

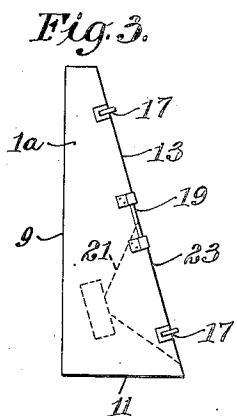
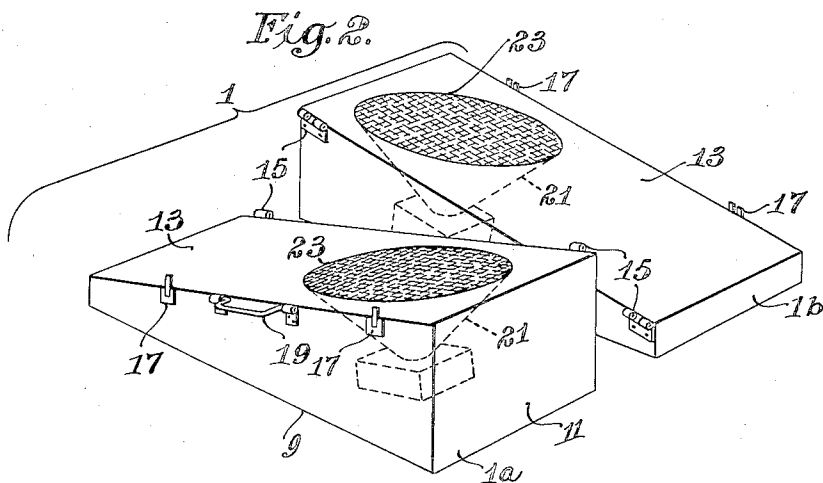
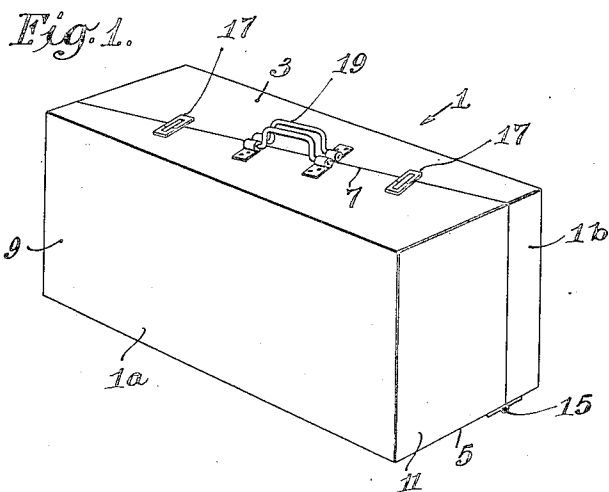
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M. W. SCHELDORF

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SOUND REPRODUCING APPARATUS

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INVENTOR:
Marvel W. Scheldorf,
BY W R Goldborough
ATTORNEY.

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SOUND REPRODUCING APPARATUS

Marvel W. Scheldorf, Haddon Heights, N. J., assignor, by mesne assignments, to Radio Corporation of America, New York, N. Y., a corporation of Delaware

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9 Claims. (Cl. 181—31)

This invention relates to sound reproducing apparatus, and more particularly to a carrying case and mounting for sound translating devices, such as loudspeakers.

In certain types of sound reproducing apparatus, such as public address systems which are frequently of a portable nature, it is desirable to make the equipment as compact as possible. This is particularly true of the loudspeaker units which should be in a form such that they may be easily transported from one location to another and easily set up for use at any desired or advantageous points.

