March 24, 1942. R. P. MERCURIUS 2,277,525

SOUND AMPLIFIER

Filed April 28, 1941

Fig. 1.

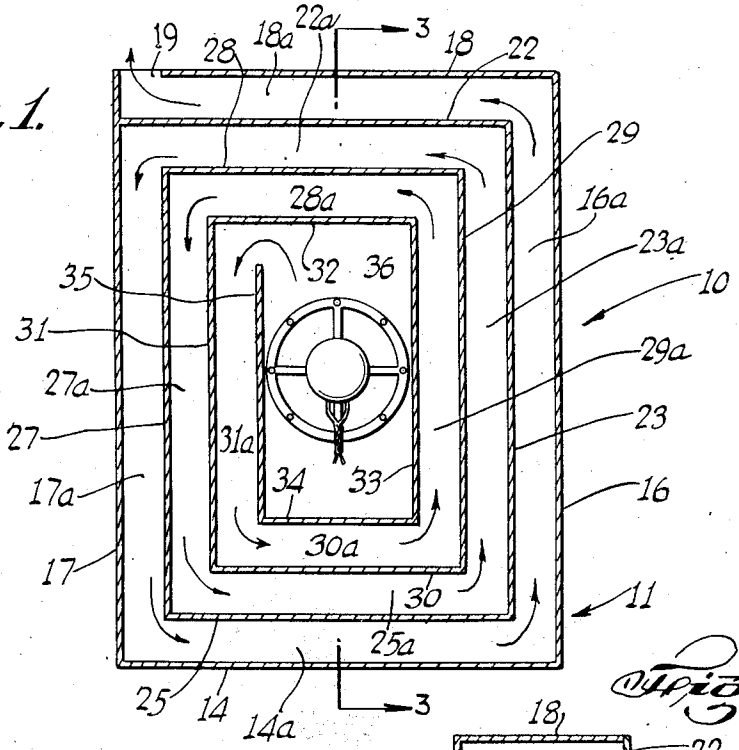


Fig. 3.

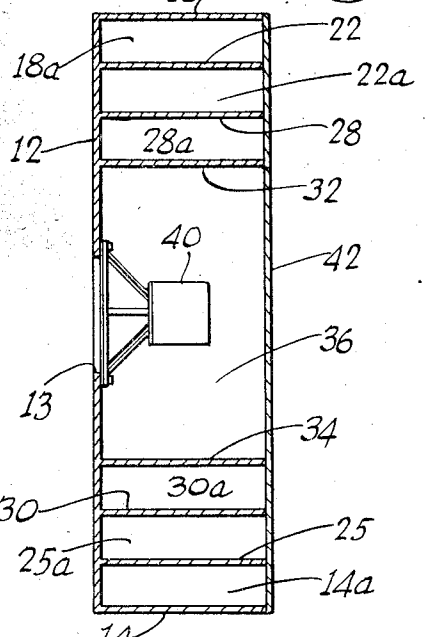
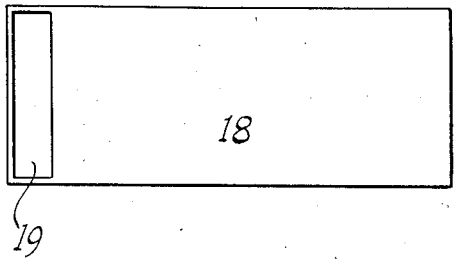


Fig. 2.



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SOUND AMPLIFIER

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1 Claim. (Cl. 181—31)

This invention relates to a sound amplifier.

An object of this invention is to provide a sound amplifier, whereby sound waves are made to operate under conditions substantially duplicating nature.

A further object of this invention is to provide an amplifier of the character described comprising an amplifying tone chamber, a conduit, which is a continuation of the tone chamber, and a dynamic cone type loud speaker in the tone chamber of adequate capacity to handle the volume of sound, the entire device being housed in a cabinet.

A further object of this invention is to provide a strong, durable and compact sound amplifier of the character described, which shall be relatively inexpensive to manufacture, and yet practical and efficient to a high degree.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of application will be indicated in the following claim.

In the accompanying drawing, in which is shown one of the various possible illustrative embodiments of this invention,

Fig. 1 is an elevational cross-sectional view of a sound amplifier embodying the invention;

Fig. 2 is a top plan view thereof; and

Fig. 3 is a cross-sectional view taken on line 3—3 of Fig. 1.

Referring now in detail to the drawing, 10 designates a sound amplifier embodying the invention. The same comprises a cabinet 11 having a front wall 12, preferably rectangular in shape. Said wall 12 is formed with a central circular opening 13, for the purpose hereinafter appearing.

