H. G. DAYTON.

LIFE-PRESERVER.

No. 169,781. Patented Nov. 9, 1875.

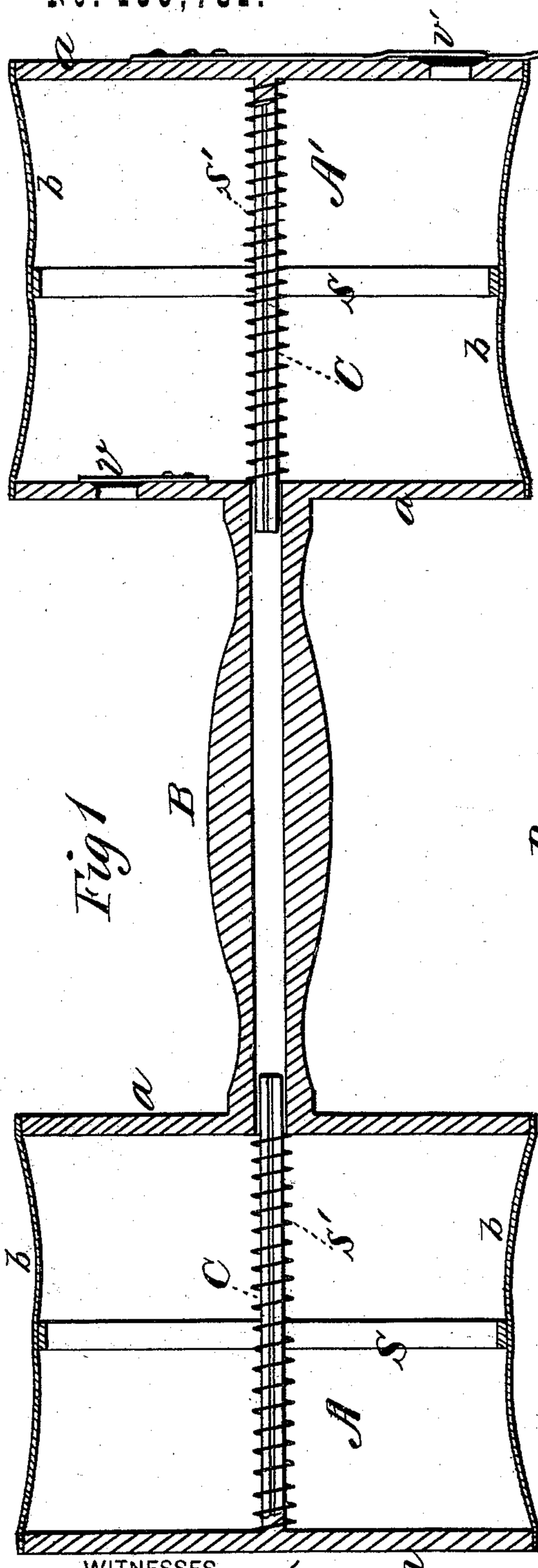

Fig 1

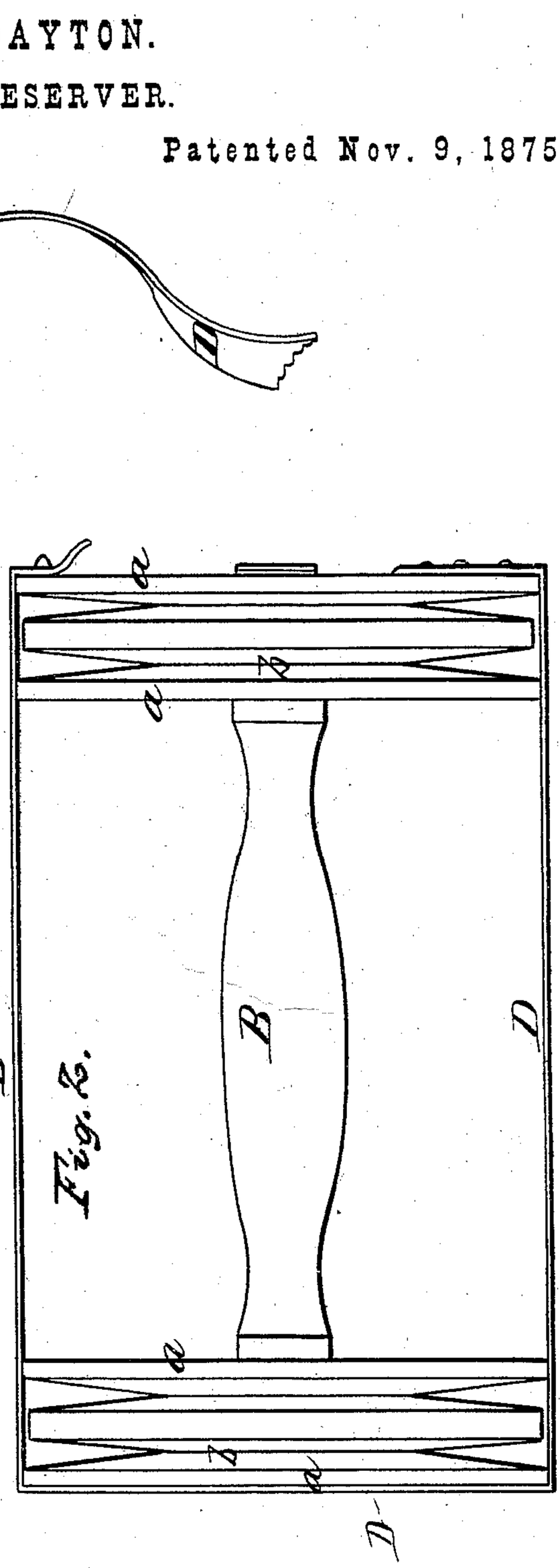

Fig. 2.

WITNESSES

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HENRY G. DAYTON, OF MAYSVILLE, KENTUCKY.

IMPROVEMENT IN LIFE-PRESERVERS.

Specification forming part of Letters Patent No. **169,781**, dated November 9, 1875; application filed September 25, 1875.

To all whom it may concern:

Be it known that I, HENRY G. DAYTON, of Maysville, in the county of Mason and State of Kentucky, have invented a new and valuable Improvement in Life-Preservers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal central section of my life-preserver, and Fig. 2 is a view of the same closed.

This invention has relation to improvements in life-preservers; and it consists, mainly, in two floats connected by a suitable bar, and adapted to be filled with air, all as will be hereinafter more fully explained.

In the annexed drawings, A A′ represent two air-floats, each consisting of two preferably wooden heads, *a*, united by an air-proof flexible material, *b*. These floats are, in cross-section, of oval form, and they are divided by means of an oval spring, S, rigidly secured to the material into two equal parts. This spring also serves to hold the flexible material connecting the heads *a* expanded. Floats A A′ are rigidly connected together by means of a rod, B, which is preferably hollow, and is thus adapted to hold the heads *a a* of each float in a rigid relation to each other in the following manner, to wit: Rods C, which are longitudinally corrugated, for a purpose hereinafter explained, are rigidly secured to the outer heads of the floats and extend into the hollow of the rod B, thus keeping the said floats from flexing upward when they lie upon the surface of the water, and preventing the flexible material *b* thereof from being unduly strained or becoming leaky. These rods also serve as guides for expansion-springs S′, of preferably helical form, which springs are arranged between the heads of the floats and are coiled about the rods, as shown in Fig. 1.

