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S. I. PRESCOTT.
AMPLIFIER FOR SOUND REPRODUCING MACHINES.
APPLICATION FILED MAR. 18, 1909.

965,328.

Patented July 26, 1910.

FIG 1

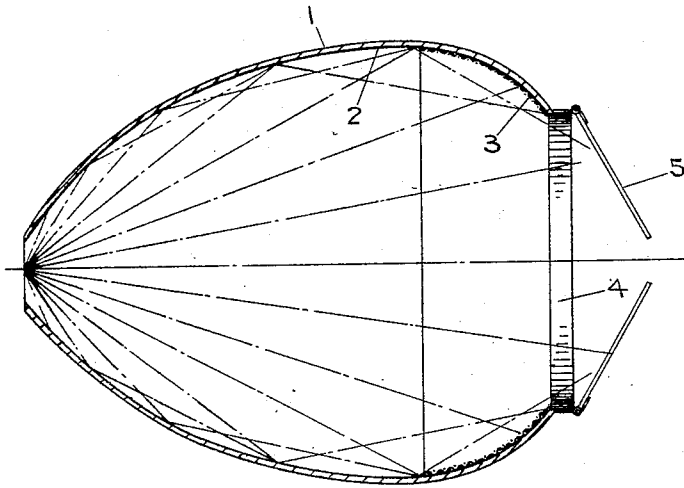
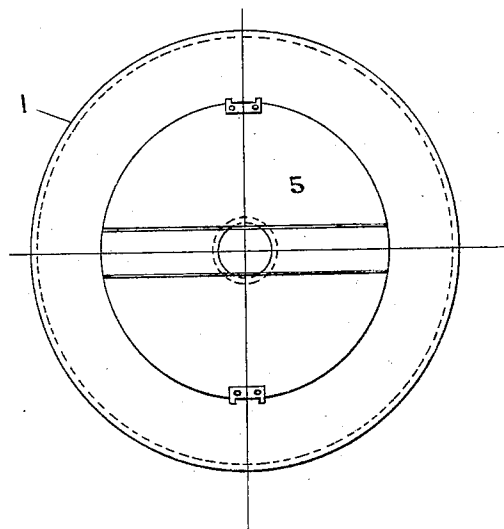


FIG 2



ATTEST
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UNITED STATES PATENT OFFICE.

SYDNEY I. PRESCOTT, OF CAMDEN, NEW JERSEY.

AMPLIFIER FOR SOUND-REPRODUCING MACHINES.

965,328.

Specification of Letters Patent.

Patented July 26, 1910.

Application filed March 18, 1909. Serial No. 484,285.

To all whom it may concern:

Be it known that I, SYDNEY I. PRESCOTT, a citizen of the United States, residing at Camden, county of Camden, in the State of New Jersey, have invented a new and useful Amplifier for Sound-Reproducing Machines, of which the following is a specification.

This invention relates to an improvement in amplifiers for sound reproducing machines.

Heretofore, amplifiers for sound reproducing machines have been constructed in a form progressively increasing in diameter from one end to the other. In such structures there is produced by the deflection of the sound-waves passing therethrough, a series of sound-crashes. Such structures are acoustically imperfect and objectionable for this reason.

It is one of the objects of the present invention to provide an amplifier for sound reproducing machines through which the sound-waves will pass without the formation of internal sound-crashes. It has been found that to be acoustically perfect, a chamber in which sound-waves are propagated should be substantially ovoid or egg-shaped. In order to avoid the production, within such a chamber, of sound jars it is necessary that a portion of the surface be of some non-deflecting or sound-absorbing material.

It is another object of the present invention to provide an amplifier, a portion of the wall of which is capable of deflecting sound and the remainder capable of absorbing sound.

Still another object is the production of an amplifier ovoid in shape.

With these and other objects, not specifically mentioned, in view, the invention consists in certain constructions and combinations which will be hereinafter fully described and then specifically set forth in the claims hereunto appended.

In the accompanying drawings which form a part of this specification and in which like characters of reference indicate the same parts, Figure 1 is a longitudinal section of a device constructed in accordance with the invention, and Fig. 2 is an end view of the structure illustrated in Fig. 1.

