SAMUEL G. CABELL.

Improvement in Nautical Alarms.

No. 116,152. Patented June 20, 1871.

Fig. 4

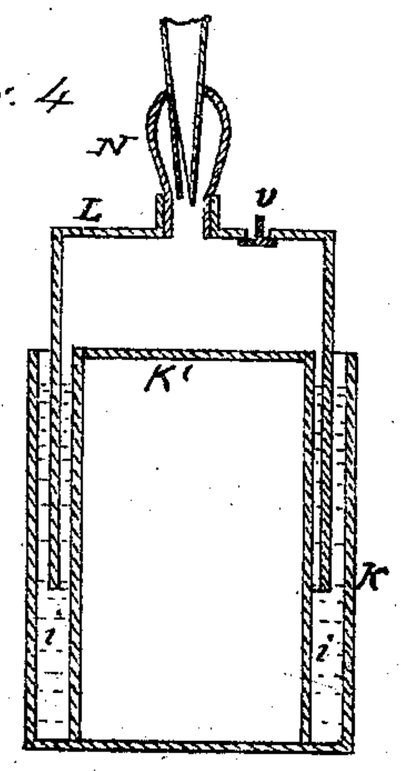


Fig. 1.

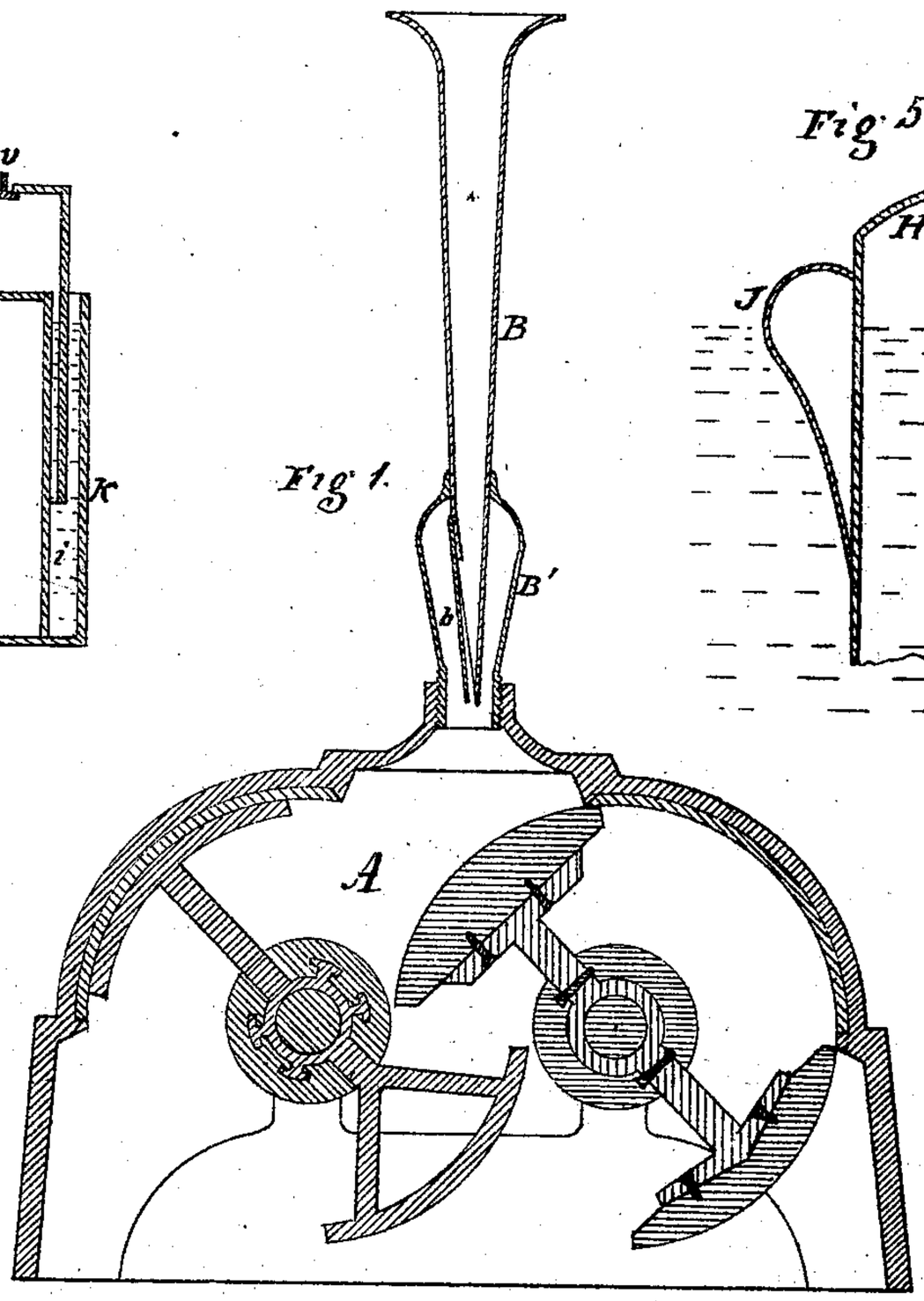


Fig. 5

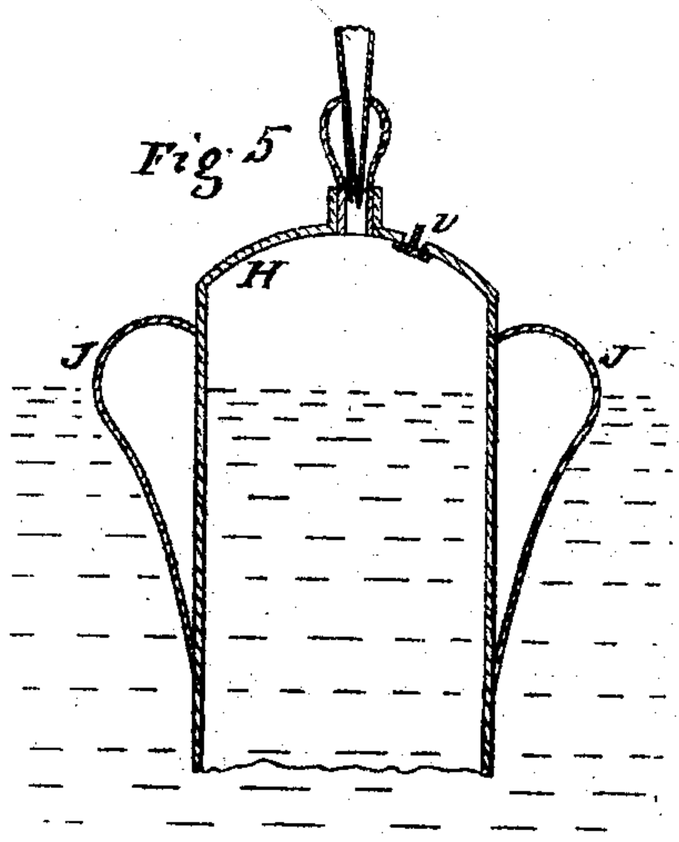


Fig. 2.

