Jan. 18, 1927. 1,614,983

P. H. FULLER

SOUND AMPLIFYING DEVICE

Filed March 24, 1924

Fig. 1.

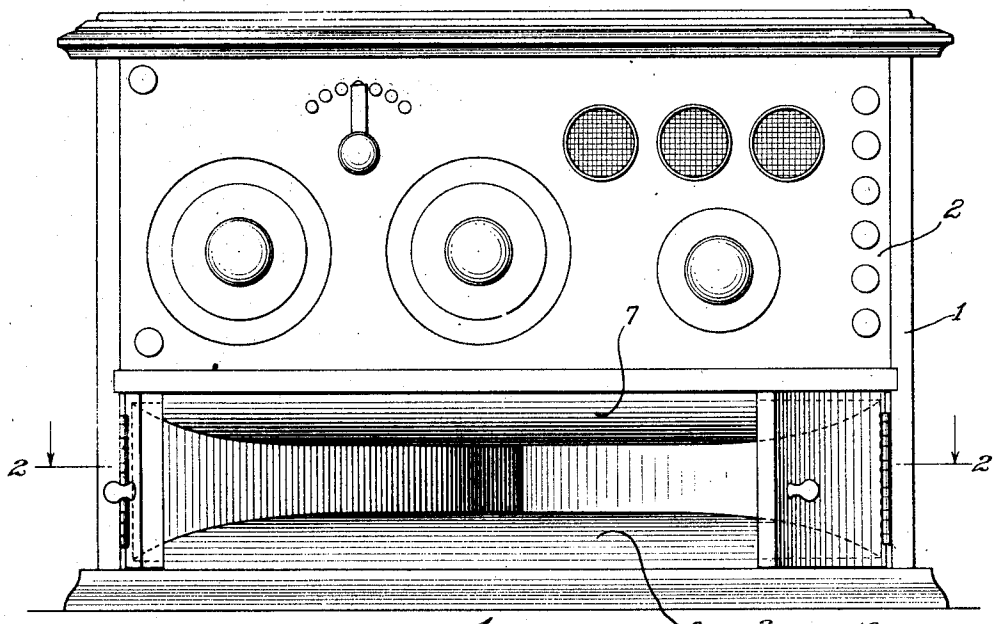


Fig. 2.

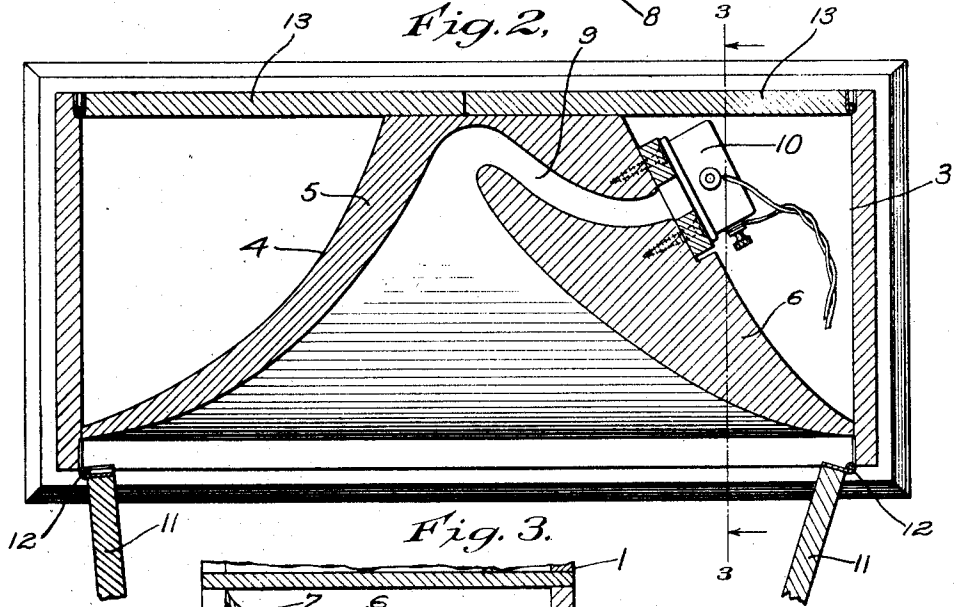
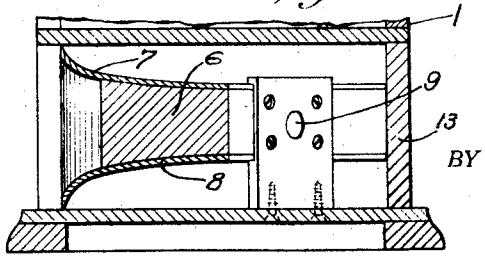


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

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SOUND-AMPLIFYING DEVICE.

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This invention relates to improvements in radio cabinets and more particularly to a combined radio cabinet and loud speaker or amplifier in a single unitary structure, an object of the invention being to provide a cabinet of this character in which a radio receiving set may be housed and in which the loud speaker or amplifier is likewise housed, and is preferably portable or removable in relation to its compartment.

