

G. A. BALDWIN.
SOUND CONDUCTING HORN.

(Application filed Apr. 15, 1902.)

(No Model.)

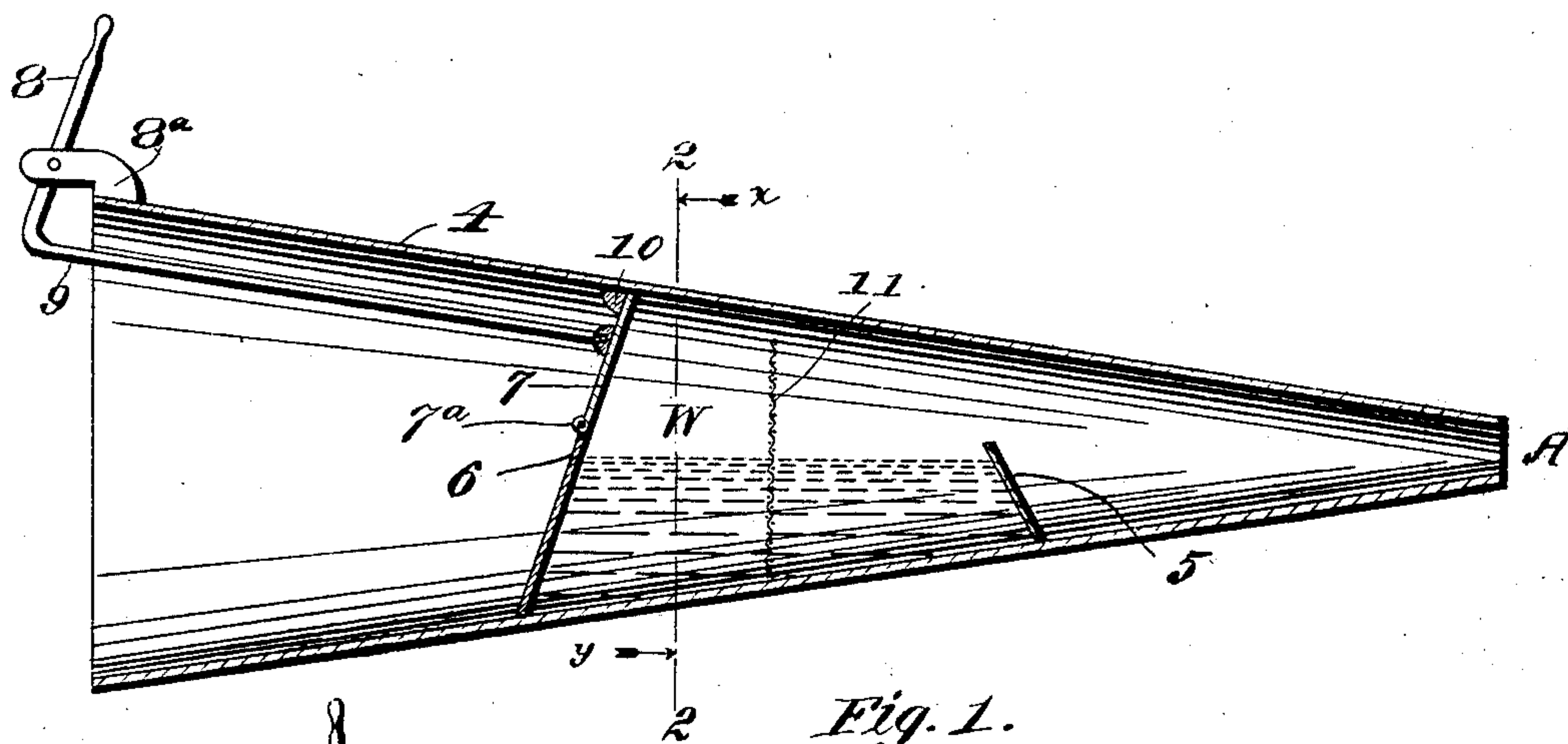


Fig. 1.

