(No Model.)

J. H. RUSH.

SPEAKING TUBE, PIPE, &c.

No. 404,868. Patented June 11, 1889.

FIG. 1.

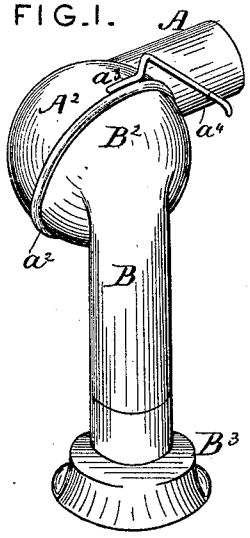


FIG. 2.

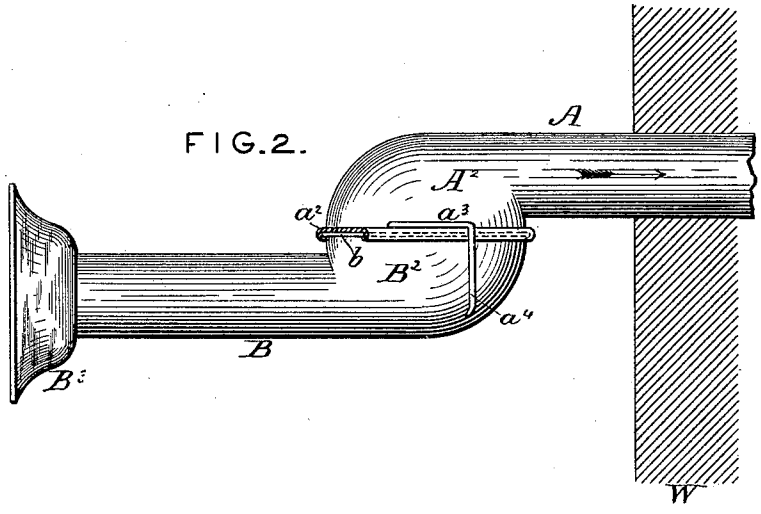


FIG. 3.

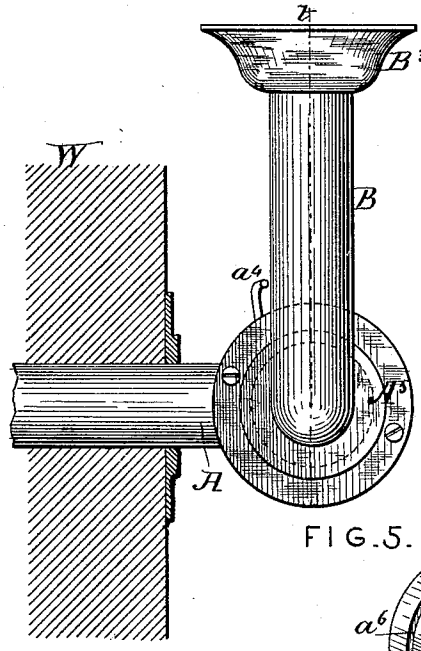


FIG. 4.

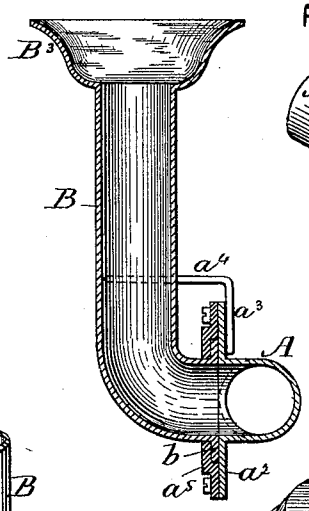


FIG. 6.