Public address systems in use at present are usually provided with at least a pair of loudspeakers. It has been customary to house the speakers in casings of the suit case type with the vibratable elements of the speakers facing outwardly. Casings of this type, however, are subject to several disadvantages. In the first place, it is necessary to provide an outlet for the sound on the outside of the casings, and this subjects the speakers to the possibility of injury during transit unless protective coverings for the outlets are provided. Furthermore, it is highly desirable, from an artistic standpoint, to provide a decorative finish for the outside of the casings since they face the audience, and very frequently this finish is marred, if not entirely destroyed, during transit, despite the precaution observed to avoid this. Moreover, with loudspeaker mountings heretofore employed, wherein the loudspeakers are placed back to back, the casings must necessarily be of considerable depth and this makes it cumbersome to carry the units. Where, as in some instances, the casings are made separable at the hinges, it has been found that the separated casing units are per se unstable when set up for use and can easily be upset, so that further danger of injury exists. Often, too, it is not possible to conveniently set up the speakers on a level with the listeners' ears. With speaker mountings of the type heretofore employed for public address and the like systems and wherein the speakers were disposed with their axes normal to the outside surfaces of the casings, much of the output was lost to the audience. These and other disadvantages are characteristic of prior art constructions, and the primary object of my invention is to provide an improved loudspeaker casing and mounting which will not be subject to any of the aforementioned disadvantages.

Another object of my invention is to provide an improved carrying case for loudspeakers which

will be of minimum depth consistent with sturdiness and which can be easily and conveniently carried about.

Still another object of my invention is to provide an improved multiple-part carrying case for loudspeakers which can be set up with great ease and of which the individual or separated parts will not be easily upset when once set up for operation.

A further object of my invention is to provide an improved loudspeaker carrying case and speaker mounting which can readily be accommodated to any available or convenient location for installation and which can be set up at such location to direct the reproduced sound toward the ears of the listeners, regardless of whether this location is at the level of, below or above the listeners' ears.

Still a further object of my invention is to provide an improved loudspeaker carrying case wherein the speaker units will not be subject to injury during transit and wherein those portions of the casing designed to face the audience may be made highly decorative or artistic without danger of marring or destruction.

It is another object of my invention to provide an improved portable loudspeaker carrying case which is sturdy in construction, economical of manufacture, and highly efficient in use.

In accordance with my invention, I provide a two part casing split along a bias or plane substantially diagonal to one surface thereof instead of along a plane centrally thereof whereby to provide a pair of substantially wedge-shaped casing parts. These two parts are connected together by means of separable hinges and the loudspeakers are mounted in the wider portions of the "wedges" with their vibratable elements or diaphragms facing the dividing plane.

The novel features that I consider characteristic of my invention are set forth with particularity in the appended claims. The invention itself, however, together with additional objects and advantages thereof, will best be understood from the following description of a specific embodiment, when read in connection with the accompanying drawing, in which

Figure 1 is a perspective view of my improved casing with the parts closed,

Fig. 2 is a perspective view thereof with the casing parts separated and showing the manner of mounting the loudspeakers therein, and

Fig. 3 is a side elevation of one of the casing parts showing one way in which it may be set up

for use to direct the reproduced sound toward the listeners' ears.

Referring more specifically to the drawing wherein similar reference numerals designate corresponding parts throughout, there is shown a carrying case 1 of rectangular parallelepiped form divided into two wedge-shaped casing parts 1a and 1b by a plane normal to and extending substantially diagonally across a pair of opposite faces 3 and 5 and represented by the dividing line 7 on the face 3, the parts 1a and 1b each constituting a substantially right-angled wedge including the right-angularly related faces 9 and 11 and the inclined face 13. The casing parts 1a and 1b may be separably connected together by means of the separable hinges 15 and releasably locked together for transportation by suitable catches or the like 17, the handles 19 being provided whereby to carry the entire assembly or casing.

Adjacent the widest portion of each of the wedges 1a and 1b, there is permanently mounted a loudspeaker 21 with the vibratable element or diaphragm of each loudspeaker directed toward the inclined face 13 of each casing part, the faces 13 each being provided with an opening 23 for the egress of sound reproduced by the respective loudspeakers. When the parts 1a and 1b are assembled, the loudspeaker diaphragms each face the common plane represented by the line 7 and there is no danger of the loudspeakers being injured during transit. Also, since the faces 13 are inside of the casing when the casing parts are assembled, there is similarly no danger of marring the decorative finish usually formed thereon or the usual grillwork covering the openings 23. Safety of the working parts of the unit and of the decorative faces 13, which face the audience during operation of the loudspeakers, is thus assured.

