Dec. 13, 1966 E. A. ZEMROWSKI 3,291,251

DIVIDED PANEL BOARD FOR HI-FI SPEAKER SYSTEMS

Filed March 14, 1966

Fig. 1

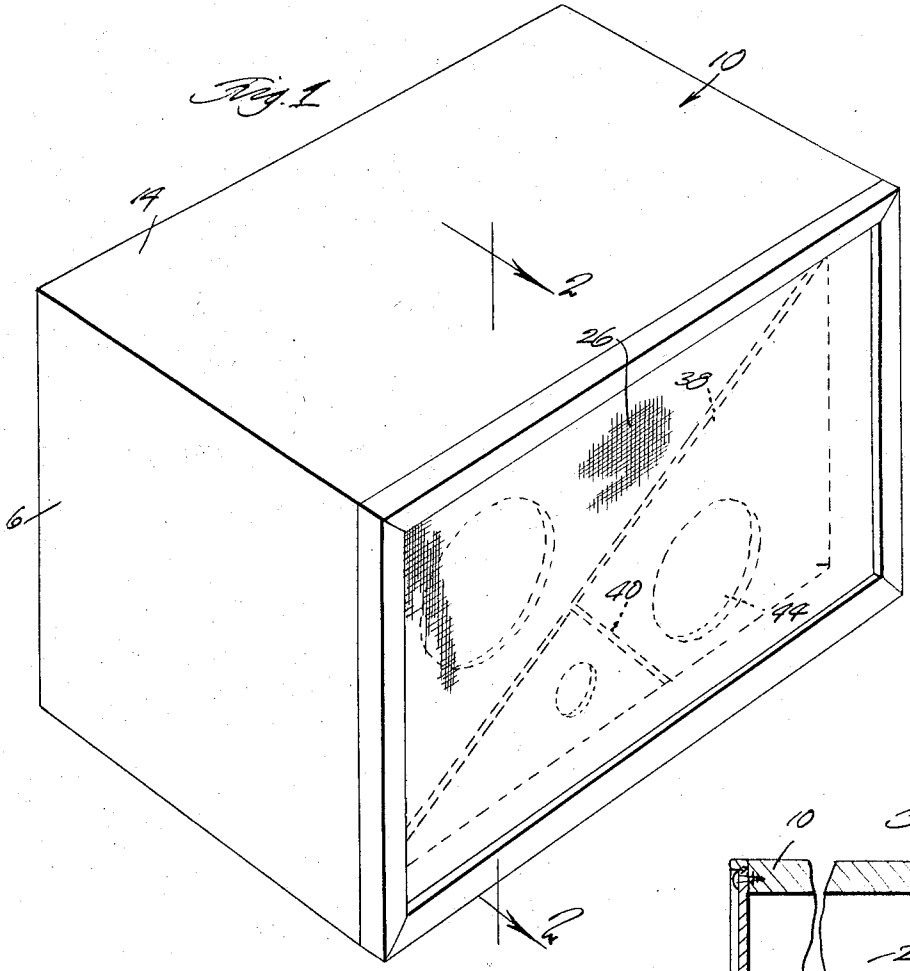


Fig. 3

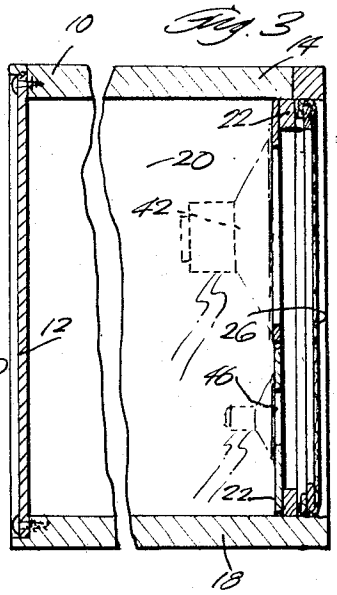
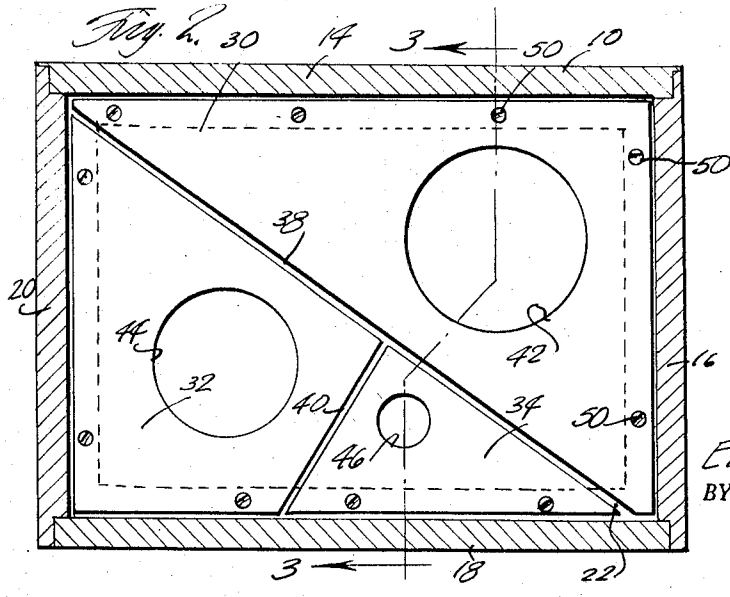


Fig. 2



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DIVIDED PANEL BOARD FOR HI-FI SPEAKER SYSTEMS

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1 Claim. (Cl. 181—31)

The present invention relates to an improved panel board for hi-fi speakers, and more particularly relates to a cabinet construction providing a divided panel board of resonant members for purposes of reproducing the sound with the maximum amount of efficiency for all ranges of sound in order to produce the clearest and undistorted transmission of sound from the divided panel board and cabinet arrangement on which it may be mounted.

