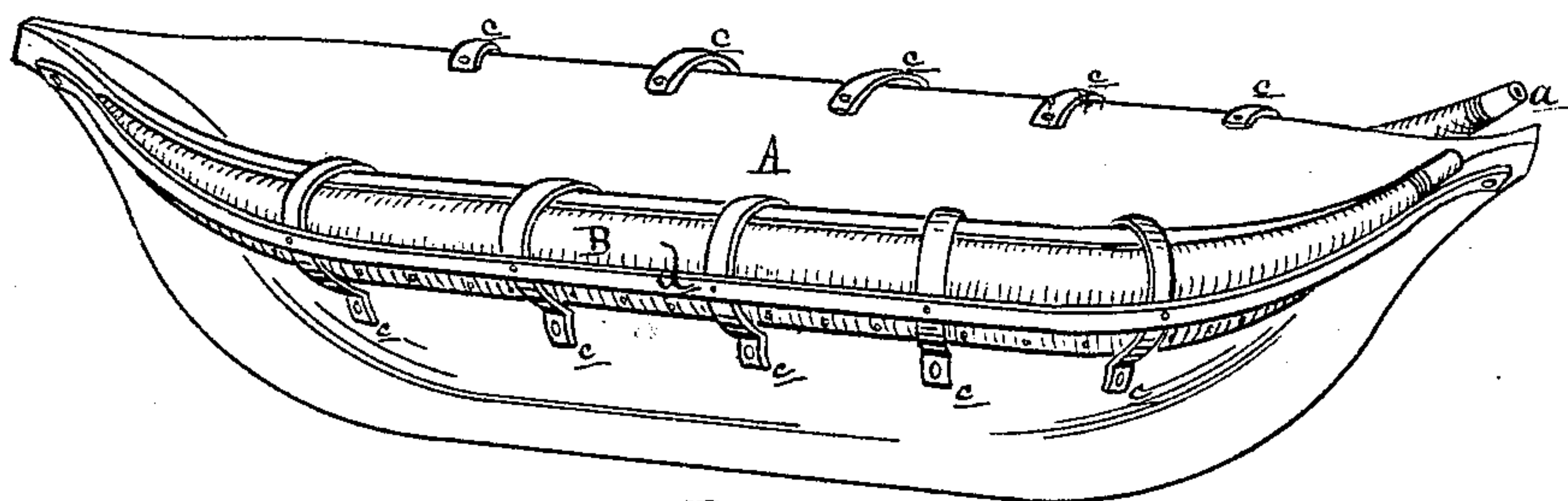


Fig. 1.

