(No Model.) 4 Sheets—Sheet 1.

H. A. CUTMORE.

SPEAKING TUBE.

No. 454,399. Patented June 16, 1891.

Fig. 1.

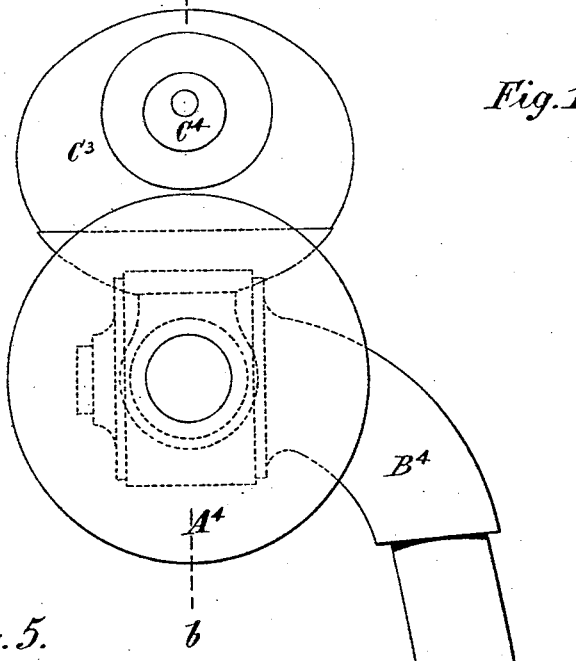
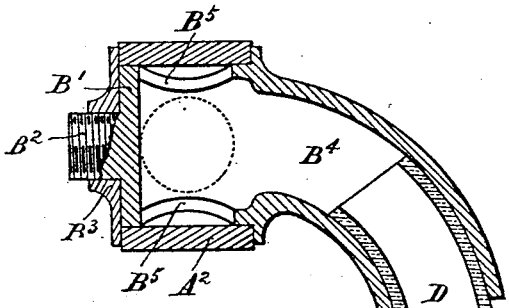
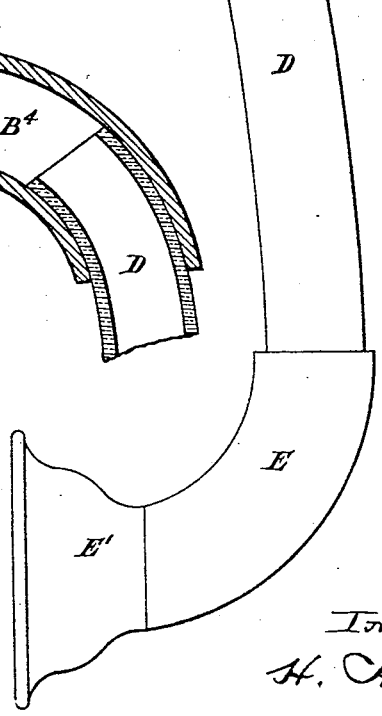


Fig. 5.





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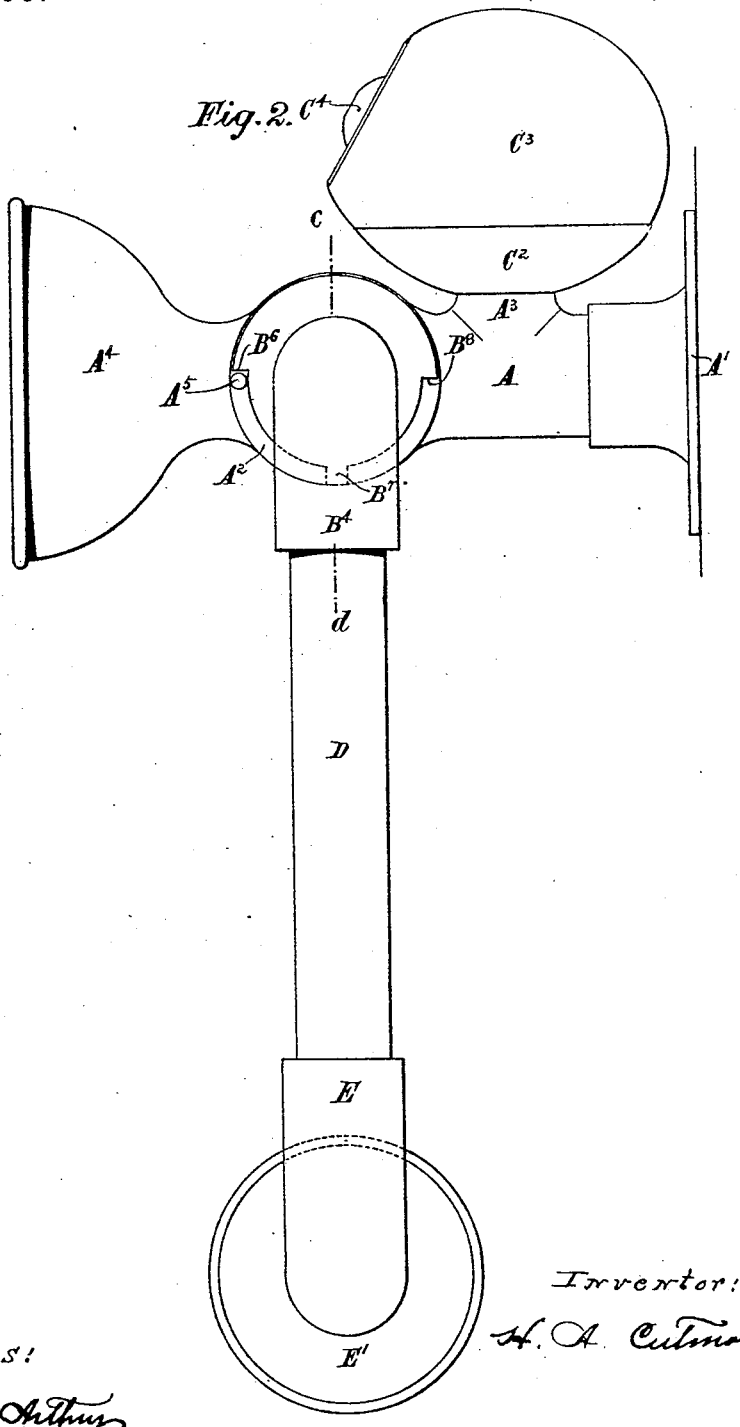
SPEAKING TUBE.

