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PORTABLE STEREOPHONIC SOUND SYSTEM

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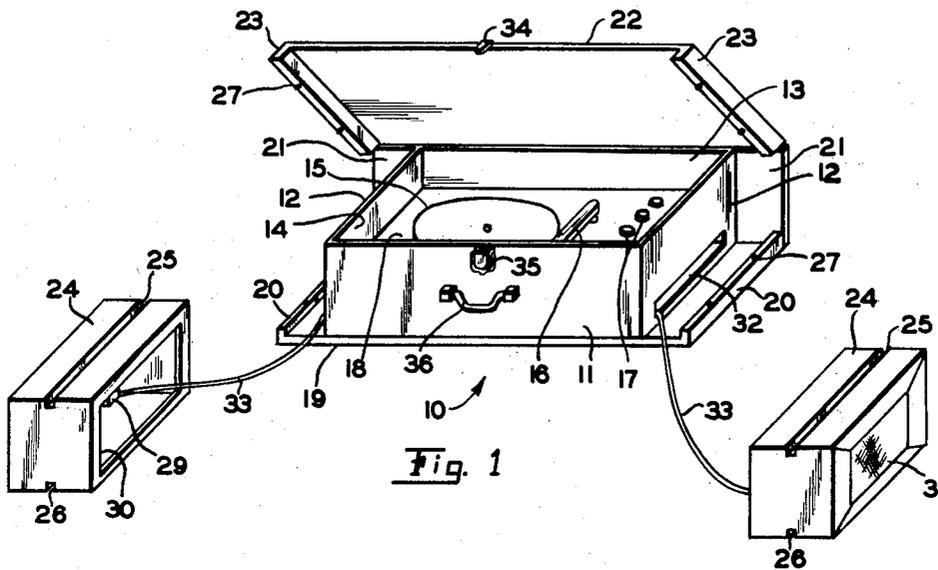


Fig. 1

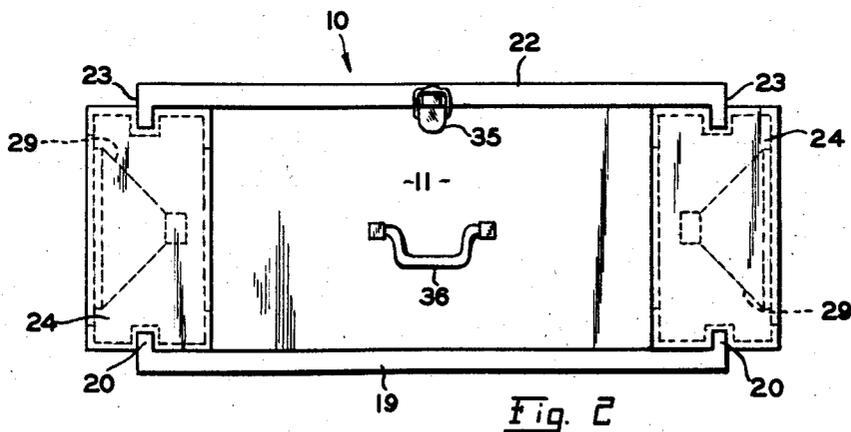


Fig. 2

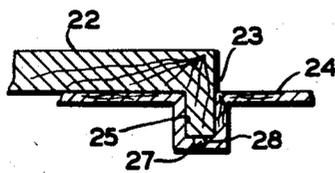


Fig. 3

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PORTABLE STEREOPHONIC SOUND SYSTEM

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5 Claims. (Cl. 181—31)

This invention relates to a stereophonic sound reproducing means and, more particularly, to a portable combination of the components which must or desirably should be provided in such equipment.

Stereophonic sound reproduction of course requires at least two loudspeakers capable of being placed at different locations and energized by a stereophonic amplifier system, with the sound derived from either recording media or radio wave reception. The loudspeakers should preferably be spaced an appreciable distance apart, for example, on the order of fifteen feet, and while this separated-speaker arrangement is of little or no concern in a relatively fixed or permanent installation, it does obviously tend to defeat or make inconvenient ready portability of the system. The so-called "portable" stereophonic systems which are now available are actually portable only because of the reduced size and weight of the units, there being two units which are entirely structurally separate in handling and carrying as well as in use.

It is accordingly a primary object of my invention to provide a stereophonic sound system comprising at least two units which are normally separated physically in use but constructed for combination in a unitary assembly to facilitate storage, transportation and other handling thereof.

A further object is to provide such a system having an amplifier section and two loudspeaker sections in a single structural unit in which one or both speaker sections simultaneously can be separated readily from the amplifier section or, in other words, the three sections can be grouped in relatively spaced relation, this being the condition for optimum listening as will be described more fully hereinafter.

