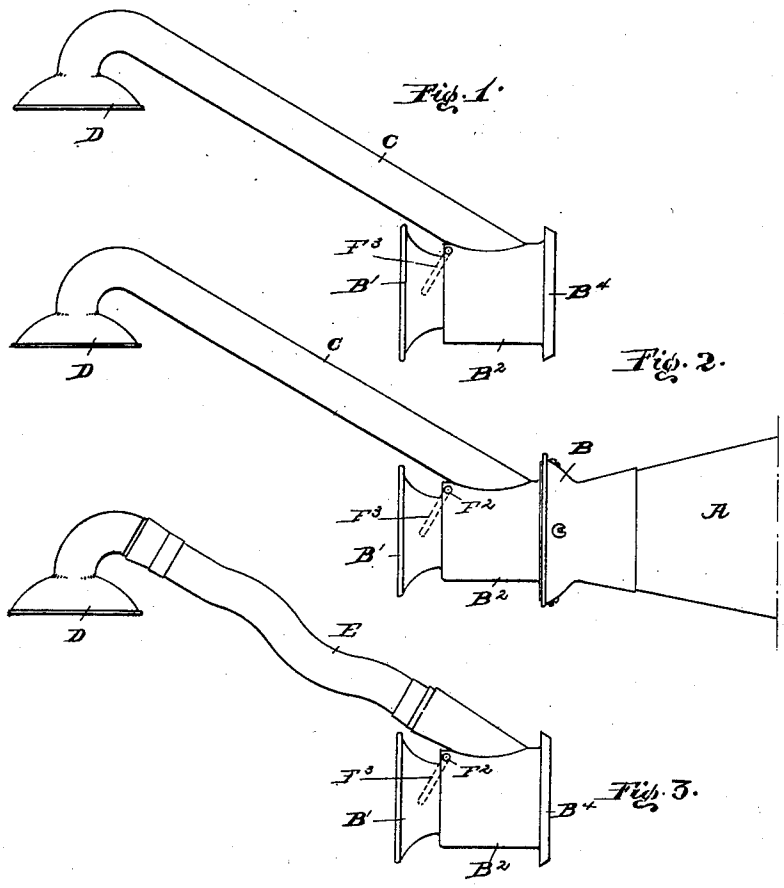
No. 652,926. Patented July 3, 1900.

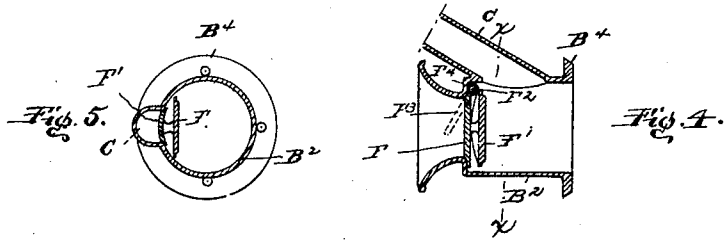
C. SALMOND.

SOUND TRANSMITTING AND RECEIVING DEVICE.

(Application filed Sept. 7, 1899.)

(No Model.)





WITNESSES:

Jno. S. Robbins,
E. W. Marsh.

INVENTOR.

Colin Salmond.

BY E. G. Siggers & Co.

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

COLIN SALMOND, OF SAN FRANCISCO, CALIFORNIA.

SOUND TRANSMITTING AND RECEIVING DEVICE.

SPECIFICATION forming part of Letters Patent No. 652,926, dated July 3, 1900.

Application filed September 7, 1899. Serial No. 729,786. (No model.)

To all whom it may concern:

Be it known that I, COLIN SALMOND, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Sound Transmitting and Receiving Instruments; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

This invention relates to improvements in sound transmitting and receiving instruments.

In the drawings, Figure 1 is a side view of the preferred form of a construction embodying the invention in the form of an attachment to a megaphone. Fig. 2 is a side view of a megaphone having this attachment secured thereto. Fig. 3 is a side view of an alternative construction. Fig. 4 is a longitudinal section of the mouthpiece, showing the shutters for cutting out the mouthpiece and the earpiece. Fig. 5 is a cross-section of the same, taken on the line X X in Fig. 4.

The object which the present invention has in view is to enable the user of a speaking-trumpet, megaphone, or like instrument to receive sounds without moving the instrument from the speaking position or the position in which it is directed toward the object at which the sound was projected and from whence the sound in reply would emanate. By the accomplishment of this object the greatest objection in the use of this character of instruments is avoided. In their present use these instruments are alternately utilized for sound transmitting and for sound receiving. In the former instance the user directs the instrument as he looks at the object. After speaking he turns his head and places the mouthpiece of the instrument to his ear to receive the sounds in reply. In the latter adjustment the direction of the instrument is only approximately correct. When not accurately correct or turned directly toward the object from whence the sound emanates, these instruments do not receive the full volume of the sound.