A further object is to provide a cabinet of this character in which the amplifier is of improved construction and has an improved mounting or arrangement in the cabinet with doors at both sides of the amplifier compartment, one set of doors serving to control the volume of sound and the other set functioning as closures for storage spaces at the side of the amplifier.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts which will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings—

Figure 1 is a view in front elevation of my improved cabinet;

Figure 2 is a view in horizontal section on the line 2—2 of Figure 1;

Figure 3 is a view in vertical transverse section on the line 3—3 of Figure 2.

1 represents my improved cabinet which may be of any shape, any ornamentation, or any material desired, but is preferably wood, and comprises an upper compartment 2 in which the ordinary receiving set of a radio apparatus is mounted and housed. Below this compartment 2 is a second compartment 3 is provided in which my improved amplifier 4 is located. This amplifier 4 is relatively narrow in its vertical dimension and relatively wide in its horizontal dimension to conform in general shape to the shape of the compartment in which it is housed.

The sides 5, 6 of the amplifier are relatively thick while the top and bottom members 7 and 8 of the amplifier are relatively thin and constitute sounding boards. The inner wall or face of all sides of the amplifier curves outwardly away from the inner entrance end of the amplifier, the curve being gradual until a point near the outer end where the curve is much more acute to give a general bell mouth shape to the amplifier.

At the inner entrance end of the amplifier a passage 9 of general compound curvature is provided communicating with the side wall 6 and to which any approved loud speaker mechanism 10 may be connected. It is obvious, of course, that this inlet to the amplifier may be modified in many ways so as to locate the loud speaker wherever desired and in accordance with the shape and construction of the cabinet as well as the shape and construction of the amplifier.

At the front of the amplifier compartment 3 I provide a pair of doors 11, which are preferably hinged, as shown at 12, to allow them to be opened or closed as much as desired to render the tones softer or louder without using the ordinary adjuster of a loud speaker such as is in common use. The rear of the compartment 3 is also preferably closed by hinged doors 13 to permit access to the spaces at opposite sides of the amplifier for the storage of batteries and the like and also to facilitate the entrance and removal of the amplifier.

It will be noted that the amplifier is so constructed that the neck or receiving part is formed in a reverse curve, coil or bend, the body of the amplifier being expanded toward the front until reaching the bell mouth where it rolls out from the body of the amplifier in all directions.

The amplifier is so constructed that it is relatively thin at the top and bottom portions, constituting a double sounding board, which may be connected with a sounding post harmonizing any difference in tone caused by thickness or texture of material used in the manufacture of the amplifier.

The amplifier is made preferably entirely of wood or any other suitable material which is best suited to produce a clear tone and minimize or soften any rashness caused by strong amplification or heavy voltage.

With a construction such as above described a neat and attractive piece of furniture is provided which houses the amplifier as well as the receiving set, and results not only in a decreased cost of manufacture in building the set but gives decidedly improved results.

It will be noted that my improved amplifier has relatively thick side walls and relatively thin top and bottom walls, the

latter functioning as sounding boards, and, furthermore, it will be noted that in one of the side walls an inlet passage constituting a compound or reverse curve is formed, and that the material on this side of the horn at the inner end of the curve constitutes in effect a sounding post connecting the upper and lower walls or sections of the horn so that there is no conflict in vibration or tone reproduction of the two sounding boards. Furthermore, this reverse curve is the scientific construction in musical instruments such as in the trombone and the like so as to compact the sounds and produce each note or word fully and clearly. Furthermore, the amplifier is constructed entirely of wood so that metallic sounds and discords are entirely prevented.

Various slight changes and alterations might be made in the general form of the parts described without departing from my invention, and hence I do not limit myself to the precise details set forth but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of the appended claims.

I claim:

1. A sound amplifying device having thin top and bottom walls forming sounding boards, thick side walls connecting the top and bottom walls and forming therewith an amplifying chamber, one of the side walls having a sound passage therethrough connecting with said chamber, said side wall also having an inner web between its passage and the amplifying chamber, the said web also connecting the top and bottom walls and terminating in a free edge at the inner end of the said chamber.

2. A sound amplifying device composed wholly of non-metallic material having a chamber therein narrow in its vertical dimension and relatively wide in its horizontal dimension, thin top and bottom walls forming sounding boards, side walls of substantial thickness connecting the top and bottom walls and having their inner surfaces tapering outwardly in a uniform manner to a predetermined point and then flaring to form a bell mouth, said amplifier having an inner sound inlet passage horizontally through one of said side walls, and embodying a compound curve, the inner portion of which passage communicates with the inner smaller end of the chamber and is disposed at a reverting angle thereto, leaving an inner web of the last mentioned side wall between the said passage and the chamber, which web terminates in a free edge adjacent to the inner end of the said amplifying chamber.

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