

[54] **STEREO SPEAKER DESIGN**
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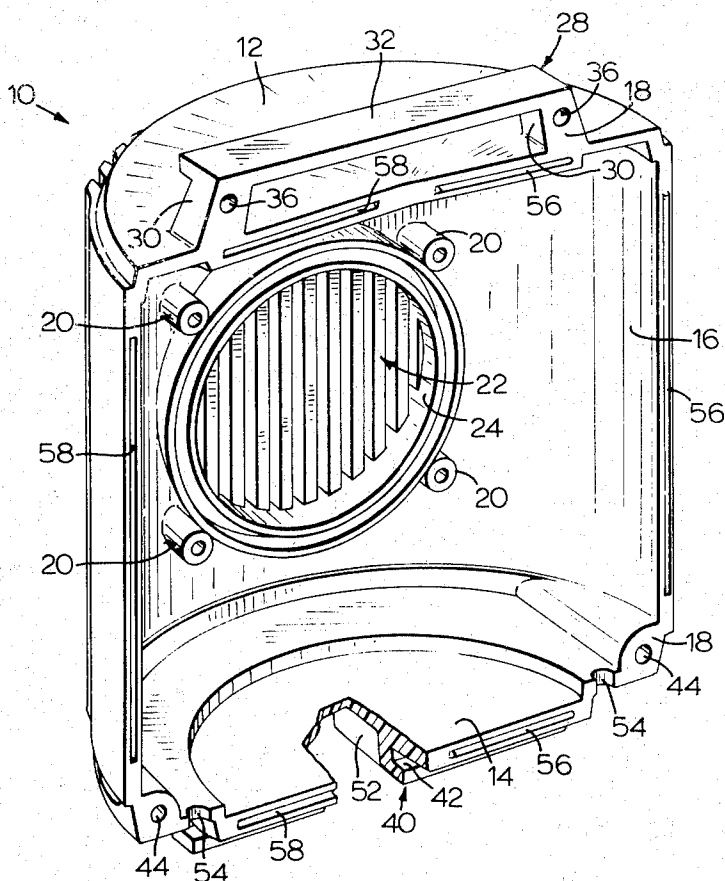
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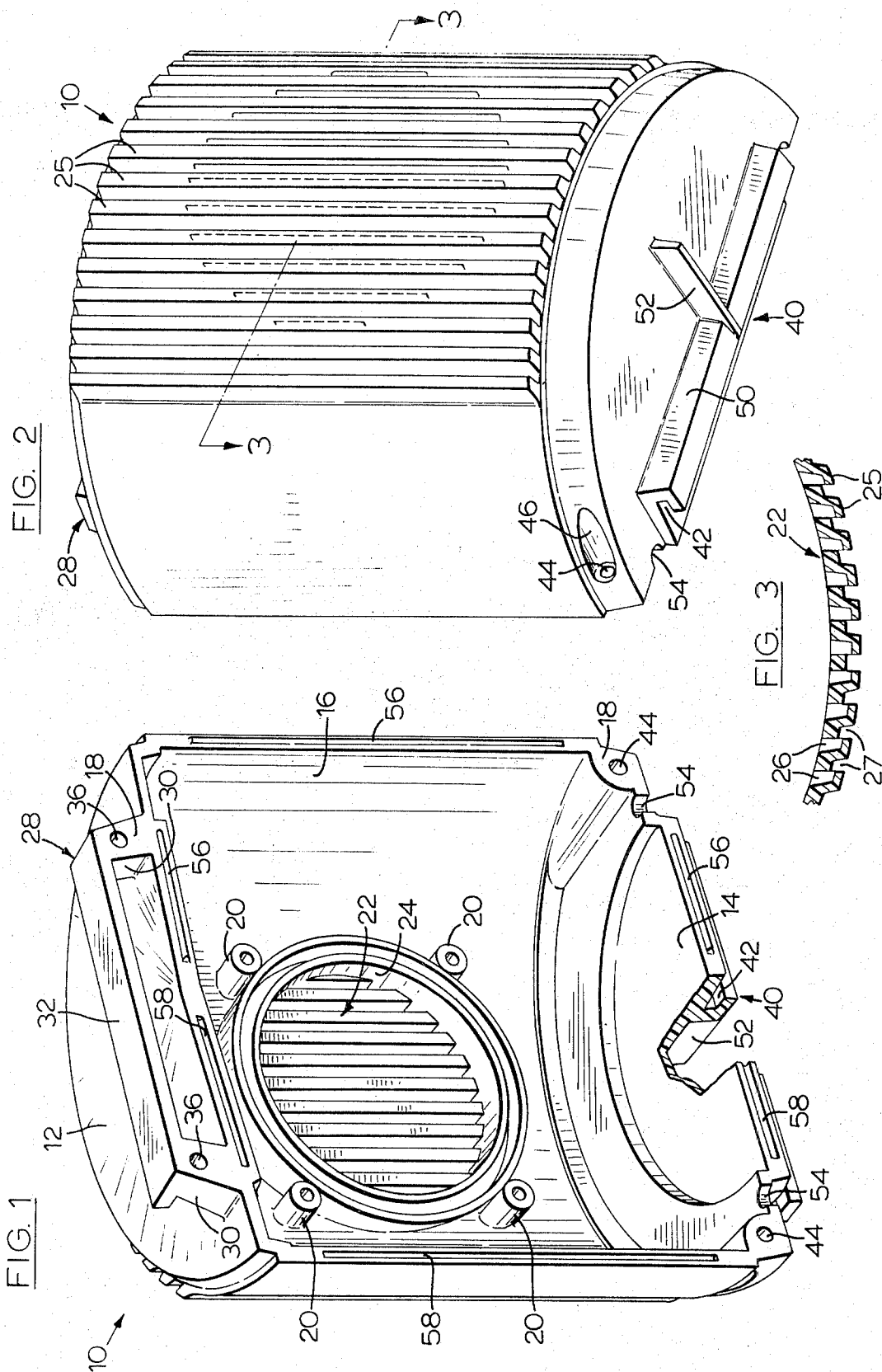
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[57] **ABSTRACT**