An object, therefore, of the present invention is to provide mechanical means for mounting speakers on a resonant panel so that the tweeter speaker, the mid-range speaker, and the woofer speakers all transmit together in a coplanar arrangement from each of their subpanel assemblies which are resonantly mounted on a cabinet, produce the hi-fi reproduction of sounds that are received electrically by the speakers.

An object, therefore, of the present invention is also to provide a multiple arrangement of coplanar panel boards each being spatially disposed from each other and mounted from a common base or molding, so that the sound is transmitted with clarity without distortion and other modifications of the prior art.

A further object of the present invention is to provide an economically designed and efficiently arranged set of divided panel boards for achieving maximum resonance and transmission of sound from loudspeakers that are mounted in each of the respective resonant panel members.

A further object of the present invention is to provide a resonant panel assembly for high, intermediate and low sounds, so that each panel is provided with sufficient freedom for giving the speaker the maximum amount of freedom in transmitting the electrical signal that is fed to the speaker mounted in the panel. In conventional arrangements, the bass or woofer speaker usually transmits signals in the audio range from 20 to 700 c.p.s., and the mid-range speaker transmits signals from about 700 c.p.s. to 3,000 c.p.s., and the treble speaker or the tweeter as it is commonly called, transmits signal energy from about 3,000 to 20,000 c.p.s. When all these three speakers are mounted on separate resonant boards or panels and are disposed in a coplanar relation, they provide the maximum amount of energy transmission that is fed to each of the respective speakers.

A further object of the present invention is to provide a divided panel board arrangement for a cabinet or other speaker enclosure so that the invention may be constructed in a kit form and manufactured with ease as well as ease in construction of the several parts to form the divided panel board speaker system of the invention.

The above and other objects and advantages of the invention will become apparent upon full consideration of the following detailed description and accompanying drawings, in which:

FIGURE 1 is a generally front perspective view of the divided panel board for hi-fi speaker systems in accordance with the preferred embodiment of the present invention.

FIGURE 2 is a cross-sectional view taken along lines 2—2 of FIGURE 1, and

FIGURE 3 is a cross-sectional view taken along lines 3—3 of FIGURE 2.

Referring now to the drawings, there is shown a cabinet 10 for a hi-fi speaker system having a rear resonant panel 12 mounted from the sides 14, 16, 18 and 20, as shown. From the inside surface of each of the sides 14, 16, 18 and 20, there is mounted a small molding along the inner periphery, the molding 22 extending throughout a common plane and forming a composite and completed loop therein.

From the front side of the inner molding 22, there is a screen assembly 26 mounted throughout the entire opening formed in the front of the cabinet, while on the rear surface of the inner molding 22, there are a set of three divided panel boards 30, 32, 34, which are disposed from each other to form a spatial recess or free space 38, 40, as is shown at least in FIGURE 2. In this way, each of the panels 30, 32, 34, is allowed and adapted to vibrate or resonate freely in and of its own with each of the respective speakers 42, 44, 46 which are respectively seen as mounted in the panels 30, 32, 34. The panel boards are mounted by screws or other fastening members 50, 50 onto the inner molding 22, and in this way the resonant members forming the divided panel boards 30, 32, 34, achieve the maximum amount of vibration for each of the speakers mounted therein and the maximum amount of sonic energy of the signal being applied to the loudspeakers 42, 44, 46, respectively, is transmitted from the coplanar arrangement of the panels.

Additional embodiments of the invention in this specification will occur to others and therefore it is intended that the scope of the invention be limited only by the appended claim and not by the embodiments described hereinabove. Accordingly, reference should be made to the following claim in determining the full scope of the invention.

What is claimed is:

A divided panel board for hi-fi speaker assembly kit systems comprising a cabinet for a set of three speakers, an inner molding mounted in a common plane from the inner periphery of the inside surface of the cabinet forming a hollow frame member therefor, and extending throughout the entire periphery thereof, a set of three panels forming a composite coplanar arrangement and mounted from the inner molding, a free space disposed between each of the panels, and each of said panels being sized in ascending order to form large, intermediate and small resonance panels, a bass speaker mounted generally centrally of the large panel, a mid-range speaker mounted generally centrally of the intermediate panel, a treble speaker mounted generally centrally of the small panel and a back resonance panel being mounted from the rear of the cabinet and in substantially parallel relation thereto, the panels mounting the bass and the treble speakers are generally of triangular configuration, the intermediate panel and the treble speaker panel having at least two free and unsupported sides.

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