No. 831,900. PATENTED SEPT. 25, 1906.

C. A. SMITH.

SOUND REPRODUCING MACHINE.

APPLICATION FILED JUNE 5, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

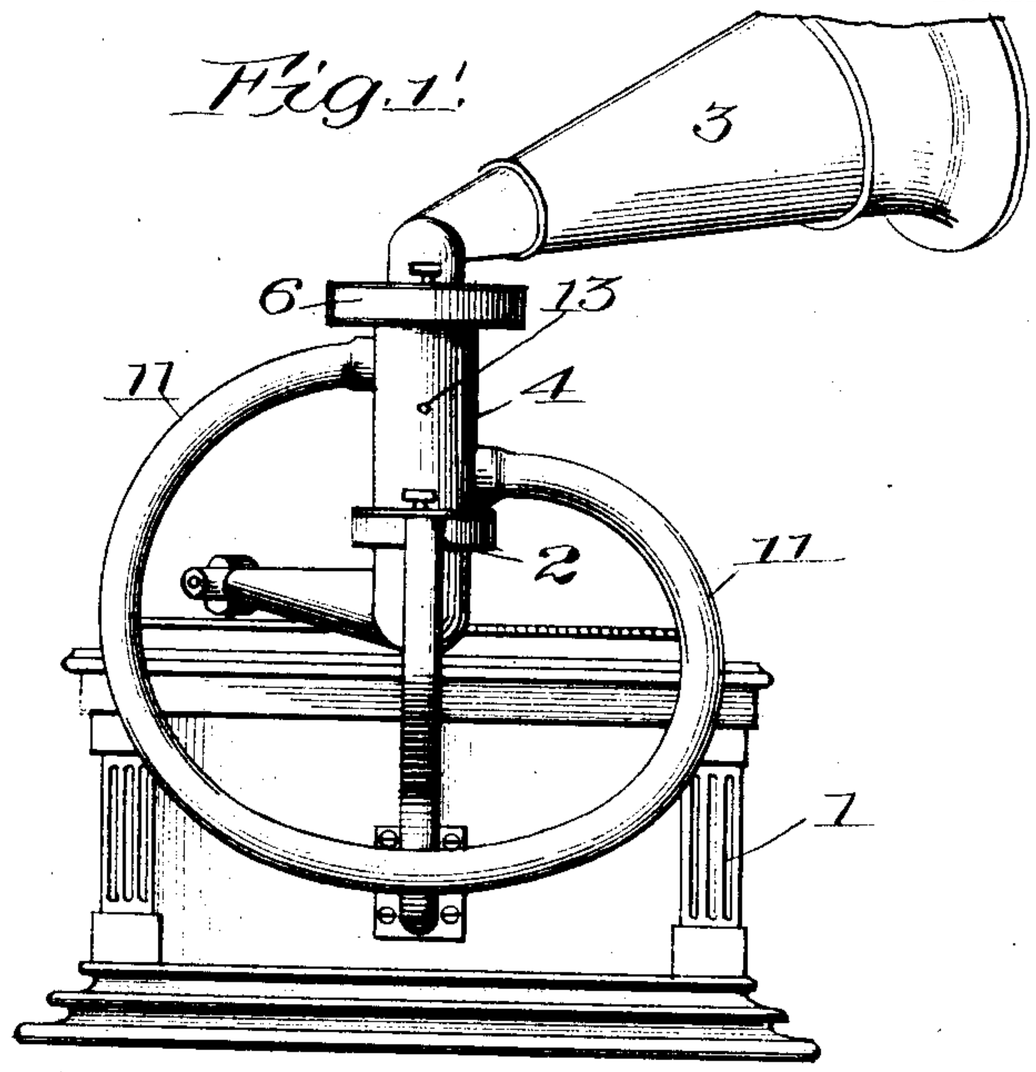



Fig. 2.