This invention provides an enclosure which can be releasably affixed to others of its kind through handle means on one enclosure and a handle-receiving base structure on the other enclosure. The handle means projects upwardly from the top of one enclosure and includes a bar element which overhangs the structure which supports the bar element. The base structure of the other enclosure defines a track into which the bar element can slide.

10 Claims, 4 Drawing Figures





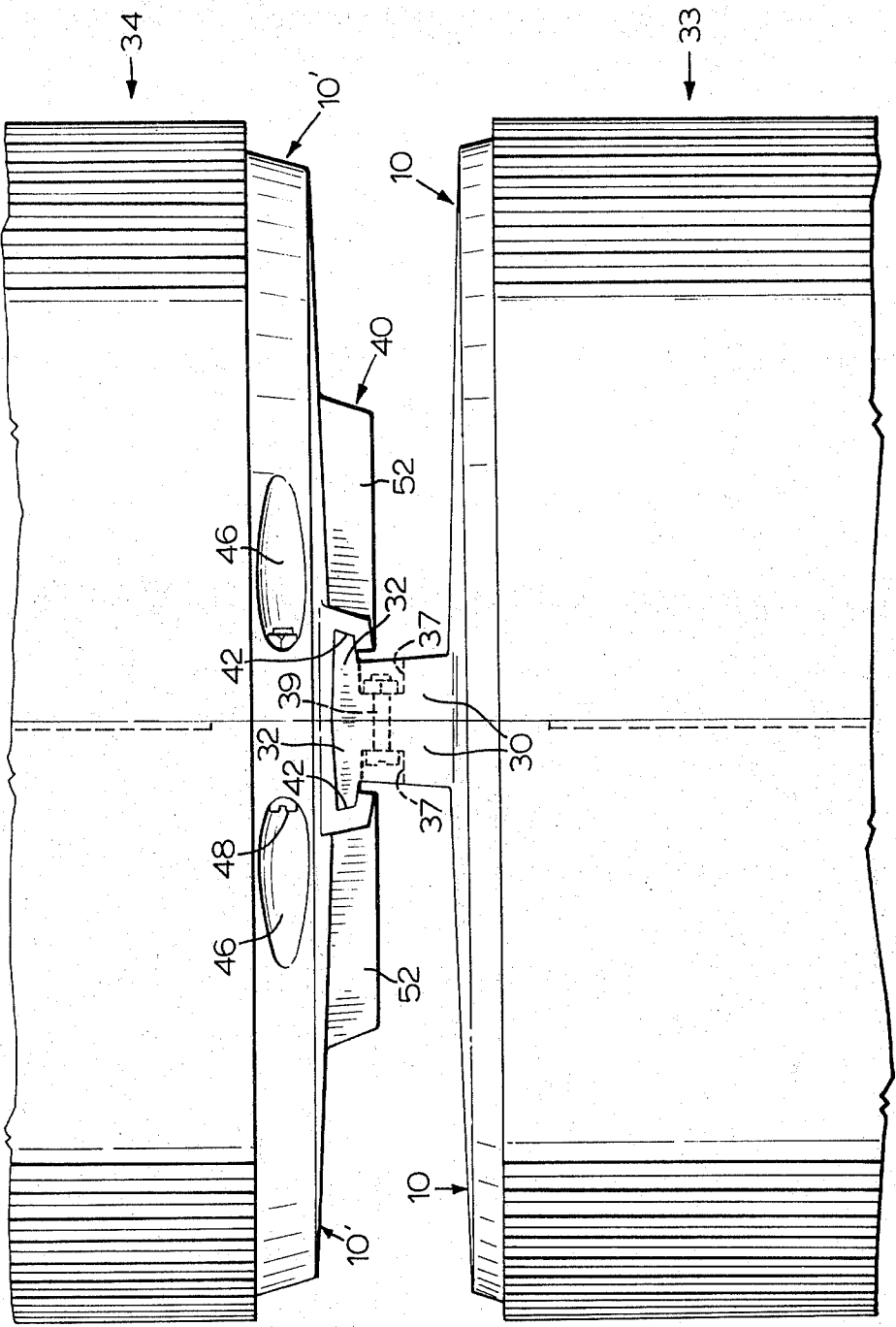


FIG. 4

STEREO SPEAKER DESIGN

This invention relates generally to containers and enclosures provided with means permitting two or more to be affixed together.

One object of this invention is to provide an enclosure construction having a handle at the top and a base at the bottom, the enclosure being so constructed that two such enclosures may be fitted together with the handle of one interlocking with the base of another.

It is an object of a preferred form of this invention to provide an enclosure construction constituted by two identical halves, two or more identical such enclosures having bases and handles such that the handle of one can be interfitted with the base of another.

Accordingly, this invention provides an enclosure adapted to be releasably affixed to others of its kind, the enclosure comprising: a top, a bottom, a handle projecting upwardly from the top and including support structure and a bar element overhanging said support structure laterally, and base structure projecting downwardly from the bottom and defining a recess adapted to receive in one direction only a bar element similar to the said bar element.