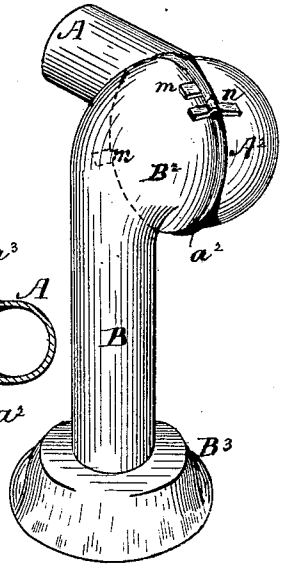
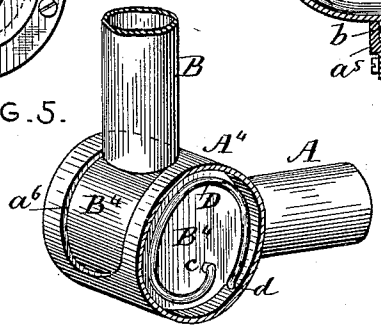


FIG. 5.



ATTEST:

Harry L. Amer.

E. E. Masson

INVENTOR.

James Henry Rush

by N. W. Stearns

atty.

UNITED STATES PATENT OFFICE.

JAMES HENRY RUSH, OF BOSTON, MASSACHUSETTS.

SPEAKING TUBE, PIPE, &c.

SPECIFICATION forming part of Letters Patent No. 404,868, dated June 11, 1889.

Application filed February 18, 1889. Serial No. 300,349. (No model.)

To all whom it may concern:

Be it known that I, JAMES HENRY RUSH, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Speaking-Tubes, of which the following is a specification.

My invention relates to improvements in speaking-tubes in which the end carrying the mouth-piece is movable and can be swung either in or out of line with its stationary end; and the objects of my improvement are to provide an adjustably-movable but rigidly tubular portion, in combination with and applied to the stationary end of a speaking-tube, and to connect said movable portion therewith in a simple and durable manner. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 represents in perspective one end of a stationary speaking-tube and my improved mouth-piece applied thereto and swung down into a position not required for use. Fig. 2 is a top view of the same, showing the movable end in a horizontal position. Fig. 3 is a side view of a slightly-modified joint uniting the movable with the stationary part of the tube. Fig. 4 is a vertical section of the same on the line *t t* of Fig. 3. Fig. 5 is a perspective view of another slightly-modified form of joint, having one end broken away to show the mouth-piece returning-spring. Fig. 6 represents another description of device for limiting the motion of the adjustable portion.

In large buildings containing numerous offices occupied by different parties, owing to the great number of speaking-tubes leading thereto, the lower ends of the tubes are necessarily grouped together and project only a short distance from the tablet located at or near the entrance of the building. The fixed position and the close grouping of the lower ends of the tubes are objectionable features, as persons of different stature cannot all obtain convenient access to the mouth-piece of a tube, a tall person frequently being obliged to bend the body, or a short person being unable to reach up thereto, and the voice of the speaker is not always concentrated in the right tube, frequently spreading into the contiguous tubes, and thus causing confusion to the occupants of the other offices.

My invention seeks to overcome these objections; it and consists in an adjustably-movable but rigidly tubular portion, in combination with and applied to one or both ends of a speaking-tube, the said movable portion being made to project out from and be in line with or incline to the stationary lower portion when required for use and occupying a substantially non-projecting position when not in use, and it is to be returned to said normal position either automatically or by the user.

In the accompanying drawings, A represents the stationary end of a speaking-tube projecting from a wall W. Said end in Figs. 1 and 2 terminates in an enlargement A^2, of semi-spherical form, that has the edge thereof still further enlarged to provide a circular hooked flange a^2 (shown broken away in Fig. 2) to receive the outwardly-flanged edge *b* of the semi-spherical inner end B^2 of the metal tube B, forming the movable end of the speaking-tube. Said tube B may be of any suitable length, and carries upon its outer end the mouth-piece B^3, of any suitable form. To unite the parts A B the flanges a^2 *b* are brought in juxtaposition and the flange a^2 is bent down over the flange *b*, so as to inclose it all around its periphery, but with sufficient play of the parts to permit the part B^2 and its tube B to be rotated against the flanged face of the part A^2 and to describe an arc of about one hundred and eighty degrees.

