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Lover

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[45] **Feb. 6, 1973**

[54] **LOUDSPEAKER CABINET ASSEMBLY AND METHOD**

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[73] Assignee: **Columbia Broadcasting System, Inc.**, New York, N.Y.

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[52] **U.S. Cl.** ..... **181/31 B**

[51] **Int. Cl.** **G10k 13/00**, H04r 1/28

[58] **Field of Search** ..... 181/31 B, 31 R, 31 A, DIG. 1, 181/27 E

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Primary Examiner—Stephen J. Tomsky
Attorney—Richard L. Gausewitz et al.

[57] **ABSTRACT**

An extremely rigid and acoustically-excellent, yet low-cost, loudspeaker cabinet assembly is formed by combining two trapezoidal speaker baffles with two triangular speaker baffles. Such baffles, with their associated speakers, are mounted in inclined manner in a rectangular cabinet and are braced by triangular braces which connect from adjacent edges of the baffles to the back of the cabinet. The braces do not extend outwardly to the cabinet corners, so that the chambers defined behind the baffles are in communication with each other. The baffle edges, at regions between the braces and the cabinet corners, are spaced from each other to form ports for the speakers. Elastic knit grill cloth is stretched over the cabinet front and is centrally depressed by means of a connector member, the result being a highly attractive horn-shaped configuration.

In accordance with the method, the baffles are mounted individually. The braces are then inserted through speaker openings in the baffles, and are slid radially inwardly as far as permitted by the baffles. Loudspeakers are then front-mounted on the baffles, and the grill cloth is mounted and stretched.

25 Claims, 8 Drawing Figures

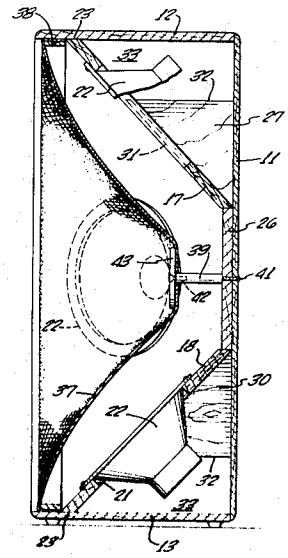


FIG. 1

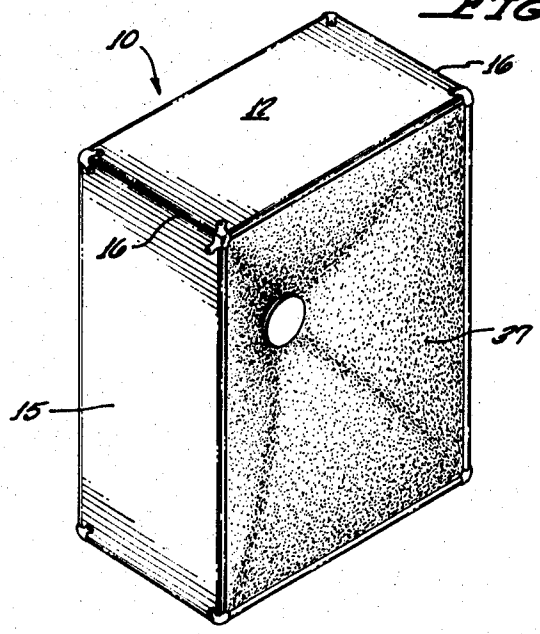
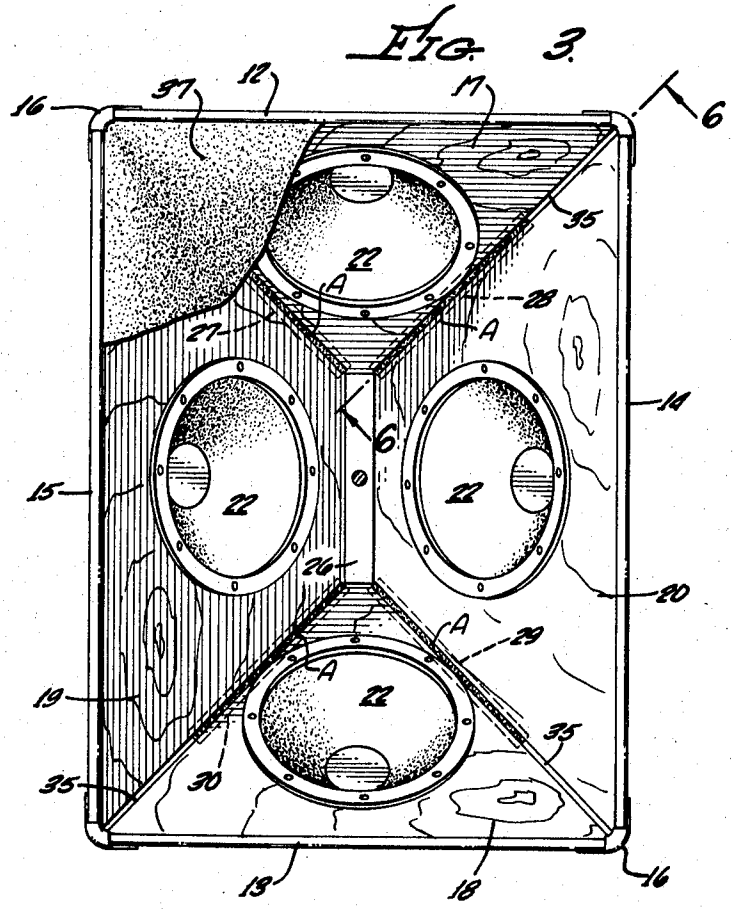