It is an additional object of my invention to provide such a combination the construction of which is economical and attractive, while having the simplicity and convenience of assembly needed for a practical portable system.

Other objects and advantages of the present invention will become apparent as the following description proceeds.

To the accomplishment of the foregoing and related ends, the invention, then, comprises the features hereinafter fully described and particularly pointed out in the claims, the following description and the annexed drawing setting forth in detail certain illustrative embodiments of the invention, these being indicative, however, of but a few of the various ways in which the principle of the invention may be employed.

In said annexed drawing:

Fig. 1 is a perspective view of a portable stereophonic phonograph made in accordance with the present invention, showing the multiple units or sections thereof in separated relation;

Fig. 2 is a front elevation of such phonograph system in its assembled unitary condition; and

Fig. 3 is a fragmented section illustrating a detail of

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the construction found in the interfit of the assembled units.

Referring now to the drawing in detail, the illustrated phonograph comprises a main section or assembly designated generally by reference numeral 10 having a front wall 11, side walls 12, and a rear wall 13 defining a rectangular space 14 within which a conventional turntable and a stereophonic or two-channel amplifier are housed. All of these components are selected from commercially available products and accordingly do not, in an individual sense, form a part of the present invention.

Without regard to specific type, then, there is shown a turntable 15, a pick-up arm 16 and appropriate controls 17 above a horizontal divider 18 in the space 14, and it will be understood that the amplifier system is mounted in suitable manner beneath such divider.

This main assembly has a bottom 19 of such length as to project respectively beyond the vertical side walls 12 and at each outer edge of such bottom there is an up-turned flange 20. The rear wall 13 is co-extensive with such bottom and thus has similarly projecting end portions 21, the front wall 11, side walls 12, rear wall 13 and bottom 19 being permanently joined together in the illustrated and described arrangement. A cover 22 of the same size as the bottom 19 is suitably hinged at its back edge to the top of the rear wall 13 to overlie the top edges of the vertical walls when closed, as shown in Fig. 2, and to swing upwardly in order to open the assembly, a partially opened condition being illustrated in Fig. 1. The ends of the cover are provided with down-turned flanges 23 respectively in the same planes as the bottom flanges 20 and consequently opposed to the latter when the cover is closed.

The projecting portions of the bottom, rear wall and cover at the sides of the assembly 10 form pockets for receiving separately constructed speaker enclosures or boxes 24. Each such box is rectangular, with its height equal to the height of the front wall 11, and side walls 12, its length equal to the distance between the outer surface of the front wall 11 and the inner surface of the rear wall 13, and its depth, in the illustrated embodiment, approximately twice the lateral projection of the bottom and cover.

The two speaker boxes 24 are provided with longitudinal top and bottom grooves 25 and 26, respectively, centrally thereof and of a depth to receive the bottom flanges 20 and the cover flanges 23. Such boxes therefore can be mounted, as shown in Fig. 2, at the sides of the main assembly 10 by raising the cover 22, placing their backs against the side walls 12, with the bottom flanges 20 fitted in their bottom longitudinal grooves 26, and then closing the cover to engage the flanges 20 of the same in the top grooves 25 of the speaker boxes.

For more positive holding of the speaker enclosures in such assembled relation, the bottom and cover flanges are preferably provided with projecting pins 27 which engage in opposed recesses 28 formed in the box grooves, as shown in detail in Fig. 2. Such boxes are, by this expedient, prevented from sliding along the flanges, the latter of course precluding outward shifting of the same.

Each speaker enclosure 24 has mounted therein a conventional loudspeaker 29 and is open at the back, as shown at 30, with a screen cloth 31 at the front opening provided for the speaker. The side walls 12 of the main assembly 10 have slots 32 therein and the speaker connections or cords 33 extend from the amplifier system in the space 14 through such slots respectively to the two loudspeakers. Each such cord is preferably about seven feet long and the slack in the same, when the boxes are mounted, can be accommodated either in the interior of the amplifier section or within the speaker boxes.

In the illustrated embodiment, the cover carries a latch

plate 34 engaging in and fastened by a latch 35 on the front wall 11 when closed. A carrying handle 36 is also mounted on the front wall.

The three components can thus be carried in a single handle when in assembled condition, and it will be noted that the rear wall end projections 21 will be at the bottom in the carrying position and thereby assist in supporting the speaker enclosures. In such assembled condition, the ends of the speaker boxes at the front are flush with the outer surface of the front wall.

The permitted separation of both speakers from the amplifier in use is of course desirable for high fidelity reproduction, and with the speaker cords each approximately seven feet long, as mentioned earlier, it will be clear that the optimum spacing for stereophonic sound can be realized. It will also be appreciated that the open backs of the enclosures provide better performance than completely closed units, as well as facilitating cord storage which could, if desired, be even further aided by the use of conventional cord reels.

