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M. VAN BLARICOM ET AL

1,547,535

SOUND AMPLIFIER

Filed Feb. 15, 1924

Fig. 1.

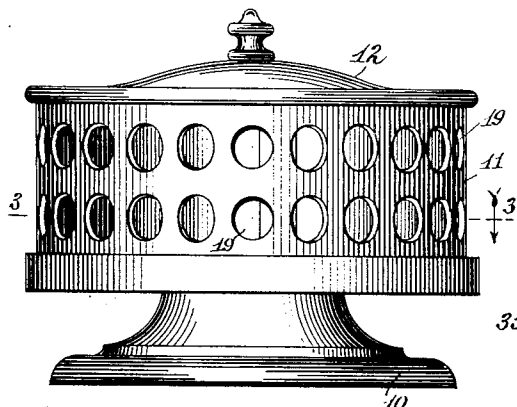


Fig. 4.

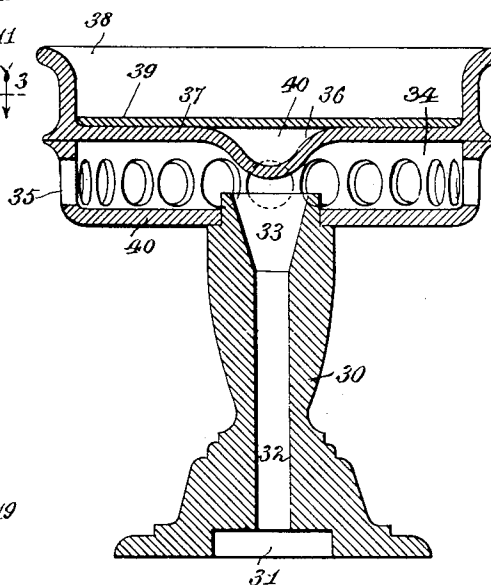


Fig. 2.

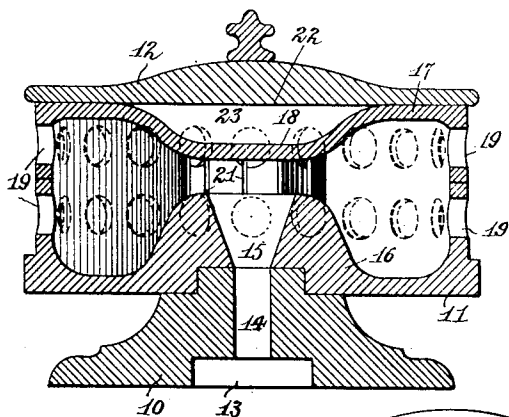
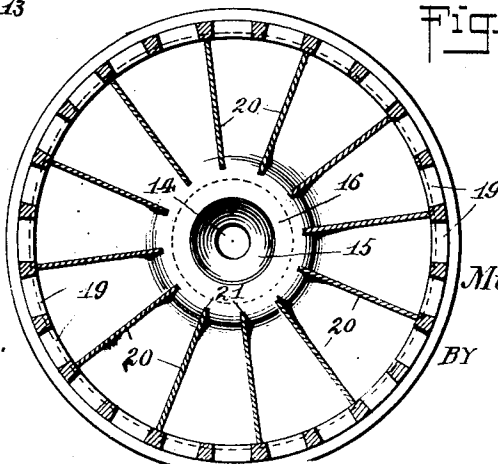


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

MILLARD VAN BLARICOM, OF MONTCLAIR, AND WALTER LE BLANC, OF HILLSIDE, NEW JERSEY; SAID VAN BLARICOM ASSIGNOR OF HIS ENTIRE RIGHT TO CHARLES H. PAYNE, OF MALBA, NEW YORK.

SOUND AMPLIFIER.

Application filed February 15, 1924. Serial No. 693,084.

To all whom it may concern:

Be it known that we, MILLARD VAN BLARICOM and WALTER LE BLANC, both citizens of the United States, and residents, respectively, of Montclair, in the county of Essex and State of New Jersey, and of Hillside (Elizabeth), in the county of Union and State of New Jersey, have invented a new and Improved Sound Amplifier, of which the following is a full, clear, and exact description.

The present invention relates to new and useful improvements in amplifying devices, and it pertains more particularly to an amplifier especially adapted for use in connection with radio apparatus.

It is one of the objects of the invention to provide a new and improved sound amplifier in which the sound waves are directed or broadcast in a horizontal plane.

It is a further object of the invention to provide a device of this character in which the sound waves will radiate therefrom in a horizontal plane, thus making the device non-directional as to the greatest volume, as is the common horn type of amplifying device.