10
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37
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FIG. 3


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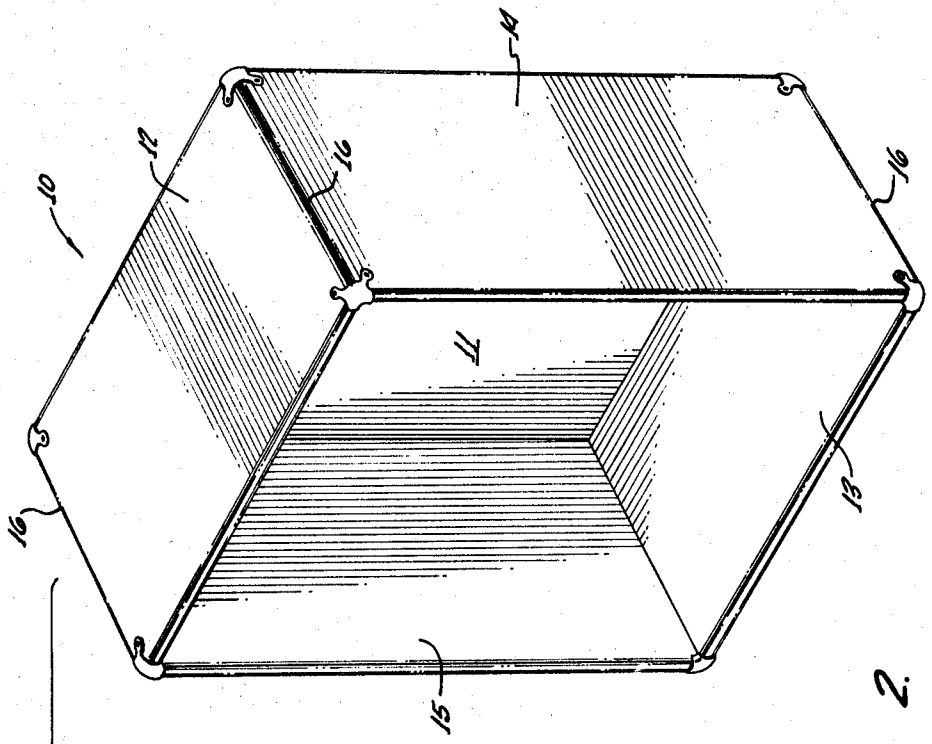
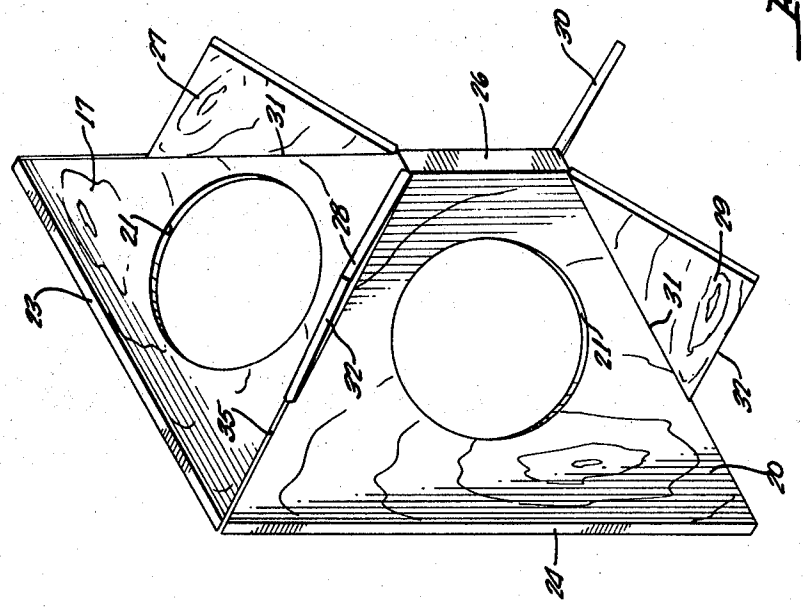

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FIG. 2.