As a specific example which demonstrates the compactness of the assembly, one model of the illustrated construction is approximately eighteen inches long in the fully assembled condition (Fig. 2), nine inches high, and sixteen inches deep. Each speaker box of this system is roughly four inches deep, slightly over fifteen inches long, and about seven inches high, with a six by nine inch oval speaker mounted therein.

Should the system employ a radio receiver in lieu of the record player, which is of course entirely feasible, the overall size could possibly be further reduced. The significant characteristics of the new system are obviously the unitary nature of the assembled equipment and the wide or substantial separation permitted, with such features as the manner of fastening of the speaker enclosures at the ends of the main assembly being clearly variable in detail without significantly effecting the basic construction or the advantages provided by the same.

Other modes of applying the principle of the invention may be employed, change being made as regards the details described, provided the features stated in any of the following claims or the equivalent of such be employed.

I, therefore, particularly point out and distinctly claim as my invention:

1. Stereophonic sound reproducing means comprising a cabinet having front, rear and side walls defining a space for reception of a stereophonic amplifier system, said cabinet further having a bottom which projects at each side and a similarly projecting hinged cover for such space, the rear wall of the cabinet also projecting at the sides, whereby each side wall and the adjacent projecting portions of the bottom, rear wall, and cover form a pocket, a pair of separately constructed loudspeaker enclosures each having a connecting cord of substantial length leading to such cabinet space for connection to such amplifier system, said enclosures being of such size as to fit at least partially within the pockets formed as aforesaid at the sides of the cabinet, and means for releasably securing the loudspeaker enclosures to the cabinet when thus fitted in the side pockets thereof, so that the enclosures can be united with the cabinet in a single assembly for storage, transportation and the like.

2. Stereophonic sound reproducing means comprising a cabinet having front, rear and side walls defining a space for reception of a stereophonic amplifier system, said cabinet further having a bottom which projects at each side and a similarly projecting hinged cover for

such space, the rear wall of the cabinet also projecting at the sides, whereby each side wall and the adjacent projecting portions of the bottom, rear wall, and cover from a pocket, a pair of separately constructed loudspeaker enclosure boxes each having a connecting cord of substantial length leading to such cabinet space for connection to such amplifier system, said boxes being of such size as to fit at least partially within the cabinet side pockets, with one side of each box against the rear wall projection and the side opposite such one side approximately flush with the cabinet front wall, and means for releasably securing the loudspeaker enclosure boxes to the cabinet when thus fitted in the side pockets thereof, so that the enclosure boxes can be united with the cabinet in a single assembly for storage, transportation and the like.

3. Stereophonic sound reproducing means comprising a cabinet having front, rear and side walls defining a space for reception of a stereophonic amplifier system, said cabinet further having a bottom which projects at each side and a similarly projecting hinged cover for such space, latch means for holding said cover in closed condition, the rear wall of the cabinet also projecting at the sides, whereby each side wall and the adjacent projecting portions of the bottom, rear wall, and cover form a pocket, a loudspeaker enclosure box removably fitted at least partially in each such cabinet side pocket, and securing means carried by said cover for holding the boxes in such assembled condition when the cover is closed, such boxes being separable from the cabinet for remote positioning when the cover is opened.

4. Stereophonic sound reproducing means comprising a cabinet having front, rear and side walls defining a space for reception of a stereophonic amplifier system, said cabinet further having a bottom which projects at each side and a similarly projecting hinged cover for such space, latch means for holding said cover in closed condition, the rear wall of the cabinet also projecting at the sides, whereby each side wall and the adjacent projecting portions of the bottom, rear wall, and cover form a pocket, a loudspeaker enclosure box removably fitted at least partially in each such cabinet side pocket, securing means carried by said cover for holding the boxes in such assembled condition when the cover is closed, and a handle at the front wall of the cabinet by means of which the same and the thus assembled loudspeaker boxes can be carried as a unitary assembly, such boxes being separable from the cabinet for remote positioning when the cover is opened.

5. In stereophonic sound reproducing equipment, an amplifier section including a generally rectangular housing, said housing having side walls, a bottom, and a hinged cover, the bottom and cover projecting beyond the side walls at both sides and having opposed inturned flanges at their outer edges, and a pair of separately constructed loudspeaker boxes respectively arranged against the side walls, said boxes having top and bottom walls with recesses therein in which the cover and bottom flanges are respectively engaged, the boxes being removable for remote positioning by opening the cover to withdraw the flanges thereof and lifting the boxes from the bottom flanges.

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