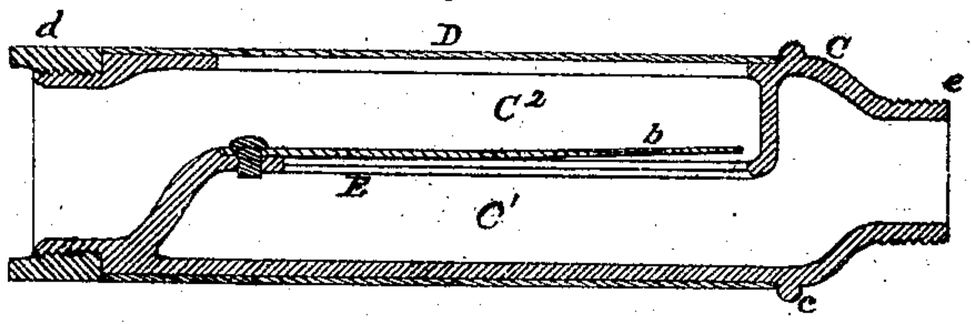
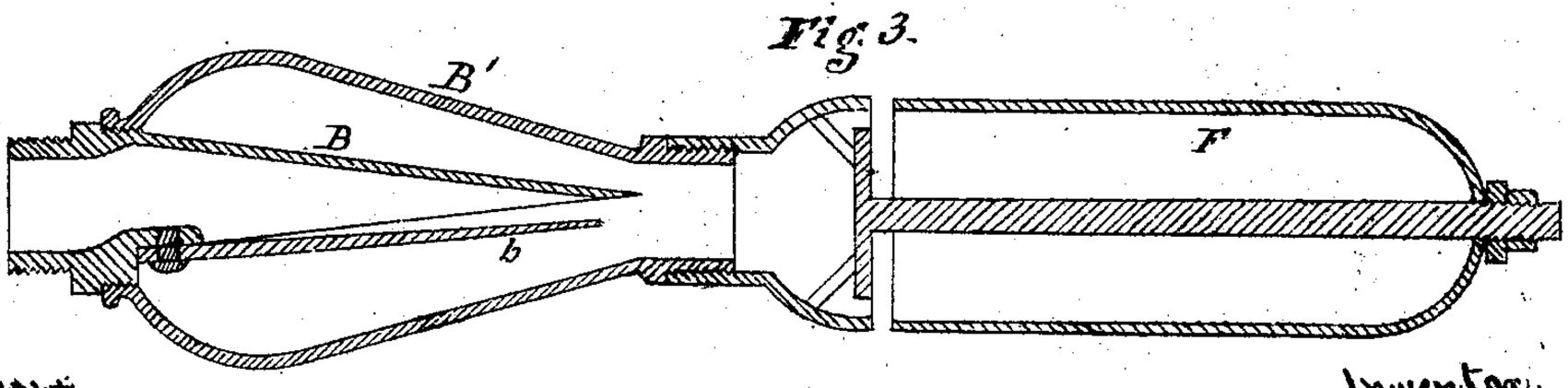


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL G. CABELL, OF QUINCY, ILLINOIS.

IMPROVEMENT IN NAUTICAL ALARMS.

Specification forming part of Letters Patent No. 116,152, dated June 20, 1871.

To all whom it may concern:

Be it known that I, SAMUEL G. CABELL, of Quincy, in the county of Adams and State of Illinois, have invented a new and useful Improvement in Marine Fog-Signals and Alarms; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and the letters of reference marked thereon.

My invention relates to improvements in fog-signals or alarms for use upon sailing-vessels and buoys, and for other purposes, when steam-power cannot be conveniently used; and it consists, first, in constructing a trumpet in the form of a tube, divided into two air-chambers by a longitudinal partition, with a vibrating tongue in said partition to be operated by the air passing from one air-chamber into the other, as shown in Fig. 2 of the annexed drawing; second, in combining a trumpet in which the sound is produced by a vibrating tongue with an ordinary whistle, as herein described and shown; third, in combining my improved trumpet, or trumpet and whistle combined, with a rotary blower, as herein described; fourth, in the combination of a trumpet, or whistle and trumpet combined, with an improved blowing apparatus, as hereinafter described; fifth, in combining a trumpet or whistle, or whistle and trumpet combined, with a bell-shaped or chambered buoy, so that the blast to operate the trumpet or whistle will be produced by the pressure of the water within the buoy, caused by the movement of the waves, as herein described, and shown in Fig. 4 of the drawing.

In the drawing, Figure 1 represents a sectional view of one modification of my improved trumpet attached to a rotary blast apparatus. Fig. 2 represents a sectional view of another modification of my improved trumpet. Fig. 3 represents a sectional view of the trumpet and whistle combined; Fig. 4, a sectional view of my improved blowing apparatus with trumpet attached; Fig. 5, a sectional view of my trumpet and buoy combined.