One embodiment of this invention is illustrated in the accompanying drawings, in which like numerals denote like parts throughout the several views, and in which:

FIG. 1 is a partly broken-away perspective view of one of the halves of an enclosure adapted to receive a loud-speaker, taken obliquely from one direction;

FIG. 2 is a perspective view of the enclosure half of FIG. 1, taken obliquely from the other side;

FIG. 3 is a sectional view taken along the line 3—3 in FIG. 2; and

FIG. 4 is an elevational view of portions of two completed enclosures in the interlocked position.

FIG. 1 shows an enclosure half 10 to consist of a top wall 12, a bottom wall 14, and a semi-cylindrical side wall 16.

The eventual completed enclosure, made up of two halves identical to that shown in FIG. 1, will be in the shape of a right circular cylinder, and the two enclosure halves will mate along a diametral plane represented by the surface 18. Naturally, all portions of the enclosure half terminating at the surface 18 will, in the final completed enclosure, continue across to the other half and form a completed element spanning the diametral plane represented by the surface 18. Thus, in the following disclosure, when referring to a single half only, we will be speaking of a handle, a recess, etc., but it is to be understood that we are referring to only one-half of such elements. The purpose of this approach is to avoid the confusion that would result from referring continually to a half-handle, a half-support pillar, etc.