No. 454,399. Patented June 16, 1891.

Fig. 2.



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SPEAKING TUBE.

No. 454,399. Patented June 16, 1891.

Fig. 3.

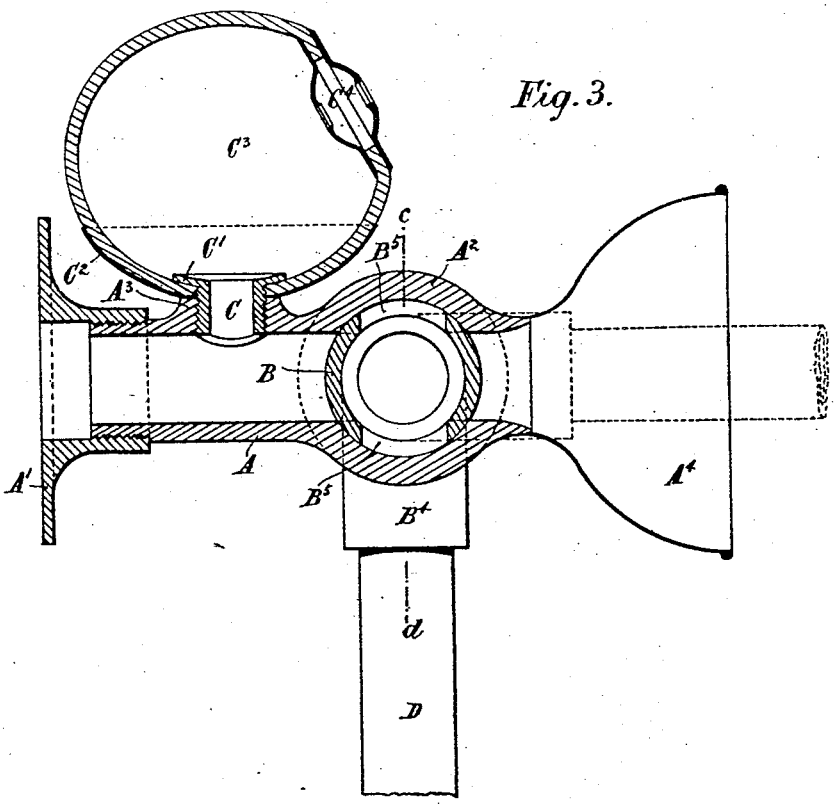
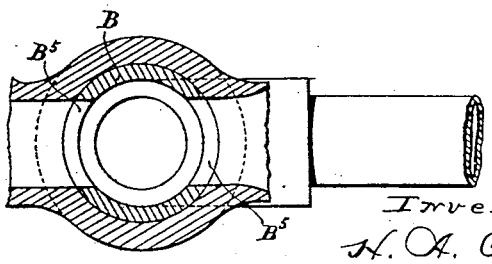


Fig. 4.