In carrying the invention into effect there is provided an amplifier which may vary within wide limits. In the best constructions, however, an ovoidal amplifier 1; that is to say, an amplifier which is substantially

egg-shaped, is employed. This amplifier is provided with a sound deflecting surface 2, located, in the device selected to illustrate the invention, at the smaller end of the amplifier, although in certain constructions the deflecting surface may be otherwise located. The amplifier 1 is also provided with a sound-absorbing surface 3 located at the larger end thereof, although in certain constructions it may be otherwise located. In the operation of the device so far described, the sound-waves travel from the smaller toward the larger end and in directions at an angle to the axis of the amplifier, so that the entire inclosure is filled with sound. That portion of the sound-wave which strikes the surface 2 is, however, deflected from its initial course as indicated by the dotted lines in Fig. 1. That portion of the sound-waves which strike the surface 3 would, if this surface was a deflecting surface, be thrown back against the central portion of the wave and thereby form a sound jar. The surface 3 being a sound-absorbing surface no deflection takes place and the formation of sound jars is thereby prevented.

Means are provided for varying the volume of the sound issuing from the amplifier, and this means may vary within wide limits. In the best constructions, however, and as shown, the amplifier has an opening 4 in its larger end, and a closure is formed by a pair of doors 5, hinged to the wall of the amplifier although it is to be understood that any suitable closure may be employed for the purpose of closing the opening and thereby vary the sound.

Changes and variations may be made in the structure by which the invention is carried into effect. The invention, therefore, is not to be restricted to the precise details of the structure shown and described.

What is claimed is:

1. An ovoidal amplifier for a sound reproducing machine, a portion of the walls of the amplifier being capable of deflecting sound and the remainder being capable of absorbing sound, substantially as described.

2. An ovoidal amplifier for a sound reproducing machine, the smaller end of which has a sound deflecting surface and the larger end a sound absorbing surface, substantially as described.

3. In a sound reproducing machine, the combination with an ovoidal amplifier a portion of which has a sound deflecting

surface and the remainder a sound absorbing surface, of means for varying the volume of tone issuing from the amplifier, substantially as described.

- 5 4. In a sound reproducing machine, the combination with an ovoidal amplifier a portion of which has a sound deflecting surface and the remainder a sound absorbing surface, of a closure for varying the volume of tone issuing from the amplifier, substantially as described.

- 10 5. An ovoidal amplifier for a sound reproducing machine having a sound deflecting surface and a sound absorbing surface, an inlet port in the deflecting surface and an outlet port in the absorbing surface, substantially as described.

- 15 6. An ovoidal amplifier for a sound reproducing machine the smaller end of which has a sound deflecting surface and an inlet port and the larger end a sound absorbing surface and an outlet port, substantially as described.

- 20 7. An amplifier for a sound reproducing machine, a portion of the walls of the amplifier being capable of deflecting sound and the remainder being capable of absorbing sound whereby deflection across the axis of the amplifier is prevented, substantially as described.

- 25 8. An amplifier for a sound reproducing machine having a smaller and a larger end, the smaller end of which has a sound deflecting surface and the larger end a sound absorbing surface whereby deflection across the axis of the amplifier is prevented, substantially as described.

- 30 9. In a sound reproducing machine, the combination with an amplifier a portion of which has a sound deflecting surface and the remainder a sound absorbing surface whereby deflection across the axis of the amplifier is prevented, of means for varying

the volume of sound issuing from the amplifier, substantially as described.

- 45 10. In a sound reproducing machine, the combination with an amplifier a portion of which has a sound deflecting surface and the remainder a sound absorbing surface whereby deflection across the axis of the amplifier is prevented, of a closure for varying the volume of sound issuing from the amplifier, substantially as described.

- 50 11. An amplifier for a sound reproducing machine having a sound deflecting surface, an inlet port in the deflecting surface, a sound absorbing surface whereby deflection across the axis of the amplifier is prevented, and an outlet port in the absorbing surface, substantially as described.

- 55 12. An amplifier for a sound reproducing machine the smaller end of which has a sound deflecting surface provided with an inlet port and the larger end of which has a sound absorbing surface whereby deflection across the axis of the amplifier is prevented and being provided with an outlet port, substantially as described.

- 60 13. An ovoidal amplifier for sound reproducing machines, a portion of its walls being capable of absorbing sound whereby deflection across the axis of the amplifier is prevented, substantially as described.

- 65 14. An ovoidal amplifier for sound reproducing machines the walls of the larger end of which are capable of absorbing sound whereby deflection across the axis of the amplifier is prevented, substantially as described.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

SYDNEY I. PRESCOTT.

Witnesses:

FRANK B. MIDDLETON, Jr.,
ETHEL M. WHITEHEAD.