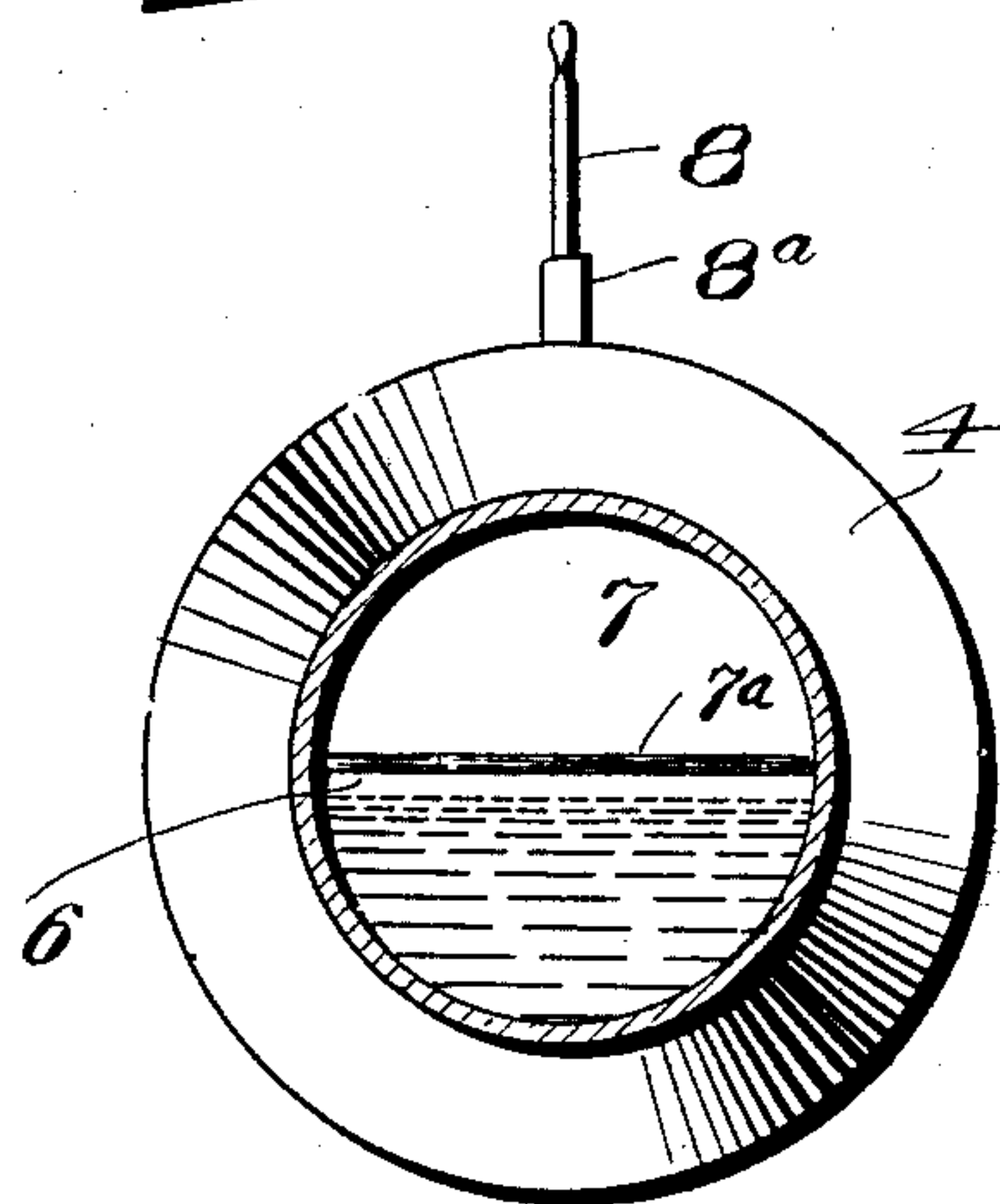


Fig. 2.

