

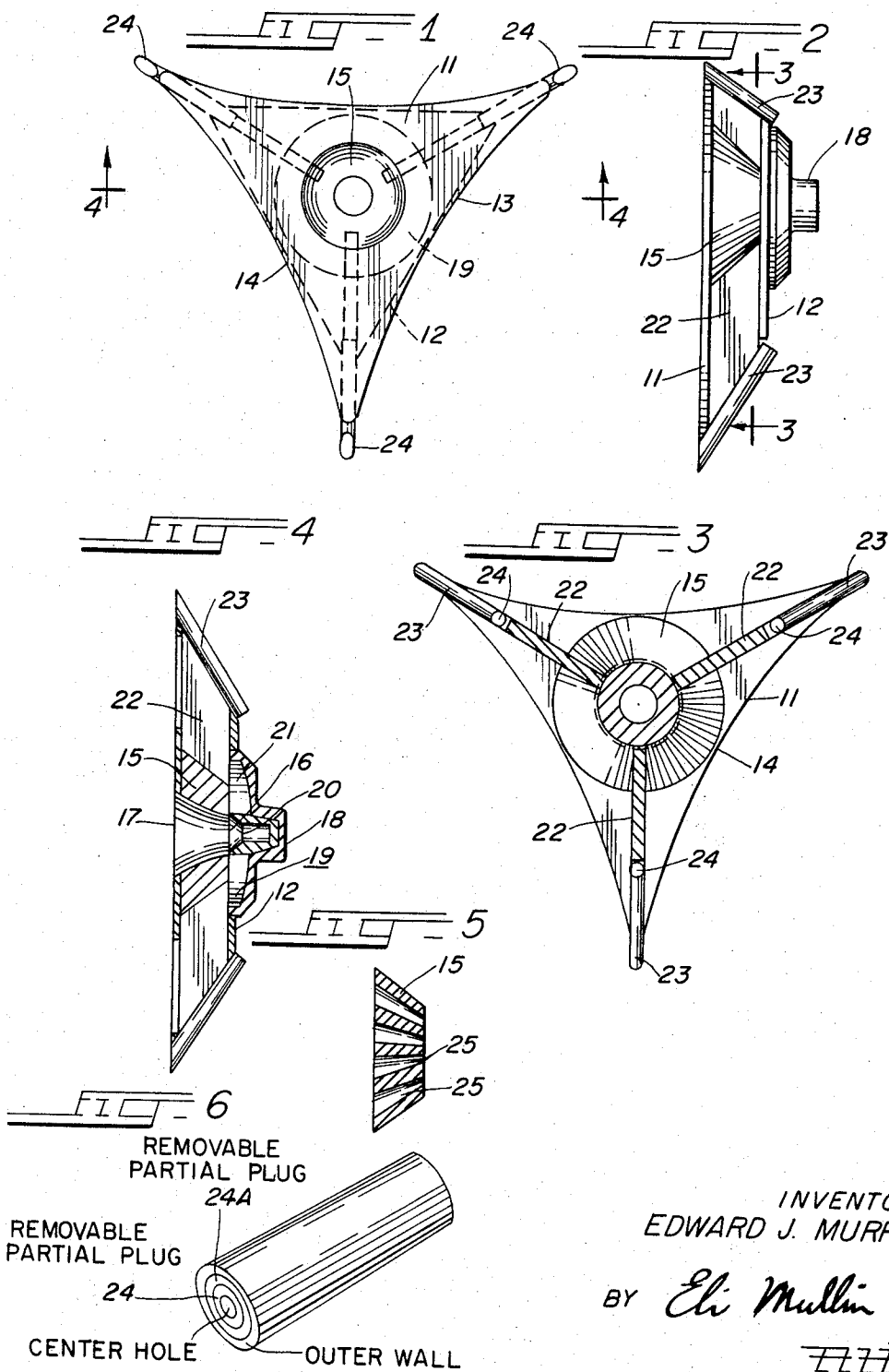
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LOUD SPEAKER ENCLOSURE

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LOUD SPEAKER ENCLOSURE

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ABSTRACT OF THE DISCLOSURE

A triangular holder for a loud speaker whereby the entire room becomes the speaker enclosure. The low and high frequency sounds emanating from the loud speaker are separated into their respective components by the holder. At each of the three corners of the holder, adjustable control vents are provided.

The present invention relates to a holder especially adapted for diaphragm driven loud speakers and more particularly relates to such a holder (or speaker enclosure member) which is used in the corner of a room formed for example by the ceiling and two adjoining walls thereof. By the use of such a holder one readily creates the effect on a listener in the room of being surrounded by sound emanating from the speaker.

Accordingly a primary object of my invention is to provide a novel loudspeaker enclosure for use in the corner of a structure.

Another object of my invention is to provide a tricorner loud speaker enclosure.

A further object of my invention is to provide a loud speaker enclosure which is so made as to coact with the walls and ceiling of a room whereby excellent quality sound reproduction is obtained.