A, Fig. 1, represents the blowing apparatus, which I prefer should be of the kind known as the "root blower," although any other suitable blower may be used. B, Figs. 1 and 3, represents the trumpet, the smaller end of which is inclosed in a pear-shaped vessel or jacket, into which the blast is forced by the blower. The smaller end of the trumpet is cut away and provided with a vibrating tongue, *b*, so as to operate upon the well-known reed or clarionet principle. This end of the trumpet, including the vibrating tongue, is inclosed in a pear-shaped vessel or jacket, B′. In Fig. 1 the trumpet and its surrounding jacket are so arranged that the blast from the blower is forced directly into said jacket before entering the trumpet, but in Fig. 2 the blast is blown through the trumpet into the nozzle of said jacket. In the modification of my invention, shown in Fig. 2, C represents a skeleton tube, of cast-iron or other material, constructed with annular ends. One end has an annular shoulder, *c*, formed upon it, and the other has an annular rabbet, with a screw-thread cut upon it, onto which a ring, *d*, may be screwed. Between said ring *d* and shoulder *c* a sleeve, D, is confined, surrounding the skeleton C, and forming an air-chamber. Said air-chamber is divided into two parts, C^1 and C^2, by a longitudinal partition, E, attached to opposite sides of the skeleton C, and in this partition is a slot covered by the vibrating tongue *b*. On one end of said skeleton tube a screw-thread, *e*, is cut, by means of which it is fastened to the blower, as shown in Fig. 1. The blast from the blower first enters the chamber C^1, and, passing through the slot in the partition, enters the chamber C^2, from which it passes out at the other end of the tube. In Fig. 3, F represents a whistle, constructed like the ordinary steam-whistle, attached to the smaller end of the pear-shaped jacket inclosing the end of the trumpet, the other end of said trumpet being attached to the blower, as formerly described.

The air in passing through the nozzle of the trumpet produces sound upon the clarionet principle, and afterward the same air, acting in the whistle, produces a sound different from, and of much greater power, than would be produced by either the trumpet or whistle used separately, or both used together merely in proximity to each other.

My improved blowing apparatus, represented in Fig. 4, consists of a cylindrical water-tank, K, which I prefer to make with a central

core, K′, consisting of a water-tight cylindrical shell, so placed within the outer cylinder as to leave an annular water-space, *i*, around it. Into this water-space another cylinder, L, closed at the top and open at the bottom, like an ordinary gas-holder, fits, having the trumpet or whistle, or whistle and trumpet combined, inserted in its cover, as shown at N; also, an automatic air-valve, *v*, opening inward by the pressure of the outward air. The annular space *i* is filled with water, and the holder L is raised and lowered by any suitable mechanical means. As said holder is lowered the air within it will be forced out through the trumpet or whistle, and, as it is raised, air will be forced into it through the valve *v*. In Fig. 5, H represents the buoy, consisting of a cylinder or bell-shaped vessel, placed mouth downward in the water, and so anchored that it will float on the surface in that position. J is a jacket surrounding the upper portion of the buoy, forming an annular air-chamber to cause said buoy to float. To the top of said buoy, and communicating with the air-chamber within it, I attach a trumpet or whistle, or trumpet and whistle combined; and I also place in the top of said buoy an air-valve, *v*, one or more, opening automatically by the pressure of the air from without.

It will be seen that the motion of the waves, causing the buoy to rise and fall, will alternately expel the air through the trumpet or whistle, producing sound, and cause a fresh supply of air to flow in through the valve or valves *v*, as well as through the trumpet or whistle. In this case the buoy itself acts as the blower, and no other blowing apparatus is necessary.

Having thus described my invention, and what I regard the best modes of applying the principles thereof to the several modifications described, what I claim as my invention, and desire to secure by Letters Patent, is—

1. The divided tube, with slotted partition and vibrating tongue, substantially as herein described, and shown in Fig. 2 of the drawing.

2. The combination of a clarionet-trumpet and a whistle, substantially as described.

3. The combination of my improved trumpet, or trumpet and whistle combined, as herein described, with a rotary blower, substantially as herein set forth.

4. In combination with a trumpet or whistle, or whistle and trumpet combined, the improved blowing apparatus herein described, substantially as represented in Fig. 4 of the drawing.

5. The combination of a trumpet or whistle, or both combined, with a buoy, the same being constructed and arranged to operate substantially as herein described.

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Witnesses:

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