Extending rearwardly from the bottom edge of front wall 12, is a bottom wall 14, and extending rearwardly from the sides of the front wall are side walls 16 and 17. Extending from the top of the front wall 12 is a top wall 18, terminating short of side walls 17, forming an exit opening 19 for the sound.

Extending from front wall 12 is a horizontal wall 22 parallel to top wall 18 and spaced beneath said top wall and terminating short of side walls 16 and forming a passage 18a, communicating with exit opening 19. Extending rearwardly from the front wall 12 is also a vertical wall 23 connected at its upper end to wall 22, and terminating short of the bottom wall 14, and disposed parallel to and spaced from wall 16, and forming therewith a passage 16a, communicating with passage 18a. Extending rearwardly from said front wall is a horizontal wall 25, connected to the lower end of wall 23, and terminating short of side wall 17, and spaced above and parallel to the bottom wall 14, forming therewith a passage 14a communicating with passage 16a. Extending rearwardly from front wall 12 is another vertical wall 27, parallel to and spaced from the wall 17, connected at its lower end to one end of wall 25 and terminating at its upper end short of wall 22. Wall 27 forms with wall 17 passage 17a communicating with passage 14a.

Extending rearwardly from wall 12 is another horizontal wall 28 disposed parallel to and spaced below wall 22, and connected at one end to the upper end of wall 27, and terminating at its other end short of wall 23. Wall 28 forms with wall 22 a passage 22a communicating with passage 17a.

Extending rearwardly from wall 12 is a vertical wall 29, spaced from and parallel to wall 23, and forming therewith a passage 23a communicating with passage 22a. Wall 29 is connected at its upper end to wall 28 and terminates at its lower end short of wall 25. Extending from front wall 12 is another horizontal wall 30 parallel to and spaced from wall 25 and connected at one end to the lower end of wall 29. Wall 30 forms with wall 25 a passage 25a. Extending rearwardly from wall 12 is another vertical wall 31 connected at its lower end to one end of wall 30, and disposed parallel to and spaced from wall 27, and terminating short of wall 28, and forming with wall 27 a passage 27a communicating with passage 25a.

Extending rearwardly from front wall 12 is another horizontal wall 32 disposed parallel to and spaced from wall 28 and connected at one end to the upper end of wall 31, and terminating at its other end short of wall 29, and forming with wall 28, a passage 28a. Extending rearwardly from wall 12 is a vertical wall 33, spaced from and parallel to wall 29, and connected at its upper end to one end of wall 32 and terminating at its other end short of wall 30, and forming with said wall 29, a passage 29a communicating with passage 28a.

Extending rearwardly from front wall 12 is another horizontal wall 34, parallel to and spaced from wall 30 and connected at one end to the lower end of wall 33, and terminating at its other end short of wall 31, and forming with wall 30,

a passage 30*a* communicating with passage 29*a*. Extending rearwardly from wall 12 is yet another vertical wall 35, spaced from and parallel to wall 31, and connected at its lower end to one end of wall 34, and terminating at its upper end short of wall 32, and forming with wall 31 a passage 31*a* communicating with the passage 30*a*.

Between walls 35, 34, 33 and 32 is a central chamber 36, connected to the upper end of passage 31*a*. Within chamber 36 is an amplifier 40 attached to front wall 12 and covering the central opening 13 therein. The open side of the cabinet is closed by a rear wall 42 contacting the rear edges of walls 14, 16, 17, 18, 22, 23, 25, 27, 28, 29, 30, 31, 32, 33, 34 and 35.

It will now be noted that the chamber 36 is interconnected to the exit opening through the continuous passages 31*a*, 30*a*, 29*a*, 28*a*, 27*a*, 25*a*, 23*a*, 22*a*, 17*a*, 14*a*, 16*a* and 18*a*.

For best results the tone chamber 36 is preferably not less than five cubic feet in capacity, and may be more than twenty-eight cubic feet in capacity, if desired. The length of the conduit or continuous passage is preferably not less than twenty-five feet and may be more than 70 feet, if so preferred.

The loud speaker should preferably be of the dynamic cone type, and should not be less than ten watts in capacity.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

A sound amplifier of the character described comprising a cabinet having a front wall, a rear wall, a bottom wall, side walls, and a top wall, said front wall being formed with a central opening, the top wall being formed adjacent one end with an exit opening, a wall interconnecting the front and rear walls and spaced below the top wall, and forming a passage therewith communicating with said exit opening, a wall interconnecting the front and rear walls and disposed parallel to one of the side walls, and forming a passage therewith communicating with the first passage, a horizontal wall within the cabinet, parallel to the bottom wall, and forming a passage therewith communicating with the last mentioned passage, and other horizontal and vertical walls interconnecting the front and rear walls and forming a passage with the first mentioned passages, and also forming a central chamber at the center of the cabinet, and a loud speaker within said central chamber attached to the front wall, over the opening therein.

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