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S. F. EVERITT

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LOUD SPEAKER ENCLOSURE

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FIG. 1

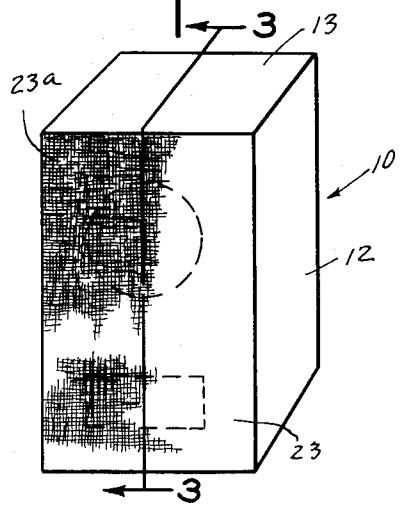


FIG. 2

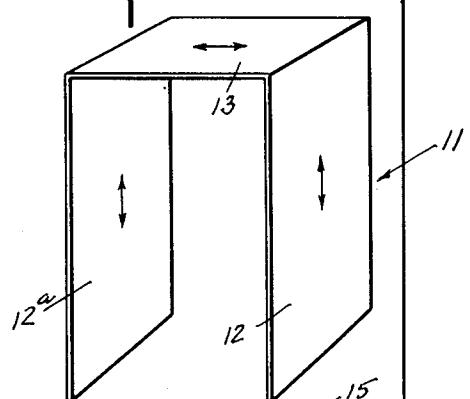
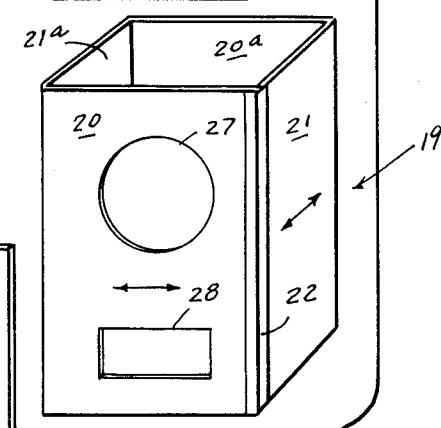
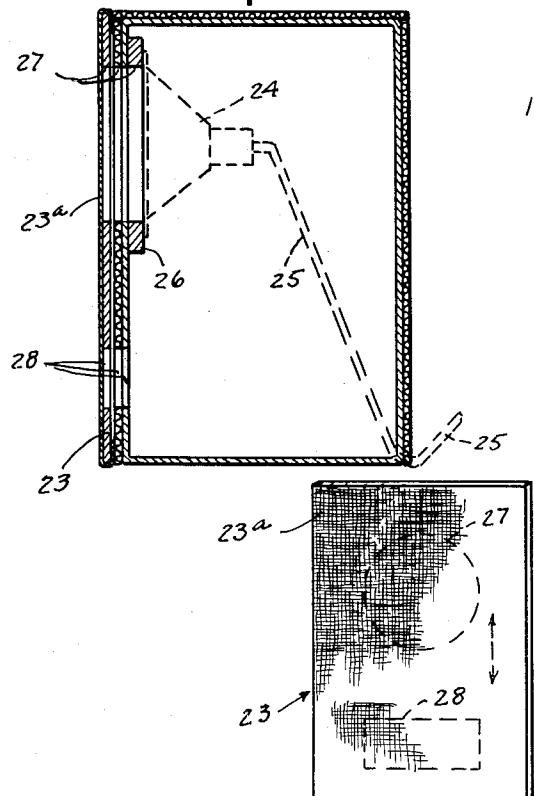


FIG. 3



INVENTOR.

SCOTT F. EVERITT.

BY

Lockwood, Clegg, Woodward & Smith
ATTORNEYS.

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LOUD SPEAKER ENCLOSURE

Scott F. Everitt, 6404 N. Park Ave., Indianapolis, Ind.
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1 Claim. (Cl. 181—31)

This invention relates to a loud speaker enclosure, and more particularly to one formed of corrugated board.

It is the primary object of the present invention to form an enclosure for loud speakers of an inexpensive and extremely lightweight material such as corrugated board, and at the same time to preserve the tonal fidelity that characterizes enclosures formed of much more expensive and heavy materials.