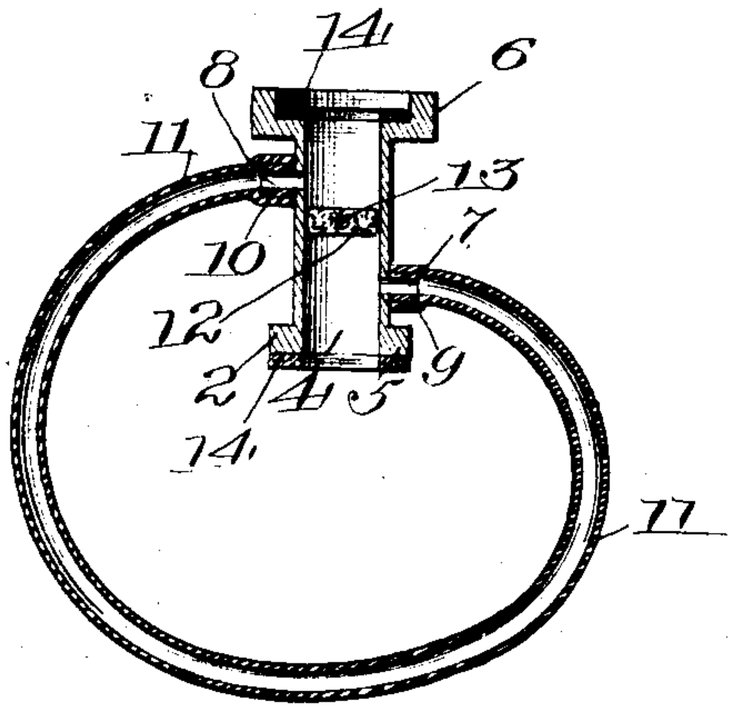
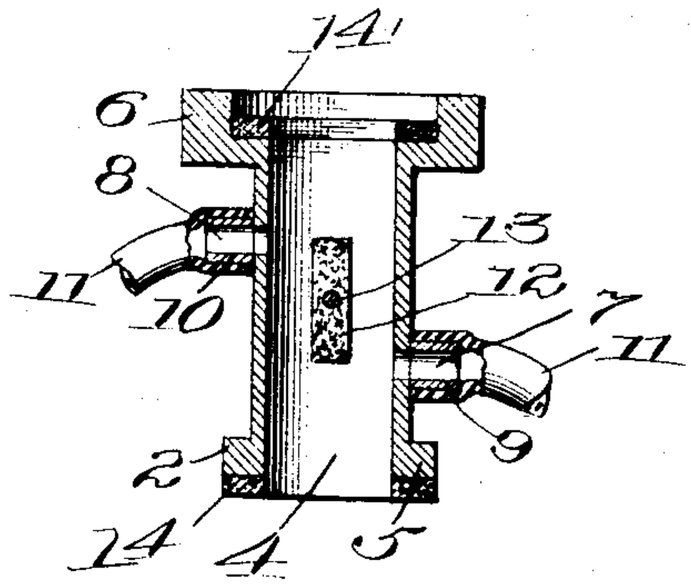



Fig. 3.

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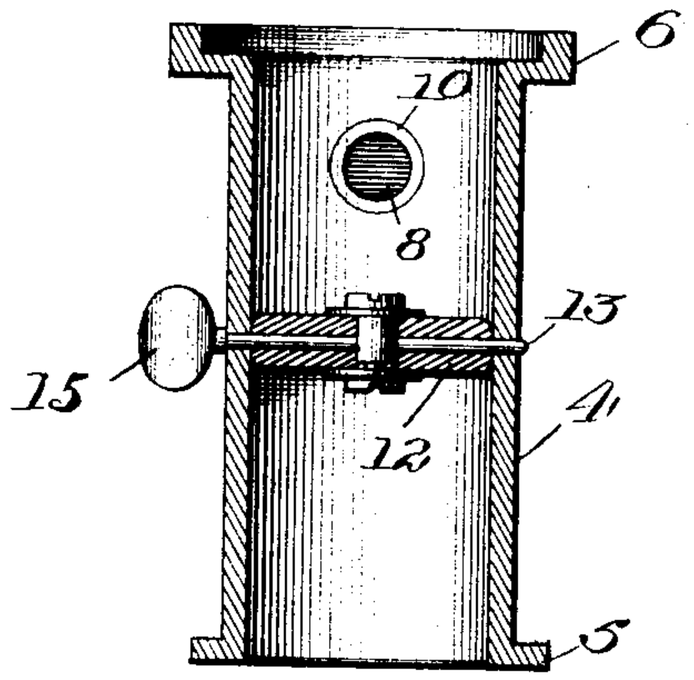
2 SHEETS—SHEET 2.

*Fig. 4.*

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# UNITED STATES PATENT OFFICE.

CURTIS A. SMITH, OF ELGIN, ILLINOIS.

## SOUND-REPRODUCING MACHINE.

No. 831,900. Specification of Letters Patent. Patented Sept. 25, 1906.

Application filed June 5, 1905. Serial No. 263,636.