The present invention consists in providing an instrument of the character specified with a tubular extension, at the end of which is provided an earpiece to rest opposite the ear or which may be placed opposite the ear while the instrument is in position to be used for speaking.

It further consists in constructing a mouthpiece which may be attached to instruments of the character specified, which mouthpiece is provided with a tubular extension and earpiece, as above mentioned.

It further consists in providing the said tubular extension with a gate to close the passage while the instrument is being used for speaking; and it further consists in providing two gates arranged to operate in unison to close the passage of the tubular extension where the passage of the mouthpiece is open and to close the passage of the mouthpiece when the passage of the extension is open.

To facilitate the description of the invention with reference to the drawings, I will let the letter A designate a megaphone, to which this invention is applied. It is provided with a mouthpiece B, constructed, preferably, of metal. Into this mouthpiece is inserted the plug B^3 until the flange B^4 rests against the flange of the mouthpiece. If desired, the plug B^3 may be permanently secured in the mouthpiece by solder or rivets. Beyond the flange B^4 is extended the short tube B^2, at the end of which is provided the mouthpiece B'. Extended out at an angle from the side of the tube B^2 is the branch tube C, which in the preferred form is constructed of a stiff material, such as metal, and is bent, as shown in the drawings, to hold the earpiece D against the ear of the user of the instrument when speaking into the mouthpiece B'. The earpiece D is made of any suitable construction.

In some instances it is preferred to substitute for the rigid tube C the flexible tube E. (Shown in Fig. 3.) When using the instrument thus provided with the flexible tube, the user is compelled to hold with one hand the earpiece D in position. This form of construction has an advantage in that the construction is more economical, not necessitating a gate to shut off the passage E and C while the instrument is being spoken into.

With this construction the earpiece may be removed from the ear while speaking and placed to the ear when listening.

In the constructions where the tube C is rigid I use the double gate F F'. The gate F is a disk which fits over the mouthpiece B' and is carried by the pivot F^2, the end of which is bent to form a crank F^3, by which the gates may be opened or closed. The gate F is normally maintained closed by a spring F^4, which is mounted about the pivot F^2 in such a manner that the expansion of the spring rotates the pivot to close the gate F. The gate F' is mounted on the inner side of the gate F and is elongated to cover the opening of the tube C into the passage of the mouthpiece when the gates are swung so that the passage of the mouthpiece is open, as shown in Fig. 5 of the drawings. To more perfectly close the passages of the mouthpiece B or the tube C, these gates may be provided with a yielding surface, such as chamois-skin or cork. By this construction when either of the passages is completely closed by the gate the other passage is completely open.

While I have shown and described the construction as operating to normally close the mouthpiece by the action of the spring F^4, it will be understood that this may be removed; also, the construction may be altered so that the added piece constituting the gate F' may be dispensed with by using the reverse or inner side of the gate F to close the passage of the tube C. When thus provided with the described gate or gates, the manner of using the invention is as follows: The operator on seeing the object at which the sounds are to be directed raises the instrument to his mouth, with the earpiece opposite or resting against his ear. He then presses on the crank F^3 to throw the gate F to open the passage of the mouthpiece B' and close the passage of the tube C. Having finished speaking, he releases the crank, and the gate F instantly closes the passage of the mouthpiece, while opening the passage of the tube C. In this position the instrument will receive the full volume of sound, as it is maintained in the original position.

Having thus described this invention, what is claimed is—

1. The combination with an unsupported trumpet-like sound receiving and transmitting instrument having a mouthpiece, of a branch pipe communicating with the air-passage in the smaller end of the instrument and provided with an earpiece; substantially as described.

2. In a sound receiving and transmitting instrument, a pipe provided with a mouthpiece, a branch pipe communicating with said first-mentioned pipe and provided with an earpiece, and means for maintaining one of said pipes closed during the time the other of said pipes is open for use; substantially as described.

3. In a sound receiving and transmitting instrument, a pipe provided with a mouthpiece, a branch pipe communicating with said first-mentioned pipe and provided with an earpiece, and a gate pivoted between the openings in the said pipes and adapted to be swung to close either of said pipes and thus leave the other pipe open, said gate being provided with means for holding it in position to close either pipe during the period of use of the other pipe; substantially as described.

4. In a sound receiving and transmitting instrument, a pipe provided with a mouthpiece, a branch pipe communicating with said first-mentioned pipe and provided with an earpiece, and a member normally yieldingly maintained in position to close the first-mentioned pipe, said second-mentioned pipe being normally open; substantially as described.

In testimony whereof I have hereunto set my hand this 28th day of July, 1899.

COLIN SALMOND.

Witnesses:
E. F. MURDOCK,
BALDWIN VALE.