The enclosure half shown in FIG. 1 is adapted to receive a loudspeaker (not shown), and the latter is intended to be screwed into four bosses 20 integrally molded with the side wall 16, and surrounding an integral grill 22 extending across a circular pocket 24. The far surface in FIG. 1 (the near surface in FIG. 2) is shaped to define vertical ribs 25 which are provided for design purposes only and do not enter into this invention. As can be seen in FIG. 3, the grill 22 is defined by the ribs 25 which are relieved by recesses 26 in the area of the pocket 24. The recesses 26 communicate through to the spaces 27 between the ribs 25 on the far surface in FIG. 1.

It will be noted that the top wall 12 and the bottom wall 14 of the enclosure half shown in FIG. 1 are both semi-circular in shape. The surface 18 constitutes, in both cases, the diameter of the semi-circle.

Extending upwardly from the top wall 12 adjacent the surface 18 is a handle means 28 which includes support structure consisting of pillars 30 and a bar element 32 which overhangs the support structure laterally. To explain this more clearly, attention is directed to FIG. 4, which shows, in elevation, two enclosure halves 10 fastened together to make a single, complete, cylindrical enclosure 33 at the bottom, and two other enclosure halves 10' secured together to form another cylindrical enclosure 34 at the top. It will be seen in FIG. 4 that the pillars 30 are overhung laterally (i.e., horizontally in the view of FIG. 4) by the composite bar element 32. In FIG. 4, the term "bar element" refers to the composite bar element made up of two of the bar elements 32 shown in FIG. 1. As seen, the total horizontal dimension of the bar element in FIG. 4 is greater than the horizontal dimension of the pillars 30 in FIG. 4, and thus a kind of "T" shape is defined.

Each of the pillars 30 as seen in FIG. 1 has a horizontal bore 36 at right angles to the surface 18, and each bore 36 has an enlargement 37 (see FIG. 4) remote from the surface 18. A standard threaded bolt 39 passes through the bores 36 and operates to hold the two enclosure halves 10 together to form the complete enclosure 33 as seen in FIG. 4. The complete handle of the enclosure includes two such bolts 39, of course.

Projecting downwardly from the bottom wall 14 of the enclosure half seen in FIG. 1 is a base structure 40 which defines a recess 42 adapted to receive a bar element similar to the bar element 32. It will be understood by looking at FIG. 4 that the two enclosure halves 10 secured together to form the upper completed enclosure 34 are juxtaposed in such a way that the two partial recesses 42 together define a single C-shaped recess adapted to receive the composite bar element 32 of the lower enclosure 33. Naturally, the C-shaped recess at the bottom of the enclosure 34 can receive the composite bar element 32 in one direction only, that direction being parallel to the axis of elongation of the composite bar element 32. In other words, two completed enclosures such as those shown at 33 and 34 in FIG. 4 can be locked together by sliding the bar element 32 of the handle of one of the enclosures longitudinally (in the direction parallel to both the top wall 12 and the surface 18) into the C-shaped recess in the base structure 40 of the other enclosure, that C-shaped recess being defined by the two partial recesses 42.

To secure the two enclosure halves 10 together at their lower ends, two bores 44 are provided at the lower corners, each bore having, remote from the surface 18, an enlargement 46 (see FIG. 2) which opens to the exterior. As seen in FIG. 4, a bolt of which the head is shown at 48 passes through the bores 44 at either side of the enclosure halves 10, and is tightened to secure the two halves together.

Closer attention is now directed to the particular construction of the base structure 40, referring to FIGS. 1 and 2. The base structure 40 includes a first element 50 elongated in the direction of the diametral plane (the surface 18) and being essentially J-shaped to define the recess 42, as well as a second element 52 extending perpendicularly from the first element 50 along another diametral plane, thereby to define, in the com-

pleted enclosure, a cross-shaped stable support for the enclosure.

Located adjacent the ends of the diameter of the bottom wall 14 of the enclosure half 10 are two semi-cylindrical recesses 54, which, together with identical recesses on the mating enclosure half, define in the completed enclosure two cylindrical apertures through which electrical wires may pass.

It will be noted that the bar element 32 on the individual enclosure halves 10, as well as the composite bar element on the completed enclosure are essentially flat and rectangular, the flatness being essentially parallel with the top wall 12. Additionally, the bar element 32 is of substantially uniform cross section normal to the plane of the surface 18. In the preferred embodiment, the bar element 32 has a slight taper at either end, the taper being applied to the edges remote from the surface 18. The taper, of course, facilitates the entry of the composite bar element 32 into the C-shaped recess at the bottom of another completed enclosure.