One form of stop to prevent the pipe B from being swung upward much more than in a perpendicular position, and thus prevent its mouth-piece from striking the wall, consists in a wire a^3, having one end soldered or otherwise secured to the stationary part A of the tube, the opposite end a^4 of said wire being bent to stand in the path of the pipe B to arrest it and form a rest therefor. A similar wire stop (not shown) may also be provided for preventing the mouth-piece of the movable portion B from striking against the tablet when it returns by its own weight or by the user to a position nearly vertically under the stationary portion; but instead of the above-described bent-wire stops a more sim-

ple stop (shown in Fig. 6) may be employed, a short projection u being secured to the flange of the stationary portion and another projection m secured to the contiguous flange of the movable portion, the position of the stops being such that when the movable portion is brought up its projection m will strike against the stationary projection n before the movable portion has quite arrived at a vertical position above the stationary tube, and thus insure the return of the movable portion by gravity.

Figs. 3 and 4 show a modified form of the joint only in this particular, that the flange a^2 of the stationary tube A, in place of being of hooked form or bent over the flange b of the movable tube, is provided with a recessed cap a^5, secured thereto and made to inclose the flange b and retain the parts united. The flange a^5 has also soldered or secured thereto the wire a^3, for the purpose above described.

In Fig. 5 the stationary tube A carries as a part of the joint a hollow cylinder A^4, within which is placed another hollow cylinder B^4, from the periphery of which projects the pipe B. The cylinder A has a peripheral slot a to permit the pipe B to be revolved therein within certain limits. The cylinder B^4 has also a similar slot on the opposite side thereof, so that the inner end of the pipe A will remain open or uncovered when the pipe B is revolved to permit sounds to pass freely from the pipe B to the pipe A. To permit the pipe B to be automatically returned to a vertical position, there is attached at c to the cylinder B^4 one end of a coiled wire D, that has its opposite end secured at d to the stationary cylinder A^4 and serves as a spring.

The movable portion B may be swung into various inclined positions to better adapt it for the use of a person either of a stature too high or too low for conveniently using the same when in a horizontal position.

My adjustable portion may be applied to either one or both ends of a speaking-tube, as may be found desirable. Furthermore, in the construction shown in Figs. 1, 2, and 3 a spiral spring may be applied to the joint formed at the junction of the stationary and movable portions of the tube, said spring being so arranged as to throw the movable portion up or down, which feature is particularly useful when my invention is to be applied to a series of ends of tubes already located in a building and grouped quite closely together. For instance, the movable portion could be made to swing up automatically when applied to the ends of the upper row of tubes and made to swing down automatically when applied to the ends of the lower row of tubes.

I claim—

1. As an improvement in speaking-tubes, the combination of the horizontal stationary tube having a chambered enlarged end in the elbow thereof, with a rigid metal tube having a mouth-piece at one end and a chambered enlarged end in the elbow thereof and pivotally connected with the enlarged elbow end of the stationary tube, substantially as and for the purpose described.

2. As an improvement in speaking-tubes, the combination of the stationary tube having a chambered enlarged end, with a rigid metal tube having a mouth-piece at one end and a chambered enlargement at the other end pivotally connected to one side of the chambered end of the stationary tube, whereby the mouth-piece-carrying tube is adapted to swing up and down in a plane parallel with a vertical plane passing through the stationary tube, substantially as and for the purpose described.

3. The combination of a stationary tube having a chambered end and a rigid metal tube having a mouth-piece at one end, a chambered enlargement at the other end formed integral therewith and pivotally connected to the chambered end of the stationary tube, with a spring having one end connected to the stationary tube and the other end to the movable tube, substantially as and for the purpose described.

JAMES HENRY RUSH.

Witnesses:
N. W. STEARNS,
J. ALBERT BRACKETT.