As is well known, an unmounted loud speaker will not faithfully reproduce sound waves. This is because of their inherent characteristics. For example, sound waves are emitted both backwardly from and forwardly of the diaphragm of the speaker, and when the vacuum sides or the pressure sides of these waves meet the sound is cancelled out. Consequently the support of the speaker with its baffle members preventing the merging of these sides of the sound waves, has long been recognized as of the utmost significance and importance insofar as tone fidelity is concerned. Today, with the popularity of high fidelity instruments it is recognized that the faithful reproduction of sound waves is of even greater importance. Heretofore it has been more or less accepted dogma in the art that a wooden enclosure or cabinet for the speaker and its mounting member was necessary to attain the utmost fidelity of tone. With the present invention, however, it can readily be demonstrated that such wooden enclosures are not necessary, and that with a certain construction and arrangement of corrugated board panels, high tonal fidelity is preserved. At the same time the cost of the enclosure is very substantially reduced, as are transportation problems and expenses, because of the lightweight characteristic of the corrugated board enclosures.

It is a further object of the present invention to provide a loud speaker enclosure which is so designed as to enable one to assemble it with ease and with speed. This is a distinct advantage whether the person assembling it be one employed in a factory or on the other hand, the ultimate consumer himself who has purchased the invention as a "do-it-yourself" instrument.

It is a still further object of the present invention to provide a simple loud speaker enclosure having a minimum number of parts.

The full nature of the invention will be understood from the accompanying drawings and the following description and claim:

In the drawings FIG. 1 is a perspective view of the invention in assembled condition.

FIG. 2 is an exploded view with the four separate units or parts of the assembly (excluding the speaker and its electrical components).

FIG. 3 is a vertical section view taken on the line 3—3 of FIG. 1 in the direction of the arrows.

In the drawings the enclosure is shown generally at 10. It consists of a U-shaped corrugated board shell shown generally at 11 and having the opposed parallel side panels 12 and 12a and an interconnecting wall or panel 13. The corrugations in this shell all run in the same direction when the shell is originally blanked out and is lying flat prior to bending or scoring. When formed into the U-shaped shell as shown in the upper drawing in FIG. 2, the corrugations will be running vertically on the two side panels 12 and 12a, and horizontally on the end panel 13 which will serve as the top of

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the enclosure. The direction of the corrugations is shown by the arrows.

Immediately below this shell there is shown in FIG. 2 of the drawings a corrugated board tube indicated generally at 14. It is rectangular in form and has a top panel 15, a bottom panel 16, and the front and back panels 17 and 17a. It is thus an open-sided tubular member. The adjacent ends of the top panel 15 and the front panel 17 may be taped or otherwise joined at 18, it being apparent from the drawing that this tube is formed of one elongated blank folded into the rectangular shape. The corrugations of this tube will be extending vertically as shown by the arrows insofar as the panels 17 and 17a are concerned, and horizontally as shown by the arrows insofar as the end panels, i.e. the top and bottom panels, are concerned.

Immediately below tube 14 is a second taped tube of corrugated board shown generally at 19. As will be observed, this tube is also rectangular in configuration with open ends instead of open sides as in the case of tube 14. This latter tube 19 may be folded from a blank of corrugated board in which the corrugations run horizontally as indicated by the arrows. The tube consists of the side walls or panels 20 and 20a as well as the right angularly disposed side walls or panels 21 and 21a. In order to connect the folded blank together in rectangular condition, the adjacent panels 20 and 21 may be taped or otherwise joined at 22.

Immediately below and to the left of the tube 19 in FIG. 2 is a pad shown generally at 23. This pad may be covered with a fabric of any suitable material and design, and will serve as the front panel or face of the enclosure. Its corrugations will be running vertically as indicated by the arrow.

When assembling the enclosure, tube 14 will be inserted within tube 19, the latter tube being sufficiently larger in its dimensions to enable it to receive in a sliding fit or snug relation the tube 14. It will be apparent that panels 17 and 20 will be adjacent each other as will panels 17a and 20a, with the corrugations of the two panels in each pair running in right angular or criss-crossed directions.

In order to provide two layers of the corrugated board on all sides of the assembly except the bottom side, the shell 11 is provided. It will next be placed in position over the tube 19 so that its sides 12 and 12a abut sides 21 and 21a, and so that top 13 will abut the top panel 15 (of tube 14). As will be observed from the direction of the arrows shown in the respective drawings of the figure, the grain, i.e. the corrugations of panels 12 and 12a will be running at right angles to those of panels 21 and 21a, while the corrugations of top panel 13 will be running at right angles in criss-cross relationship to those of panel 15.

