

(No Model.)

J. B. CARSON.
SPEAKING TUBE.

No. 466,652.

Patented Jan. 5, 1892.

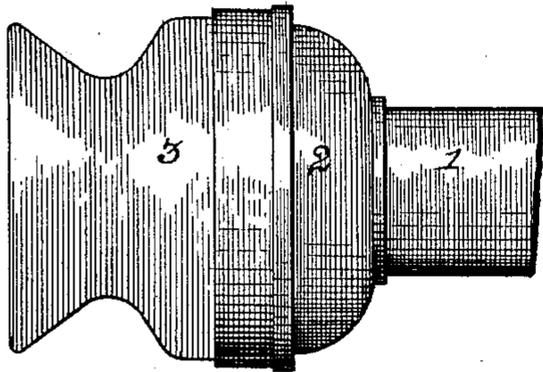


Fig. 1.

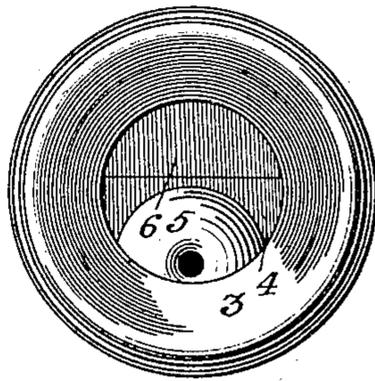


Fig. 2.

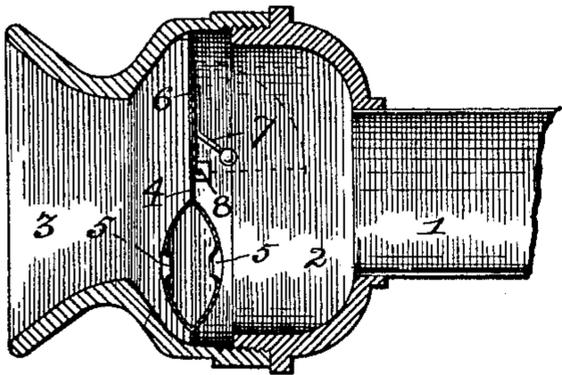


Fig. 3.

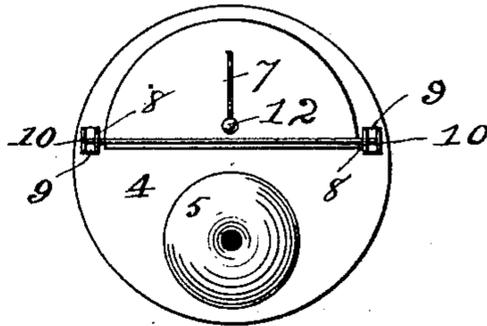


Fig. 4.

Witnesses

L. F. Hayden
A. E. Green

Inventor

James B. Carson.
by Attorneys
Adwood & Co.

UNITED STATES PATENT OFFICE.

JAMES B. CARSON, OF ATLANTA, GEORGIA.

SPEAKING-TUBE.

SPECIFICATION forming part of Letters Patent No. 466,652, dated January 5, 1892.

Application filed February 24, 1891. Serial No. 382,664. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. CARSON, a citizen of the United States, and a resident of Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Speaking-Tubes; 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, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to speaking-tubes, having for its object the improvement of the construction thereof to obviate certain difficulties in signaling or "calling up" thereby, the device whereby the desired ends are accomplished being hereinafter fully specified.

In the accompanying drawings, Figure 1 is a side elevation of the device, showing the exterior thereof. Fig. 2 is a front view of the device, showing the interior construction as it would appear looking in the mouth-piece. Fig. 3 is a vertical longitudinal section centrally of the mouth-piece, showing the gravity-valve closed, as when signaling. Fig. 4 is a back view of the diaphragm.

Like reference-characters are employed in the designation of corresponding elements of construction in all the views.

1 is the speaking-tube proper, and 2 is the part of the mouth-piece secured thereto. The front end of the piece 2 is preferably exteriorly screw-threaded, or by means of internal screw-threads the front piece 3 is secured thereto, one form of each of which elements is shown in Fig. 3.

Within the chamber formed within the parts 2 and 3, in such a position as will best serve its purpose and not interfere with the acoustic principles of a tube, is a diaphragm 4, which consists, essentially, of a metallic plate with two apertures in it. To each side of the plate at one of these apertures are secured the concaved perforated plates 5, which form a signal-whistle, and the other hole is provided with the valve 6, which is hinged to said diaphragm by its edge, the bottom edge

preferably, and operates to close said aperture when a blast of air is blown through the tube from the distal mouth-piece. The said valve 6 is pivoted by a wire 7, secured to and projecting over its edge, which wire is journaled in small metallic brackets 8, which have been bent upwardly from their base 9, with other imperforate ears 10, against which the ends of the wire 7 bear, and longitudinal looseness is thereby prevented at a minimum friction. A stop 12, comprising a small wire, bent as shown in Figs. 3 and 4, is soldered to the valve 6. Its lower end contacting with the diaphragm, when the valve 6 reaches a position of depression therefrom it will be elevated to close the aperture by the exertion of the correct amount of air-blast. In order that the valve 6 may be automatically opened from a vertical closed position, a counterbalance-weight may be secured to the wire 12, provided the weight of said wire is in itself insufficient for the purpose. If desired, the diaphragm may be set at an angle; but a vertical position, substantially as shown, is believed at present to be preferable, and it may obviously be secured within the mouth-piece in any approved way.

In this device it is plain that there are no springs or other parts which a careless user may, as is often the case with other devices, break or displace.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

In a device of the class specified, a mouth-piece and a chamber therein, a vertically-arranged diaphragm perforated near its upper edge, a whistle seated in it below said perforation, a valve hinged by its lower edge to the boundary metal below said perforation and opening downwardly and inwardly, and an overbalance-weight secured to and projecting inwardly from said valve, substantially as and for the purpose specified.

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

JAMES B. CARSON.

Witnesses:

S. P. WOOD,
A. A. WOOD.