D. E. CAMPBELL & J. R. CREIGHTON.

Speaking-Tube.

No. 168,137. Patented Sept. 28, 1875.

Fig. 1.

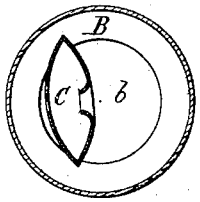
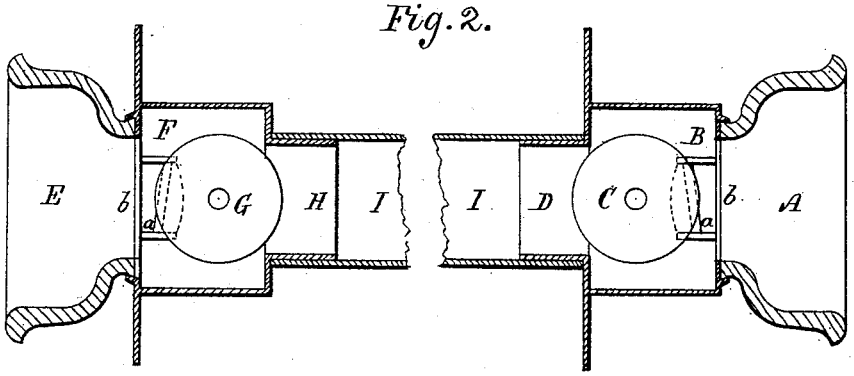


Fig. 2.



Witnesses.
Louis A Curtis
W. E. Boardman.

D. E. Campbell and J. R. Creighton.
F. Curtis. Atty.

UNITED STATES PATENT OFFICE.

DANIEL E. CAMPBELL AND JAMES R. CREIGHTON, OF BOSTON, MASS.

IMPROVEMENT IN SPEAKING-TUBES.

Specification forming part of Letters Patent No. **168,137**, dated September 28, 1875; application filed September 11, 1875.

To all whom it may concern:

Be it known that we, DANIEL E. CAMPBELL and JAMES R. CREIGHTON, of Boston, Suffolk county, Massachusetts, have invented an Improvement in Annunciator-Whistles, of which the following is a specification:

The drawings accompanying this specification represent in Figures 1 and 2 vertical sections of the signaling portion of a speaking-tube annunciator containing our invention.

In these drawings, A represents the trumpet mouth-piece of a speaking-tube; B, the tubular case or box to which such mouth-piece is secured, and which receives the whistle shown at C, the thimble upon the rear side of the case B, by which connection is made with the speaking-tube, being shown in its turn at D, these elementary features of speaking-tubes being arranged in the main as now generally used.

In carrying our invention into practice we place the pivot or hinge *a* of the whistle C obliquely to the two vertical planes of the mouth-piece and whistle-chamber, in order that the whistle shall be overhung in such manner as to remain open or away from the rear orifice *b* of the mouth-piece, and thus suffer such orifice to remain unclosed at all times, except when air is blown into the tube from the opposite end in the act of sounding the whistle.

In order the more perfectly to illustrate the operation of our invention we have represented in Fig. 2 of the accompanying drawings the two termini of a speaking-tube, the second mouth-piece being shown at E, the whistle-chamber at F, the whistle at G, and the thimble or exit of the said chamber at H, while I represents the speaking-tube as connected with the thimbles D and H.

In operating under the system of speaking-tubes heretofore in vogue, in which a self-closing valve or whistle must be opened to admit of a signal being sent, and held open until a reply is received, the caller frequently neglects, from ignorance or inattention, to hold this valve open, the consequence of which is that he does not hear the return signal or whistle from the opposite extremity of the tube, and confusion and loss of time, as well as repetitions of the signal, are the result.

In our method of mounting and operating the whistle, by which it remains open and intercepts to a sufficient extent the bore of the speaking-tube, the action is as follows: A guest in a hotel, or a person in proximity to any speaking-tube, and desirous of making a call through the same, blows into the mouth-piece A, for instance, no manipulation or preparation being necessary, as the entrance into the tube I is open and unobstructed. The caller's breath fills the tube, and closes and sounds the whistle G at its opposite end, and as the blowing into the tube ceases the whistle opens by its own gravity. The person who answers the signal blows into the opposite mouth-piece E, and closes and sounds the whistle C, and the first caller, without labor or care on his part, hears this signal, and sends back his verbal message through the tube with the same ease, and without manipulation of the instrument, as in sounding the whistle.

As the speaking-tube I is never closed entirely to passage of sound, and only obstructed at all while the whistle is being sounded, the many mistakes and annoying delays which now are of frequent occurence are by our method avoided.

We are also enabled to dispense with the elaborate card of instructions now posted alongside the mouth-pieces of ordinary speaking-tubes as requisite to an understanding of their use.

Furthermore, we are enabled to reduce the cost of the signaling portion of speaking-tube annunciators.

We claim—

1. The method of mounting and operating the whistle or other signal of a speaking-tube, substantially as herein shown, whereby the whistle is permitted to remain open until air is forced into the tube from the opposite end, when the whistle is closed and sounded, essentially as and for purposes stated.

2. The whistle or signal working on an axis or pivot placed obliquely to opposite vertical planes of the mouth-piece and whistle-chamber, whereby the whistle remains open until closed by air entering the tube from the opposite terminus, essentially as and for purposes stated.

D. E. CAMPBELL.
JAS. R. CREIGHTON.

Witnesses:
F. CURTIS,
W. E. BOARDMAN.