These and other objects, features and advantages of my invention will become apparent to those skilled in this particular art from the following detailed disclosure thereof and the accompanying drawings, in which:

FIG. 1 is a top view of one embodiment of the present speaker enclosure;

FIG. 2 is a side view thereof;

FIG. 3 is a sectional view along line 3-3 of FIG. 2;

FIG. 4 is a sectional view along lines 4-4 of FIG. 1; and

FIG. 5 is a sectional view of a component of another embodiment hereof;

FIG. 6 is a schematic view of one of the control vents used herein.

Reference should next be had to the drawings where like numerals are used throughout:

The enclosure member illustrated in FIGS. 1-4 represents the preferred embodiment hereof. As shown therein there is provided a front plate 11 and a back plate 12. Both of said plates are generally triangular in outline with back plate 12 having straight sides and front plate 11 having concave sides 14 the purpose of which will be described as the description proceeds. A dispersion cone-horn 15 is centered in the two aforesaid triangular members extends through and joins such members 11 and 12. Said dispersion cone-horn also has a relatively smaller opening 16 through the back plate 12 and flares outwardly into a larger opening 17 through the front plate 11 thereby acting as an extension horn. The dispersion cone-horn is rigidly affixed between the two plate.

A diaphragm or diaphragms driven speaker of known unit, dual or triple construction is denoted generally by the numeral 18. This fits over a large opening 19 in the back plate 12 with the high or mid-range frequency component thereof 20 (the "tweeter") directing its sound selectively and quantitatively through the bore of the dispersion cone-horn 15 while the lower frequency

components 21 (the "woofer") from the speaker 18 are directed around the outer wall of said dispersion cone-horn.

Three solid web members 22 extend outwardly from the outer wall of the dispersion cone-horn 15 to the three corners of the enclosure in the space between the front and back plates. Such web members are spaced 120° apart and thus divide the interplate space into three equal parts.

In operation, after the speaker 18 has been inserted in place and connected to its signal generating member, the speaker enclosure is positioned preferably in the upper corner of a room formed by the ceiling and two abutting walls. The front plate 11 faces outwardly and the three sides 13 of the back plate tightly press against the walls and ceiling. In fact it is sometimes desirable to use pressure sensitive tape or the like to seal said sides against the abutting ceiling and wall surfaces.

When the loudspeaker 18 is actuated, the high frequency, tweeter sounds pass through the dispersion cone-horn into the room. The lower frequency sound waves, on the other hand, first hit the outer wall of the dispersion cone-horn and reflect from thence either onto a side wall or ceiling. Because of the solid web members 22 three distinct sound components emerge from the speaker enclosure, one from the ceiling and two from the side walls. These woofer generated components exit from the speaker enclosure into the room through the spaces formed by the concave walls 14 of the front plate 11 and the walls and ceiling of the room. The resulting sound is beautiful and gives the listener the impression of being surrounded by the sound.

As is well known to those skilled in this art the loudspeaker has certain vibrating components. The vibrations cause rarefactions and compression of the air column behind the speaker. If this is uncontrolled it can seriously detract from the sound qualities of the speaker. For example, one can get a boxy or tinny effect which is most displeasing to the ear. To overcome the effect of the air compression especially, I provide three controllable air escape tubular vents 23 each at a corner of my speaker enclosure. When the air is compressed by the actions of the loud speaker it is controllably vented to the room through such vents 23. Each said vent has a removable, group of concentric plug members 24, 24A contained in the bore thereof. As such plug members are slidably removed in the vent the air in compression or decompression at the back of the speaker more readily passes through the vent to provide the escape means. The listener, therefore, can control sound quality by selectively removing the plugging members 24, 24A in the vents 23.

As noted above, in the preferred embodiment hereof of the dispersion cone-horn 15 is merely flared. The exact configuration is exponential and follows the usual teachings and standards of the prior art. In another embodiment hereof, as illustrated in FIG. 5, the bore of the dispersion cone-horn has a plurality of holes 25 therethrough which guide the high frequency sounds through the speaker assembly into the room.

It will be understood that various modifications and variations may be effected without departing from the spirit or scope of the novel concepts of my invention.

I claim as my invention:

1. An enclosure for a loud speaker having relatively high and low frequency sound components comprising in combination: a front plate member generally triangular in shape and having concave sides; a back plate member generally triangular in shape and having straight sides; dispersion cone-horn means extending between said front and back plate members for passage of

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relatively higher frequency sound; three solid web members extending from the external wall of said dispersion cone horn means between the space between said front and back plates to divide said space into three equal parts said enclosure having a back opening adapted to receive a diaphragm speaker; and vent means whereby the compression of air behind said speaker enclosure is adjustable said vent means comprising tubular members controlling the escape of air from the space behind said enclosure.

2. The device as defined in claim 1 wherein said dispersion cone-horn means is hollow.

3. The device as defined in claim 1 wherein said dispersion cone-horn has holes running therethrough.

4. The device as defined in claim 1 wherein said vent means comprises three partially plugged tubes at the

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corners thereof, said tubes having adjustable slide means therein.

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