The shell 11 may have an attractive overprint formed on the exposed faces of its panels since these faces or surfaces will be exposed to the view of the users of the enclosure. In order to secure the assembled tubes and shell 14, 19 and 11 together they may be face glued. It is well recognized, of course, that face gluing is always easier than edge gluing, and that edge gluing or nailing or screwing is necessary when wooden cabinets or the like are employed.

The pad 23 will be the last panel applied to the assembly and is formed sufficiently wider and higher than the other components to mask the raw edges of shell 11. Any desired fabric 23a that is selected may extend around the edges and top to effectively conceal the raw edges of the top and vertical side edges of the pad and mask the openings which would otherwise be exposed to view.

Shown in dotted lines in FIG. 3 is the loud speaker 24 which, of course, may be of any desired make or model.

The speaker is connected by the connecting cords 25 to the source of electrical impulse supply (not shown). The speaker will be mounted in the plywood or the like member 26 which will extend from one side edge of panel 17 to the other side edge. This member will be suitably connected to the panel 17 as by gluing. Openings 27 and 28 will be formed in panels 17, 20, and in the pad in a conventional way to facilitate emission of the sound waves from the speaker.

After the unit is assembled as aforesaid, it will provide the complete enclosure shown generally at 10, with the criss-crossed corrugations effectively dampening the objectional vibrations that might otherwise result from the action of the sound waves.

It is possible, of course, to ship the enclosure in its fully assembled, secured condition. However, by reason of the "do-it-yourself" popularity nowadays it is entirely possible for the unit to be shipped unassembled although packaged together. That is to say, the tube 14 can be inserted within tube 19 with the shell 11 thereover but without any face gluing to keep them together. The fabric covered pad can be packaged adjacent the front face of the assembled tubes and shell although it will not be face-glued to the panel 20. Or the pad may be included without fabric, permitting a choice of coverings by the purchaser. Furthermore, the openings for the emission of the sound waves need not be formed at the factory in the respective panels. This can be left to the user who will find the plywood board mounted in its proper location, or provision for mounting clearly detailed. What he will do is to face-glue the respective parts together after easily cutting the sound emission openings in the appropriate panels of the corrugated board pursuant to directions contained in the package. As is apparent, the entire enclosure may be shipped in a container just slightly larger than the dimensions of the tube 19. Speaker, amplifier and record player, or any or all of these, may be appropriately inner packed within the enclosure, which will serve, in such instance, as a component of the entire shipping container. The respective tubes, shell and pad will be arranged in the same manner within the shipping container that they are to be arranged in when in use, but without their being connected together in any way as by face-gluing. This, as stated, may be left to the purchaser, thereby reducing his cost to the extent of the labor and material that would otherwise be used by the manufacturer.

While the invention has been illustrated and described in detail in the drawings and foregoing description, the same is to be considered as illustrative and not restrictive in character, it being understood that only the preferred embodiment has been shown and described and that all changes and modifications that come within the spirit of the invention and the scope of the claim are also desired to be protected.

The invention claimed is:

10 A loud speaker enclosure comprising a first tubular member of corrugated board having top and bottom and front and back panels, the front panel of said member having spaced openings to facilitate the emission of sound waves from said enclosure, the corrugations of said top and bottom panels extending horizontally when said member is in a top up position and the corrugations of said front and back panels extending vertically relative thereto, a second tubular member of corrugated board having front and back and two side panels, said 15 last mentioned member being sized to receive therewithin in snug relation said first mentioned member and having its front panel provided with openings corresponding to those of said first mentioned member and aligned therewith, the corrugations of the panels of said second 20 tubular member extending horizontally relative to the top panel of said first tubular member, the corrugations of each member thus running in criss-cross relationship relative to the corrugations of the other member, and a third member of corrugated board enveloping and abutting a predetermined number of panels of said first two 25 members to provide two layers of board on the top, the two sides and the front and back faces of said enclosure, said third member having opposed side panels and an interconnecting panel with the corrugations of said opposed side panels extending vertically relative to the top panel of said first tubular member and the corrugations of said interconnecting panel extending in criss-cross relation to said top panel.

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