It will be seen in FIG. 4 that the composite bar element 32 does not have a completely flat upper surface, but the slight angle serves no purpose other than to facilitate the molding of each enclosure half 10 in a single injection-molding step. The slight slope, of course, facilitates removal of the injection molded item from the mold.

As particularly seen in FIG. 1, the surface 18 is provided with elongated ribs 56 and matching, elongated channels 58, so arranged that when two enclosure halves identical to the half 10 shown in FIG. 1 are turned face-to-face to form a completed enclosure, the ribs 56 of one register with the channels 58 of the other, and ensure that the two halves will be locked securely together against slippage in the plane of the surface 18.

It will be appreciated, of course, that the interlocking structure disclosed herein is applicable to enclosures other than those useful for supporting loudspeakers.

It will further be appreciated that the bar elements 32 and the associated recesses 42 need not necessarily be in the shape and configuration shown. For example, the bar element can be circular or oval in section, or any other desirable or convenient shape. All that is essential is that the composite bar element 32 be constructed to overhang, i.e., extend laterally beyond, the support structure constituted in the particular embodiment shown by the pillars 30. Again, it will be understood that the pillars 30 can be replaced by a single central pillar or more than two pillars if desired. Also, while the bar element 32 in FIG. 1 is shown to be of substantially uniform cross-section throughout its length (with the exception of the tapering ends), such uniformity of section is not essential. For example, if the bar element 32 had a fluted far edge in FIG. 1, such would not impede the smooth entry of the composite bar element 32 in the C-shaped recess at the bottom of another completed enclosure, provided the minimum lateral dimension of the C-shaped recess were sufficient to accommodate the maximum lateral dimension of the composite bar element 32.

What I claim is:

1. An enclosure adapted to be releasably affixed to others of its kind, the enclosure comprising:

a top,

a bottom,

handle means projecting upwardly from the top and including a bar element of substantially uniform cross-section along a given axis, and support structure for the bar element, the support structure having a maximum dimension less than that of the bar element in the direction normal both to the axis and to the general plane of the support structure, and base structure projecting downwardly from the bottom and including a track into which a bar element similar to the said bar element may slide in the direction of said axis, but from which such bar element may not be withdrawn in any direction normal to said axis.

2. An enclosure adapted to be releasably affixed to others of its kind, the enclosure comprising:

a top,

a bottom,

a handle projecting upwardly from the top and including support structure and a bar element overhanging said support structure laterally, and base structure projecting downwardly from the bottom and defining a recess adapted to receive in one direction only a bar element similar to the said bar element.

3. The invention claimed in claim 2, in which the bar element is substantially flat, elongated and of substantially uniform cross-section normal to the direction of elongation.

4. The invention claimed in claim 3, in which the bar element is slightly tapered at either end.

5. The invention claimed in claim 3, in which the recess is of substantially uniform C-shaped cross-section, the base structure including first means elongated in one direction and defining said recess, as well as second means extending perpendicularly to said one direction, thereby to define a stable support for said enclosure.

6. The invention claimed in claim 2, in which the enclosure is substantially cylindrical, and in which both the bar element and the recess are diametrically disposed with respect to the cylindrical enclosure.

7. The invention claimed in claim 6, in which the enclosure is substantially bi-laterally symmetrical along a diametral plane, both the bar element and recess being cut by said plane.

8. The invention claimed in claim 7, in which the enclosure is constituted by two separable, semi-cylindrical, substantially identical halves meeting along said diametral plane.

9. The invention claimed in claim 8, in which the top and bottom are substantially normal to the cylindrical axis, and in which the bar element is substantially flat, elongated, and of substantially uniform cross-section except for a slight taper at either end.

10. The invention claimed in claim 9, in which the recess is of substantially uniform C-shaped cross-section, the base structure including a first element elongated in the direction of said diametral plane and defining said recess, as well as a second element extending perpendicularly from either side of said first element along another diametral plane, thereby to define a cross-shaped stable support for said enclosure.

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