An integral organic plastic back-can for protection of loud speakers against damage and which is mildew and corrosion proof. The back-can encloses and protects a loud speaker and may simply be connected to a loud speaker baffle by a peripheral flange. In order to prevent vibration and minimize resonance and sound distortion the back-can is provided with a dish-shaped body having relatively steep frustoconical side walls joined by a gentle radius of curvature to a flat bottom. The flat bottom is provided with protruding diametrical ribs which strengthen the bottom and prevent vibration and serve to diffuse the sound waves and minimize resonance.
PROTECTIVE SPEAKER BACK-CAN

SUMMARY OF THE INVENTION

By means of this invention there has been provided an integral organic plastic back-can as an improvement over existing metallic protective back-cans for loud speakers. Such metallic back-cans are subject to vibration unless specially coated or covered by sound deadening material and are subject to corrosion.

The back-can of the instant invention can be made by casting conventional plastic materials to provide a mildew and corrosion proof back-can without the requirement of any special coatings. A special dish-shaped body is provided to minimize vibration and inhibit resonance and sound distortion. This is achieved through relatively steep frustoconical side walls joined by a gentle radius of curvature to a flat base of the back-can body. The bottom of the body is provided with exposed and protruding radial extending or diametric ribs which serve to strengthen the body against vibration and also to minimize sound distortion and resonance by diffusion of the sound waves from the rear of the speaker.

By means of a mounting flange the back-can can easily be connected to a loud speaker baffle and loud speaker in a wall attached configuration.

The above features are objects of this invention and other objects will appear in the detailed description which follows and will be otherwise apparent to those skilled in the art.

For purpose of illustration of this invention there is shown in the accompanying drawings a preferred embodiment thereof. It is to be understood that these drawings are for the purpose of example only and that the invention is not limited thereto.

In the drawings:

FIG. 1 is a top plan view of the back-can.
FIG. 2 is a view in side elevation of the back-can.
FIG. 3 is a bottom plan view of the back-can.
FIG. 4 is an enlarged view in section taken on the line 4—4 of FIG. 1.
FIG. 5 is a bottom plan view showing the attachment of the back-can to a loud speaker and a baffle supported on a wall.
FIG. 6 is an enlarged view in section taken on the line 6—6 of FIG. 5.

DESCRIPTION OF THE INVENTION

The back-can of this invention is generally identified by the reference numeral 10. It is molded from high impact polystyrene or other conventional organic plastic material in the form of a dish-shaped body 12 having a peripheral mounting flange 14.

The particular configuration of the dish-shaped body is best shown in FIGS. 2 and 6 where it will be seen that the body is comprised of relatively steep frustoconical sidewalls 16 joined to a bottom wall 18 by a gentle radius of curvature 20. The dish-shaped body is connected to the peripheral mounting flange or rim 14 which is provided with screw holes 22 for mounting to speaker baffles or other connection.

As best shown in FIGS. 1, 3, 4, 6 the bottom wall of the back-can is provided with inwardly protruding ribs 24. These ribs extend radially and protrude above the surface of the bottom wall and are criss-crossed in nature. By means of these ribs which have a hemispherical cross section as shown in FIG. 4 strengthening of the bottom is provided to minimize vibration and also to reduce resonance and sound distortion by diffusion of backwardly directed sound waves from a loud speaker cone which otherwise might bounce off the bottom wall and distort.

The dish-shaped body of the back-can is further provided with knock out openings 28 for ready access to electrical leads for connection to a loud speaker.

The mounting of the back-can is shown in FIGS. 5 and 6 where a speaker baffle is connected to the mounting flanges of the back-can to speaker baffle 30 by screws 32. The speaker baffle is conventionally fastened to a wall 34 or ceiling provided with an opening receiving the back-can. A loud speaker 36 is mounted upon the speaker baffle and extends interiorly within the opening of the dish-shaped body of the protective back-can.

Use:

The protective speaker back-can is simply employed by connecting it to the speaker baffle 30 shown in FIGS. 5 and 6. The speaker extends within the dish-shaped body and is connected to the rear of the speaker baffle. Connection of the necessary electrical leads to the speaker 36 is accomplished by knocking out any of the necessary knock out openings 28 for insertion of the electrical leads.

When installed the protective speaker back-can prevents moisture damage by way of corrosion and is mildew resistant. Further, vibration is minimized by the reinforcing and strengthening ribs 24. Distortion and resonance is minimized also by the strengthening ribs which protrude from the inside face of the bottom of the back-can body to diffuse and break up any bouncing and waves. The structure of the plastic back-can obviates the necessity of a protective or sound deadening coating or covering through the combination of the structure of the specially shaped body with a gentle radius of curvature of the sidewalls with the bottom and the strengthening and sound wave diffusions ribs as afore described.

Various modifications and changes may be made within this invention as will be readily apparent to those skilled in the art. Such changes and modifications are within the scope and teaching of this invention as defined by the claims appended here to.

What is claimed is:

1. In a back can for connection with a loud speaker: a molded plastic, unitary body having steeply sloping continuous side walls spanned by a bottom wall, the body being open at the top, the side walls converging from the open end toward the bottom wall, the side walls and bottom wall being connected by a curving connecting portion integral with both bottom and side walls, the bottom wall having integral reinforcing ribs projecting outwardly therefrom, the sloping side walls merging by the curved connecting portion into a rigidified bottom wall affording a back can with reduced vibration characteristics of the kind that interfere with the delivery of acoustical vibrations from a speaker connected with the back can, and means for attaching a loud speaker to the open end of the back can.

2. The back-can of claim 1 in which said ribs protrude on the interior of said body.

3. The back-can of claim 1 in which ribs extend radially from the center of said flat bottom and intersect with one another.
4. The back-can of claim 1 in which the body has steep frustoconical side walls joined to the flat bottom with a gentle radius of curvature.
5. In the back can of claim 1, the means for attaching a loud speaker including an integral flange around the sloping side walls of the body at their open end.
6. The back-can of claim 5 in which a speaker baffle is connected to the peripheral flange of the back-can and extends across the open end of the body.

7. The back-can of claim 6 in which said ribs protrude on the interior of said body and extend radially from the center of said flat bottom and intersect with one another.
8. The back-can of claim 6 in which the body has steep frustoconical side walls joined to the flat bottom with a gentle radius of curvature.

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