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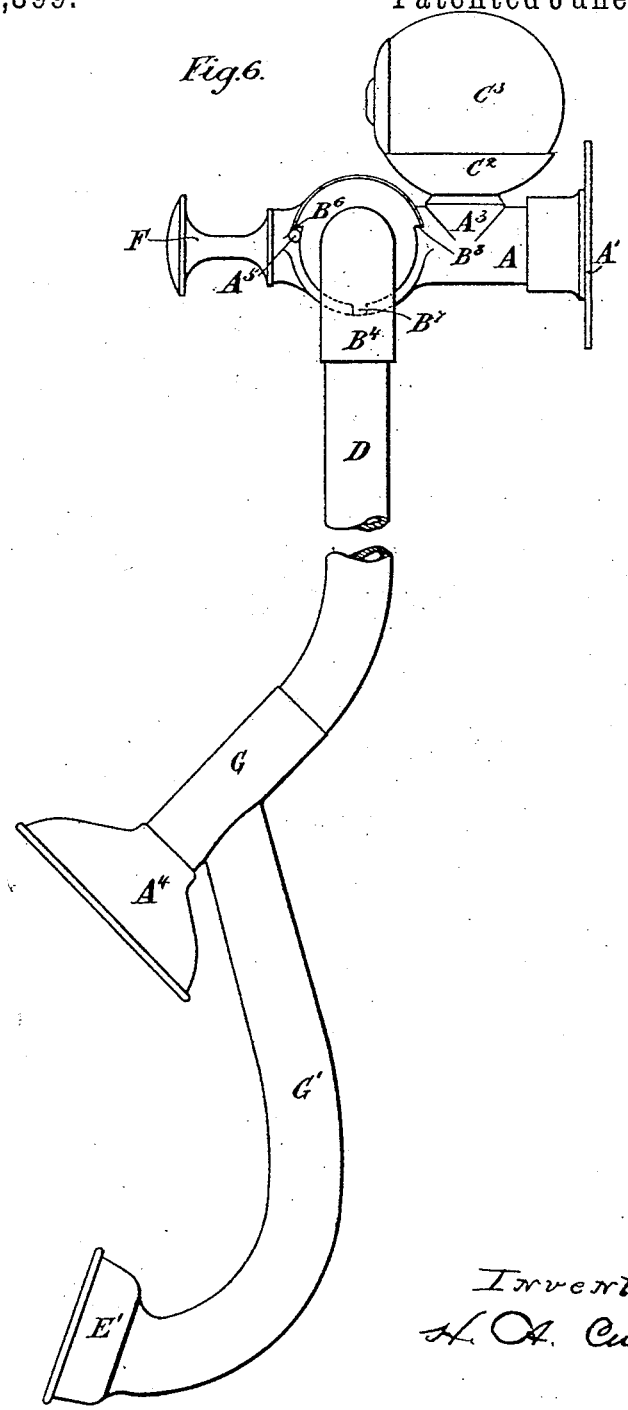
(No Model.) 4 Sheets—Sheet 4.

H. A. CUTMORE.

SPEAKING TUBE.

No. 454,399. Patented June 16, 1891.

Fig. 6.



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UNITED STATES PATENT OFFICE.

HAHNEMANN ADOLPHUS CUTMORE, OF SOUTH YARRA, MELBOURNE, VICTORIA.

SPEAKING-TUBE.

SPECIFICATION forming part of Letters Patent No. 454,399, dated June 16, 1891.

Application filed March 17, 1890. Serial No. 344,210. (No model.) Patented in Victoria September 6, 1888, No. 6,155; in New South Wales November 21, 1888, No. 1,084, and in England March 18, 1889, No. 4,737.

To all whom it may concern:

Be it known that I, HAHNEMANN ADOLPHUS CUTMORE, of South Yarra, Melbourne, in the Colony of Victoria, have invented certain new and useful Improvements in Speaking-Tubes, (for which I have applied for Letters Patent of Great Britain, No. 4,737, dated March 18, 1889; in New South Wales, No. 1,084, dated November 21, 1888, and in Victoria, No. 6,155, dated September 6, 1888,) of which the following is a specification.

This invention relates to improvements in or connected with speaking-tubes, and will be best understood by reference to the accompanying drawings, in which—

Figures 1 and 2 are respectively a front and a side elevation of one form of apparatus constructed according to this invention. Fig. 3 is a section on the line *a b* of Fig. 1, showing the apparatus in its shut-off position, and Fig. 4 is a similar section of a portion of Fig. 3 in its open position. Fig. 5 is a section on the line *c d* of a portion of Figs. 2 and 3 when in its closed position, and Fig. 6 is a side elevation of an alternative arrangement of the apparatus.

Like letters indicate like parts throughout the drawings.