When the life-preserver above described is in a state of collapse, as shown in Fig. 2, and it becomes necessary to fill the floats with air, a strap, D, encircling the entire apparatus, is removed, when springs S′, being relieved from compression, will immediately react and expand, the necessary supply of air being drawn into the floats through a valve, *v*, in float A′, and distributed through the hollow rod B to float A. This distribution is due to the fact that, while rods C fit snugly in the bore of rod B, they are longitudinally grooved or corrugated, thus forming air-passages, through which the necessary supply of air will be drawn into float A. When the pressure is no longer required, the floats are freed of air by compressing them, forcibly causing the air to be driven out of the same through a valve, *v′*, opening outward on the outer head *a* of float A′. Rod B being tubular, only a single valve, *v*, for admitting air into the float, and a single valve, *v′*, for letting it out, are requisite.

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

1. In a life-preserver, the automatically-expanding air-floats A A′, in combination with the tubular connecting-bar B, substantially as specified.

2. In combination with the automatically-expanding air-floats A A′ and their connecting-rod B, the rods C, working in the hollow of rod B, and secured to the outer head *a* of the floats, substantially as specified.

3. The combination, with the automatically-expanding floats A A′ and hollow rod B, of the compression-strap D, substantially as specified.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

HENRY G. DAYTON.

Witnesses:
WALTER C. MASI,
BRYAN H. MORSE.