It is a further object of the invention to construct the device in such a manner that the volume of sound distributed thereby will be equal in all directions.

With the above and other objects in view, reference is had to the accompanying drawings, in which

Figure 1 is a view in elevation of a device constructed in accordance with the present invention;

Fig. 2 is a vertical sectional view thereof;

Fig. 3 is a horizontal sectional view thereof taken on the line 3—3 of Fig. 1, and

Fig. 4 is a vertical sectional view of a slightly modified form of the invention.

Referring to the drawings by reference numeral, the device comprises a base 10, an amplifying chamber 11, and a top 12, said top being preferably of an ornamental nature.

In that form of the invention shown in Figs. 1 to 3, the base is provided with a cut-out portion 13 adapted to receive a so-called loud speaker unit, and leading from the cut-out portion 13 there is a passage 14. The amplifying chamber 11 is provided

with a passage 15 which is flared outwardly, the body of the amplifying chamber being preferably thickened and designated by the reference character 16 to permit of such a construction. The top wall 17 of the amplifying chamber is provided with a depending portion 18, which is adapted to overlie the upper end of the flared passage 15. The side walls of the amplifying chamber 11 are provided with a plurality of openings 19 and mounted between said openings 19 there is a plurality of radially-disposed partitions 20, which partitions extend from a point substantially at the center of the amplifying cabinet outwardly and so arranged as to provide two outlet openings 19 between each two partitions 20. The inner ends 21 of these partitions terminate at a point short of the discharge end of the flared passage 15, as shown in Fig. 2. The ornamental top 12 heretofore mentioned, is secured to the top wall 17 of the amplifying chamber and its lower face designated by the reference numeral 22, is flat, which construction provides a chamber 23 directly over the center of the amplifying cabinet and superimposed with respect to the flared passage 15.

This form of the device operates as follows:

The sound waves from the speaking unit (not shown) pass upwardly through the passage 14 and through the flared passage 15 and are projected against the depending portion 18 of, the top wall 17 of the amplifying cabinet. This directs the sound waves in a horizontal plane radially of the amplifying chamber 11 and the sound waves pass outwardly of the amplifying chamber 11 through the openings 19 in all directions in equal volume. The partitions 20 serve to provide the amplifying chamber into a plurality of outwardly-flared compartments, and, at the same time, prevent a swirling or a rotary motion of the sound waves within the amplifying cabinet 11, which in some instances might reduce the volume of the sound emanating from the amplifying cabinet 11. The chamber 23 being a dead space serves to prevent a loss of sound waves due to vibration of the top wall of the cabinet 17 and thus causes practically all of the sound waves emitted from the flared pas-

sage 15 to travel in a horizontal plane or radially of the amplifying chamber 11.

In that form of the invention shown in Fig. 4, the base 30 is of the pedestal type and is provided with a cut-out portion 31 to receive a speaking unit. Extending upwardly through the base 30 there is a passage 32 which terminates in a flared portion 33 leading into an amplifying chamber 34. This amplifying chamber 34 is provided with a plurality of outlet openings 35, and has its top closed by means of a wall 37 having a depressed portion 36 which overlies the flared portion 33 of the passage 32. The top 38 in this form is provided with a bottom member 39, which forms in combination with the depressed portion 36, a dead-air chamber 40 directly overlying the flared portion 33 of the passage 32. The operation of the form of the device shown in Fig. 4, is similar to that described for the form shown in Figs. 1 to 3, with the exception that in the form shown in Fig. 4, there are no partitions 20 or other means to prevent a rotary or swirling action of the sound waves within the amplifying chamber.

What is claimed is:

1. A device of the character described comprising a base member and an amplifying

chamber supported thereby, said amplifying chamber having laterally directed outlet openings, and means associated with the amplifying chamber to prevent a swirling action of the sound waves therewithin. 35

2. In a device of the character described, an amplifying chamber, means for introducing sound waves thereto, means arranged in the path of said sound waves for causing them to spread laterally of the amplifying chamber, and a dead-air chamber provided at the rear of said last-mentioned means. 40

3. A device of the character described comprising a pedestal, an amplifying chamber carried thereby, said pedestal having a passageway therethrough, said passageway having communication with said amplifying chamber, and a dead-air chamber forming a part of said amplifying chamber and positioned directly over said passageway. 45

4. In a device of the character described, an amplifying chamber, means for introducing sound waves laterally of said amplifying chamber, and a plurality of radially extending vertically disposed partitions for preventing a rotary movement of said sound waves within the amplifying chamber. 50 55

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