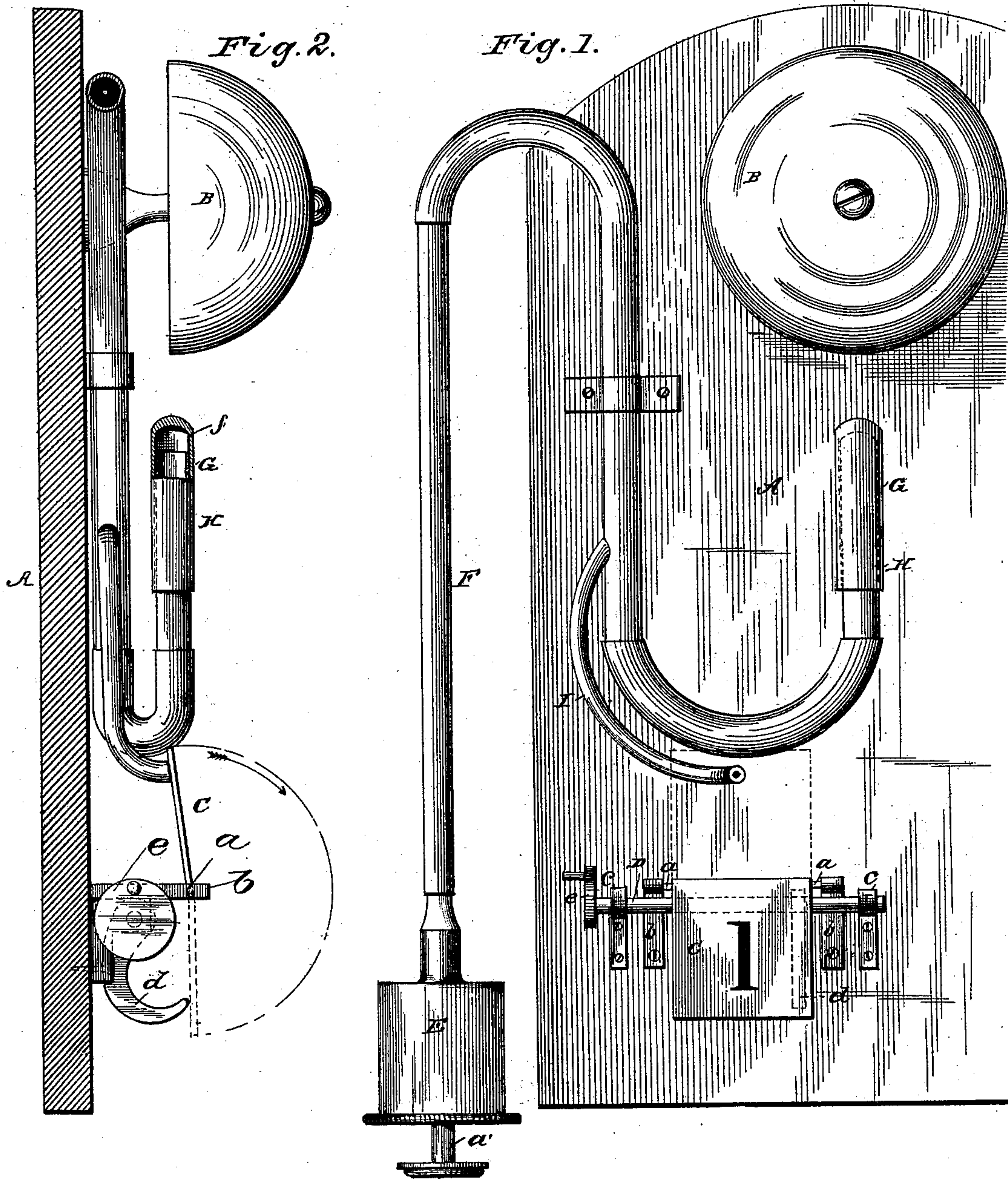


(No Model.)

J. A. MALONEY.
PNEUMATIC ANNUNCIATOR.

No. 358,363.

Patented Feb. 22, 1887.



WITNESSES:

Wm. S. Dieterich.
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UNITED STATES PATENT OFFICE.

JAMES A. MALONEY, OF WASHINGTON, D. C., ASSIGNOR TO THE PNEUMATIC SIGNAL AND TELEPHONE COMPANY, OF SAME PLACE.

PNEUMATIC ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 358,363, dated February 22, 1887.

Application filed October 24, 1885. Serial No. 180,884. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. MALONEY, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Pneumatic Annunciators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of this invention is to produce a reliable instrument which will operate positively and at the minimum of cost, requiring no attention to keep it in working order.

The invention consists in the constructions hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form part of this specification, Figure 1 represents a front elevation, and Fig. 2 a side view.

Reference being had to the drawings and letters of reference marked thereon, A represents a board, to which is attached a signal-bell, B, and a drop-plate, C, bearing a suitable character—such as a figure or numeral—which is contained on the inside of the plate when it is in its upright or normal position. The plate is provided with pintles *a*, which work in seats formed in the end of the straps *b b* and constitute a hinge. In the rear of the drop-plate is attached a shaft, D, journaled at *c c*, and bearing a cam, *d*, and a crank, *e*. An air-pump, E, which is provided with a piston and a spring, (not shown,) and to which is attached a tube or pipe, F, supplies air to strike the bell B and move the drop-plate C. The free end of the tube F is arranged vertically below the bell, and is provided with a hollow cylindrical hammer, G, which slides over the outside of the part of the tube lettered H.

From the main tube F a branch, I, is led to a position directly behind the drop-plate C, and its end is bent forward to bring it in position to discharge the air directly against the plate, and forms a support therefor. The discharge-orifice of this branch is made very much smaller than that of the tube H, and the air passing through it is brought into direct contact with the drop-plate and throws it for-

ward beyond its vertical point, when it will fall by gravity, aided by the momentum acquired from the impact of the air.

The several parts being constructed substantially as described, the operation is as follows: By pressing upon the button on the end of the piston-rod *a'* of the pump E, air is forced through the tube F and the branch I, thereby simultaneously striking the bell and throwing the drop-plate forward and exposing the number thereon. The drop-plate having been raised by the cam *d*, it rests against the end of the branch I, and is ready for a repetition of the described operation.

By the construction described the number of the working parts of a pneumatic annunciator has been reduced to the minimum, the cylinder and piston usually employed for exposing the numbers on the indicator being dispensed with, the cost thereby reduced, and a positively-operating drop-plate, by impact of the compressed air projected directly against its surface, produced.

In another application filed herewith, Serial No. 180,882, I have claimed the cylindrical bell-hammer herein shown.

Having thus fully described my invention, what I claim is—

1. In a pneumatic annunciator, the combination of a signal-bell, a hinged drop-plate, an air-pump, and communicating tubes conducting compressed air to the bell-hammer and against the surface of said plate, substantially as described.

2. In a pneumatic annunciator, the combination of an air-pump, a signal-bell, a drop-plate, a tube leading from the pump to the bell-hammer, an open branch leading to the drop-plate and discharging against the surface thereof, and a shaft carrying a cam to raise the plate to its normal position, substantially as described.

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

JAMES A. MALONEY.

Witnesses:

S. A. TERRY,
WM. E. DYRE.