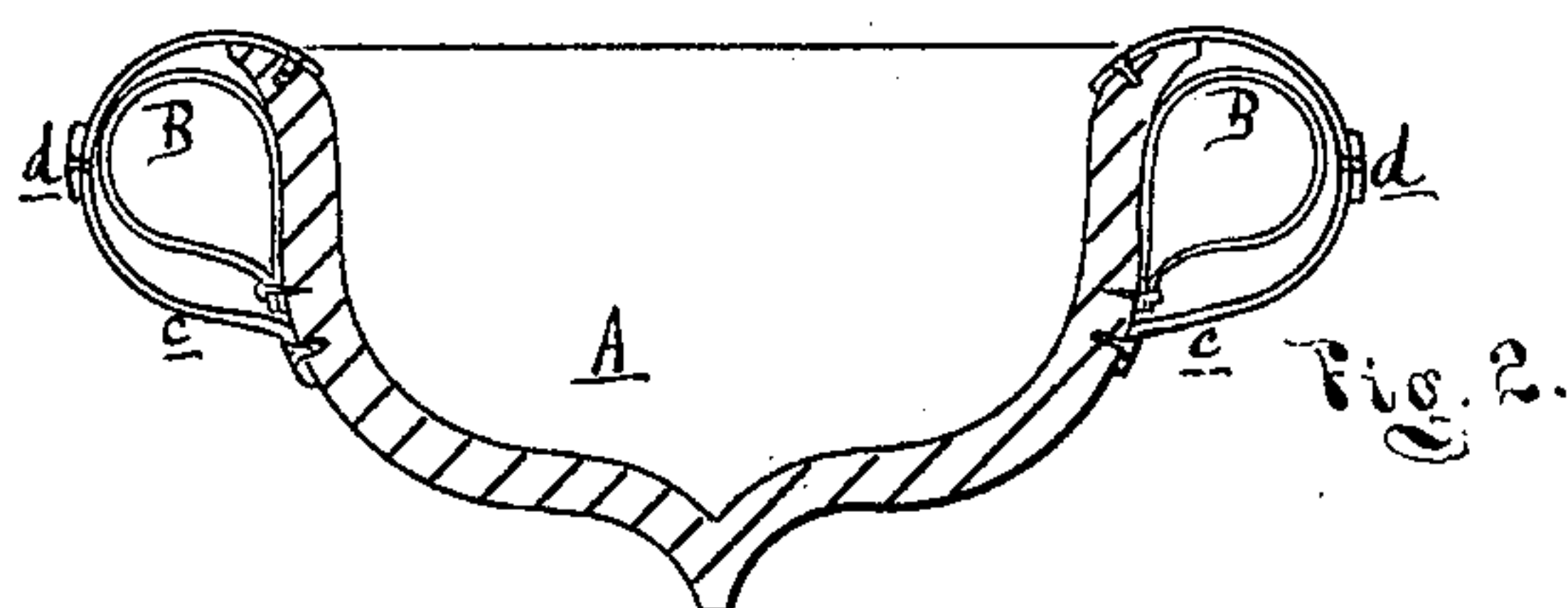


Fig. 2.