From the foregoing, it will be readily apparent that I have provided a compact, sturdy loudspeaker carrying case which can be assembled with great facility and carried about with considerable ease and without discomfort. If it is found necessary to set up the loudspeakers below the level of the listeners' ears, the casing parts may be rested on the faces 9, as in Fig. 2 or on the faces 11, as in Fig. 3, whereupon the sound is directed upwardly toward the audience. When set up on one of the faces 3 or 5, there is little, if any, danger of accidentally upsetting the unit by reason of the fact that the face 11 is considerably wider than the opposite face. Also, the overall depth of my improved casing is considerably reduced from those of prior art casings wherein it has been necessary to provide a depth substantially twice that of the face 11 of my improved carrying case in order to accommodate the loudspeakers.

Although I have shown and described but one embodiment of my invention, I am fully aware that many modifications thereof are possible. My invention, therefore, is not to be restricted except insofar as is necessitated by the prior art and by the spirit of the appended claims.

I claim as my invention:

1. In combination, a carrying case for loudspeakers comprising a pair of separable casing parts each of wedge-shaped configuration, and at least one loudspeaker mounted in each of said

casing parts, the vibratable element of each of said loudspeakers facing a common plane.

2. In combination, a carrying case for loudspeakers comprising a pair of separable casing parts each of wedge-shaped configuration, means separably connecting said casing parts, said parts together constituting a parallelepiped when assembled together, and at least one loudspeaker mounted in each of said casing parts, the vibratable element of each of said loudspeakers facing a common plane.

3. In combination, a carrying case for loudspeakers comprising a rectangular parallelepiped divided into two casing parts along a plane substantially diagonal to one of the faces of the parallelepiped, means separably connecting said casing parts along the line of intersection of said dividing plane and said face, and a loudspeaker mounted in each of said casing parts with the vibratable element of each of said loudspeakers facing said dividing plane when the casing parts are in assembled relation.

4. The invention set forth in claim 3 characterized by the addition of means for releasably securing the casing parts together.

5. In combination, a carrying case for loudspeakers comprising a rectangular parallelepiped divided into two wedge-shaped casing parts along a plane substantially diagonal to one of the faces of the parallelepiped, means separably connecting said casing parts, and a loudspeaker mounted in each of said casing parts at the wider portions of the wedges, the vibratable element of each of said loudspeakers facing said dividing plane when the casing parts are in assembled relation.

6. The invention set forth in claim 5 characterized in that the adjacent faces of the wedges are provided with openings for the egress of sound emitted by the loudspeakers.

7. In a loudspeaker carrying case, the combination of a right-angled wedge-shaped casing part, and a loudspeaker mounted therein adjacent the widest portion of the wedge with the vibratable element thereof directed toward the inclined face of the wedge, said casing part forming, with a similar casing part, a component part of the loud speaker carrying case.

8. In combination, a carrying case for loudspeakers comprising a pair of separable, inter-fitting casing parts, said parts constituting a parallelepiped when assembled together and each of said parts having a face angularly related to one side of the parallelepiped, means separably connecting said casing parts, and at least one loudspeaker mounted in each of said casing parts, the vibratable element of each of said loudspeakers facing adjacent faces of said casing parts when in assembled relation.

9. In combination, a carrying case for loudspeakers comprising a pair of separable, inter-fitting casing parts, said parts constituting a parallelepiped when assembled together and each of said parts having a face angularly related to one side of the parallelepiped, means separably connecting said casing parts, and at least one loudspeaker mounted in each of said casing parts, the vibratable element of each of said loudspeakers facing the angularly related face of its associated casing part.

MARVEL W. SCHELDORF.