Referring more particularly to Figs. 1 to 5, A is the body of the fitting, which may be secured to the desired part of a wall or other support by the flange A′ or in any other convenient manner. The body A is formed with a barrel A^2 for receiving the plug B, which may be turned therein, and is constructed after the manner of the plug of an ordinary cock, but is parallel instead of taper, so as to be readily inserted from either side of the apparatus, as circumstances may render convenient. The body A is also formed with a boss or branch, preferably screwed inside, and at its forward end is provided with a mouth-piece A^4. The parts A^4, when hereinafter referred to, will be termed "transmitters." The branch A^3 receives the nipple C, which passes through the metal cup C^2, between which and the flange C′ on the nipple is held the lower part of the compressible bulb C^3, which is composed of india-rubber or other suitable material, and may be provided with a whistle or call C^4.

The plug B at one end B′, Fig. 5, is closed, and is there provided with a screw B^2 and nut B^3 for retaining it in proper position in the barrel A^2. The other or open end of the plug B is provided with a bent and hollow branch B^4, in which is secured one end of a piece of flexible tubing D, the other end of which is secured in a preferably curved socket E, formed on the ear-piece E′. The parts hereinafter referred to by the letter E′ are termed "receivers."

B^5 are the ports of the plug B, through which is established communication between the two ends of the speaking-tube.

B^6 and B^7 are stops formed on the plug, and A^5 is a pin or projection on the barrel A^2 for preventing the plug B being moved beyond its open and closed positions. The combined weight of the tube D and receiver E′ when left unsupported is sufficient to automatically turn off the plug B and so close the speaking-tube.

As represented in the drawings, the plug B is also provided with a stop b^8, which, if the body A be inverted with the bulb C^3 underneath, allows of the receiver E′ being used at the left-hand side of the transmitter A^4, the stops B^7 and B^8 then serving to restrict the movement of the plug B to its open and closed positions. By reversing the plug B this result may be attained without inverting the body A.

When in its normal position, the receiver E′ hangs downward, as shown in Figs. 1 and 2, and the plug B is in its shut-off position, as shown in Figs. 3 and 5.

When a person desires to speak through the tube, he with his thumb or otherwise closes the opening through the whistle C^4 and compresses the bulb C^3, and thus drives air through and sounds the whistle at the other end of the tube. The person answering this call can, if desired, cover over the opening through the whistle C^4 and compress the bulb C^3 at his end of the tube, and thus sound the caller's whistle and signify his attention. Both then raise the receivers E′ to their ears,

and thus turn the plugs B into their open position, leaving the speaking-tube unobstructed. As soon as they have finished conversing they lower the receivers E′, and thus cut off communication between the two ends of the tube. The person using this apparatus speaks into the transmitter and places the receiver to his ear.

As shown in Fig. 6, the transmitter may be mounted on the flexible tubing D and the front end of the body closed by a plug F or in other convenient manner. Under this construction the transmitter A^4 is formed with a socket G, into which is secured the flexible tubing D and from which branches the tube G′, on whose end is provided the receiver E′. When a person applies his mouth to the transmitter of this last-described arrangement, the tube G′ will extend past his cheek and the receiver E′ will be against his ear.

The operation of the apparatus shown in Fig. 6 is the same as that of the before-described example.

When a number of the before-described fittings are used in the same room, they may be provided with indicators to show which of the whistles have been sounded. These indicators may be in the form of flaps, each normally closing the opening through the whistle to which it is applied, and which will be blown away from the said opening and remain in a conspicuous position when the whistle is sounded, or they may be of other construction.

Instead of the bulb C^3, the ordinary means may be provided for enabling the whistle at the distant end of the tube to be sounded by blowing with the mouth, and under this construction an ordinary whistle fixed in the body A at the back of the plug B would suffice.

If desired, the plug B may be arranged for turning directly by hand instead of through the tube D; but besides these there are various other ways in which the apparatus may be modified without departure from the spirit of this invention.

I claim—

1. In a speaking-tube, a body portion carrying on its free end a transmitter, a barrel portion interposed between the body and transmitter, and the stop-cock carrying a receiver and mounted in the barrel and having opposite openings, whereby in its normal position it closes the tube and prevents the passage of the air through the transmitter and receiver, substantially as described.

2. A speaking-tube consisting of a body having attached thereto a signal device and provided with a stop-cock carrying an earpiece and arranged to normally close the passage of the body, substantially as described.

3. A speaking-tube consisting of a body portion having attached thereto an elastic compressible bulb carrying a signal device, a transmitter connected to the free end of the body, and a stop-cock interposed between the body and the transmitter and carrying an earpiece and arranged to normally close the tube, substantially as described.

In testimony whereof I have hereto set my hand in the presence of two subscribing witnesses.

HAHNEMANN ADOLPHUS CUTMORE.

Witnesses:
GEO. M. YOUNG,
GEO. SHAW, Jr.,
Both of 42 William street, Melbourne, Victoria.