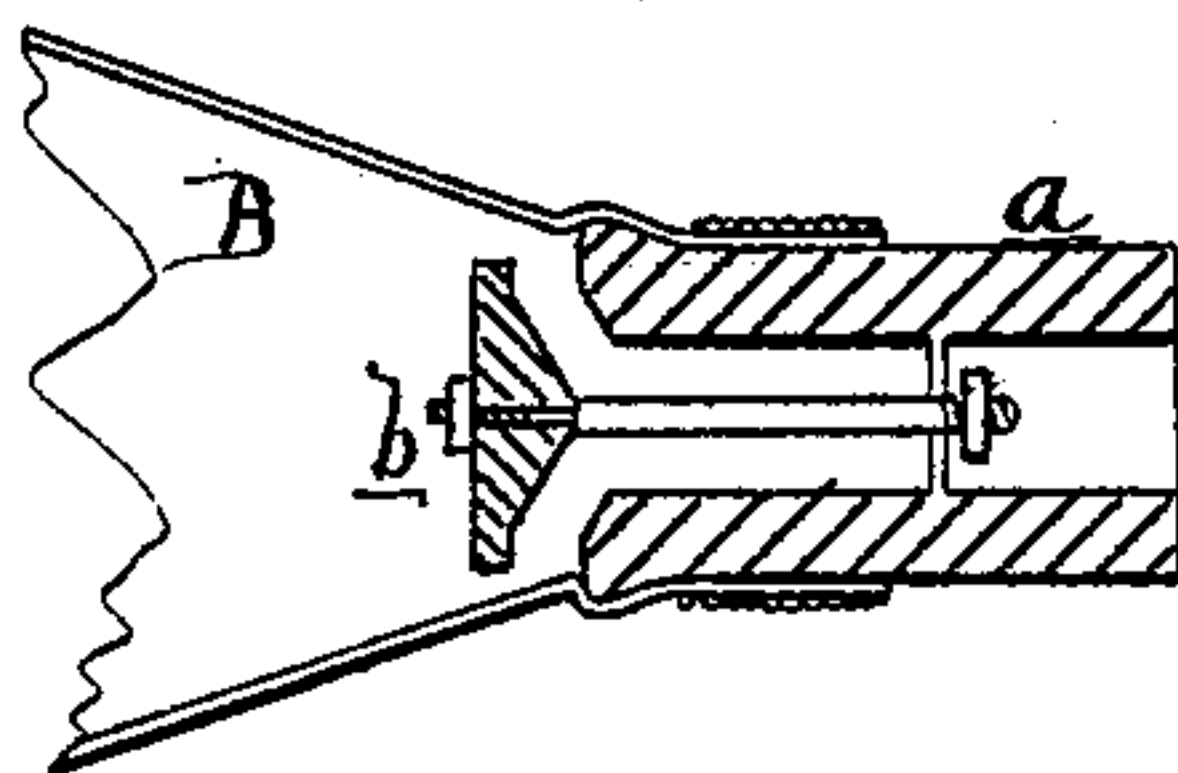


Fig. 3.

ATTEST:  
C. E. Huestis  
*C. E. Huestis*

INVENTOR:  
P. A. Keeler,  
O. Updike, and  
J. Longyear.  
By Attorney  
*Thos J. Sprague.*

# UNITED STATES PATENT OFFICE.

PETER A. KEELER, ORRIN UPDIKE, AND JACOB LONGYEAR, OF GRASS LAKE, MICHIGAN.

## IMPROVEMENT IN LIFE-BOATS.

Specification forming part of Letters Patent No. 151,400, dated May 26, 1874; application filed January 10, 1874.

*To all whom it may concern:*

Be it known that we, PETER A. KEELER, ORRIN UPDIKE, and JACOB LONGYEAR, all of Grass Lake, in the county of Jackson and State of Michigan, have invented an Improvement in Life-Boats, of which the following is a specification:

This invention has for its object to provide ships, yawls, and ordinary row-boats with a pair of flexible and expansible bustles, attached to the outer sides thereof, below the gunwales, which bustles, when inflated, will serve to increase the buoyancy of the boat; also, where boats are fitted with such bustles, to provide metallic outriggers and fenders to protect the said bustles.

Figure 1 is a perspective view of a boat fitted with our improved bustles and fenders. Fig. 2 is a midship cross-section of the same, showing one of the bustles inflated. Fig. 3 is an enlarged longitudinal section of the inflating-valve.

In the drawing, A represents the hull of a wooden whale-boat, to whose sides, just below the gunwale, are secured the bustles B, preferably made of vulcanized sheet rubber. These bustles are made by folding upon itself a long strip of rubber cloth, and cementing the edges together, as shown in Fig. 2. The bustles are secured by nailing them to the sides, the nails passing through the cemented folds. At one end of each bustle, or, if preferred, in the middle, is inserted a metallic tube, *a*, having an inwardly-opening valve, *b*, by means of which the bustle may be inflated by a person blow-

ing in air through the tube, the valve preventing its escape. Boats of the larger class may be provided with a hand-bellows for inflating the bustles. The bustles, when inflated, add greatly to the buoyancy of the boat without decreasing her speed when under way, as they do not immerse themselves, except when a heavily-loaded boat is laboring in a seaway. To protect the bustles from accidents in launching, or when the boat is hoisted and stowed, we secure to the plankshear and sides of the boat a number of metallic fenders, *c*, which inclose the bustles, all the fenders being connected by a metallic outrigger, *d*, whose ends are secured to the bow and stern of the boat.

At a slight expense, any wooden yawl may thus be converted into a buoyant life-boat. Except when the boat is in use, the bustles should not be inflated.

What we claim as our invention, and desire to secure by Letters Patent, is—

In combination with the flexible tube or floats B, the fender or protecting frame-work, consisting of the bands *c*, which surround the floats and the longitudinal continuous brace or outrigger *d*, connecting the inclosing bands together, forming a strong and rigid support for the floats and shield or fender for the boat, substantially as described.

PETER A. KEELER.  
ORRIN UPDIKE.  
JACOB LONGYEAR.

Witnesses:

GEORGE DORR,  
B. K. ADAMS.