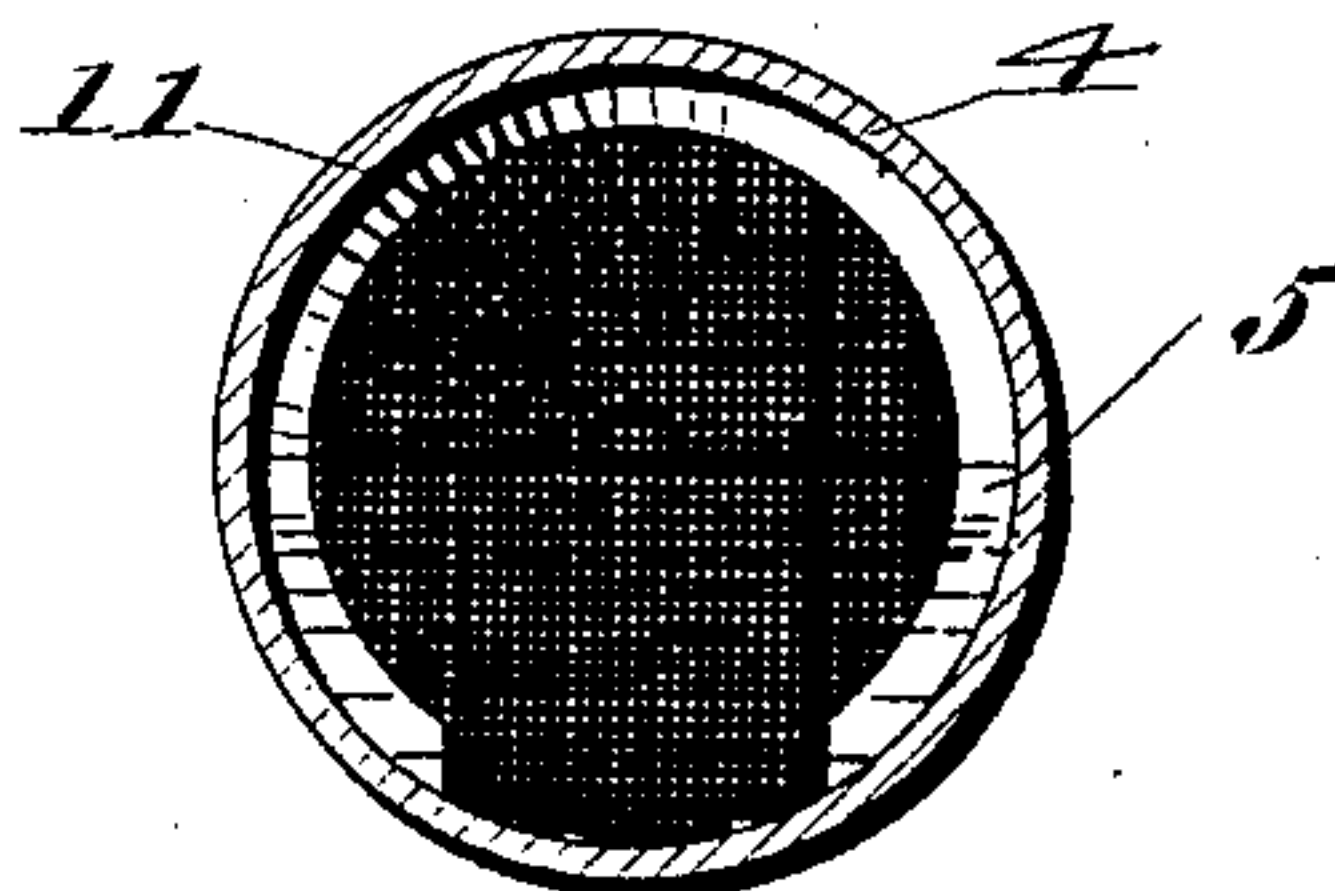


Fig. 3.

WITNESSES:

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GEORGE A. BALDWIN, OF WALNUTGROVE, MISSOURI, ASSIGNOR OF ONE-HALF TO J. W. CARMACK, OF WALNUTGROVE, MISSOURI.

SOUND-CONDUCTING HORN.

SPECIFICATION forming part of Letters Patent No. 715,237, dated December 9, 1902.

Application filed April 15, 1902. Serial No. 103,019. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. BALDWIN, a citizen of the United States, residing at Walnutgrove, in the county of Greene and State of Missouri, have invented certain new and useful Improvements in Sound-Conducting Horns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in horns for sound-reproducing machines, megaphones, and similar devices.

It has for its object to augment or diminish the volume of sound, according to the wishes of the listeners or requirements of the particular music, speech, or other sound which is being reproduced.

A further object is to improve the timbre or quality of the sound issuing from the horn.

Novel details in the arrangement and construction of the several parts of the invention will be apparent from the detailed description hereinafter and the appended claims, when taken in connection with the accompanying drawings, forming part hereof.

In the drawings, Figure 1 is a central longitudinal section. Fig. 2 is a cross-section on the line 2 2 of Fig. 1 looking in the direction of the arrow *x*. Fig. 3 is a like view looking in the direction of the arrow *y*.

Referring more particularly to the drawings, the horn is indicated at 4, being of the usual frusto-conical shape. Two diaphragms or partitions 5 and 6 are secured to the inner walls thereof at some distance apart. The intervening space *W* serves as a chamber or reservoir for a liquid, the purpose of which will be hereinafter described. The diaphragms are made, preferably, slanting toward each other and do not extend to the top wall of the horn, their height being about one-half the diameter of the horn at their respective positions. To the diaphragm 6 a gate 7 is hinged, as indicated at 7^a, which may be opened or closed by means of a hand-lever 8, fulcrumed to a

bracket 8^a, secured to the horn. The lever 8 is connected to the gate 7 by a rod 9. Suitable movement of the lever 8 will open or close the gate 7, and a stop 10 prevents excessive outward movement of the same. A fine-wire screen 11 is secured to the bottom wall of the horn within the space *W*. It is removed from the side and top walls of the horn to permit of its ready vibration.

In operation the sound entering the horn at *A* passes over the diaphragm 5 and out of the horn through the gate 7, which being capable of adjustment enables the volume of sound to be regulated. The space *W* between the diaphragms 5 and 6 is filled with water or other suitable liquid, in which the screen 11 is partly immersed. The sound in striking the diaphragm 5 and in passing over the water causes a vibration of the water and the screen, by which the volume of sound is greatly augmented and its timbre improved.

It will be understood that various minor changes in the details of the construction may be made without departing in the least from the spirit of the invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination with a sound-conducting horn, of two diaphragms therein, and a liquid-chamber formed thereby.

2. The combination with a sound-conducting horn, of a liquid-chamber and vibratory screen therein.

3. The combination with a sound-conducting horn, of two diaphragms therein, a liquid-chamber formed thereby, and a vibratory screen in said liquid-chamber.

4. The combination with a sound-conducting horn, of two diaphragms therein, a liquid-chamber formed thereby, a vibratory screen in said liquid-chamber, a gate on one of said diaphragms, and means to operate said gate.

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

GEORGE A. BALDWIN.

Witnesses:

R. T. JONES,
C. G. KING.