*To all whom it may concern:*

Be it known that I, CURTIS A. SMITH, a citizen of the United States, residing at Elgin, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Sound-Reproducing Machines, of which the following is a specification.

My present invention relates to improvements in sound-reproducing machines, and has special reference to the production of means for modifying the quality of the sound issuing from the sound-ducts to the audience.

Certain sounds are modified to a greater extent than others by modifying the volume of sound issuing from the instrument, and by inserting a mute or stop in the sound-duct high shrill sounds and scratching noises can be eliminated to a great extent. To attain the advantages of this phenomenon in a simple and practical manner my invention consists of a new and novel form and arrangement of sound-duct, as will presently appear.

Figure 1 is a rear elevation of a sound-reproducing machine with my invention as applied thereto. Fig. 2 is a vertical sectional view of my invention. Fig. 3 is a detail view of a part of my invention, showing the position of parts when my invention is thrown out of operation. Fig. 4 is a detail sectional view of the extension-piece with the mute or stop disk in position and the exteriorly-located button for operating same.

In the drawings the numeral 1 is a sound-reproducing machine with the casting 2, to which is usually attached the amplifying-horn 3.

The numeral 4 indicates an extension section or piece, the lower end or bottom 5 of which is made similar to the end of the amplifying-horn, so that it will assemble readily with the casting 2. The upper end 6 of the extension-piece 4 is made similar to the top of the casting 2, so that the amplifying-horn can be attached thereto. In the opposite sides of the extension-piece 4 are provided the apertures or openings 7 and 8, one above the plane of the other, as shown. To the outer surface of the extension-piece 4 and surrounding the apertures 7 and 8 are attached by brazing, soldering, or other appropriate method the small lengths of metallic tubing 9 and 10. Over the outer ends of the short tubes 9 and 10 I pass the opposite ends of the tubing 11. The tubing 11 may be of any appropriate material—such as rubber, metal, fabric, or a combination of these materials.

Between the planes of the apertures 7 and 8, as specifically referred to in the claims, I provide the mute or stop disk 12, which is carried upon the axle 13. The said axle 13 is at right angles to the direction of the tubes 9 and 10 and has its bearings in the walls of the extension-piece 4. One end of the axle 13 is provided with an exteriorly-located button 15, by means of which the disk 12 may be adjusted transversely to or longitudinally with the axis of the extension-piece 4.

When it is desired to use my device, the disk 12 is adjusted, as shown in Fig. 2, the sound is then compelled to enter the aperature 7, traverse the tubing 11, reënter the extension-piece 4 through the aperture 8, and from thence through the amplifying-horn to the audience.

When it is desired to operate the instrument without my sound-modifier, there is no need to detach it from the instrument. It is only necessary to adjust the disk 12, as shown in Fig. 3, when the sound passes directly through the extension-piece 4 to the amplifying-horn and thence to the audience.

It will be noticed that in Figs. 2 and 3 I show packing-gaskets 14 both at the top and bottom of the extension-piece 4, as I find it is necessary to pack these joints to prevent a murmur of the reproduced sound escaping from these joints.

From the foregoing description, taken in connection with the drawings, it is evident that I provide a means for modifying the reproduced sound which is extremely simple in construction and effective in operation.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a sound-reproducing machine, means for modifying reproduced sound consisting of two sections of sound conduit or conveyer, one of which sections is adapted to modify the sound, and means carried by the other of said sections for directing the reproduced sound through the modifying-section.

2. In combination with a sound-reproducing machine, means for modifying reproduced sound consisting of two sections of sound conduit or conveyer, one of which sections is adapted to modify the sound and adjustable means carried in the other of said sections for directing the reproduced sound through the modifying section.

3. In combination with a sound-reproduc-

ing machine, a cylindrical sound-conveyer with means for locating same between the reproducing means and delivery portion of said machine, said cylindrical sound-conveyer being provided with a length of sound-conveying tubing adapted to modify the sound and adjustable means for directing the reproduced sound through said sound-modifying tubing when desired.

4. In combination with a sound-reproducing machine, a sound-conveying cylinder provided with two lateral apertures, one located above the other, a length of sound-conveying tubing connecting said apertures and adjustable means located in said cylinder, which can be adjusted to direct the sound through said sound-conveying tubing, whereby the length of the sound-conduit can be modified, thereby modifying the reproduced sound.

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

CURTIS A. SMITH.

Witnesses:

BENJ. T. ROODHOUSE,

BYRON W. WIGHT.