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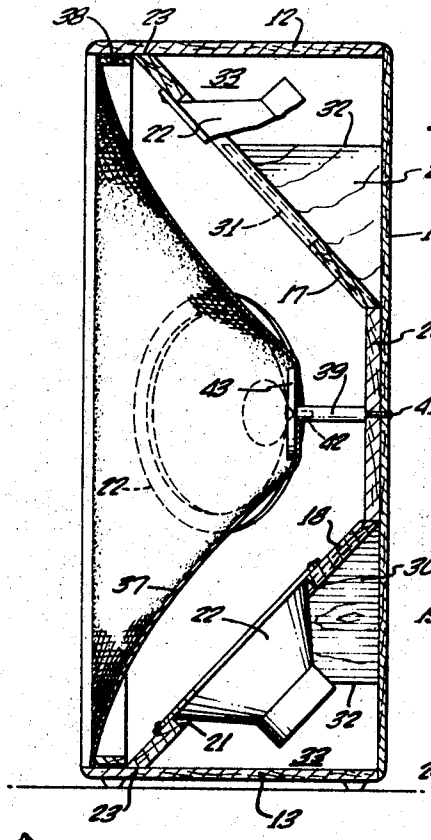


FIG. 4

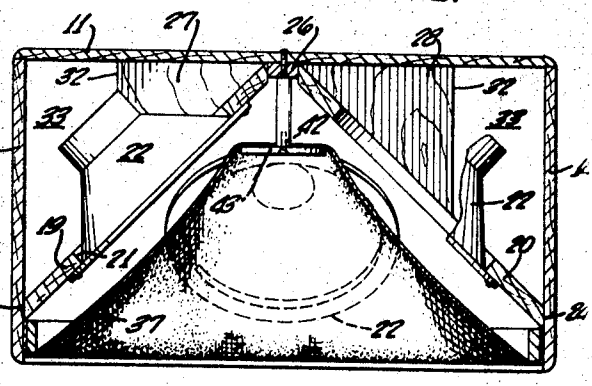


FIG. 5

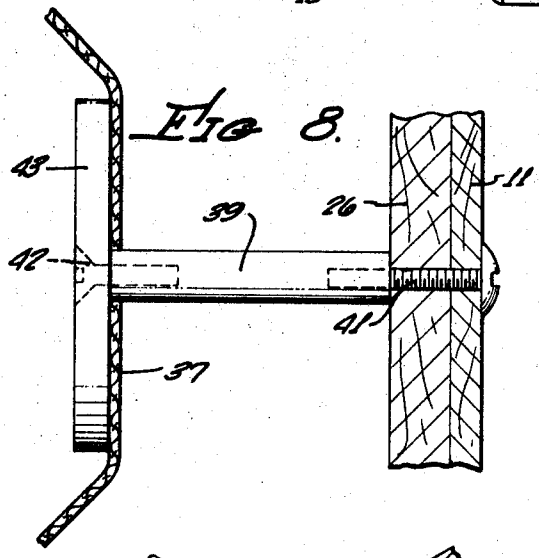


FIG. 8

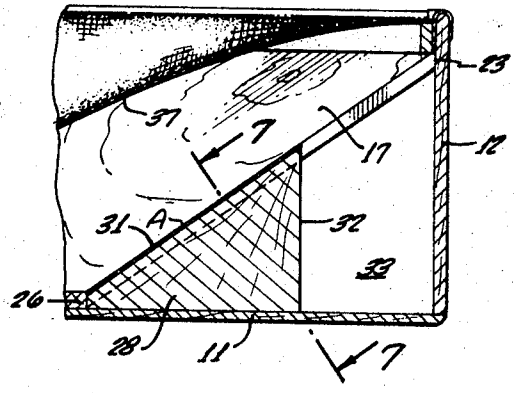


FIG. 6

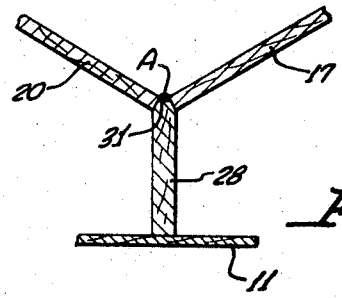


FIG. 7

LOUDSPEAKER CABINET ASSEMBLY AND METHOD

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to the field of loudspeaker cabinet assemblies, and more particularly to cabinets incorporating a plurality of loudspeakers and adapted to be employed with electrical musical instruments.

2. Description of Prior Art

There have been vast numbers of speaker cabinet assemblies invented since the inception of the loudspeaker, but assemblies created to date have not fully solved the problems of (a) rigidity, (b) acoustic excellence, (c) economy and simplicity of manufacture, and (d) aesthetic design. It Patent emphasized that speaker cabinet assemblies for modern electrical musical instruments, such as electric guitars and electric basses, are subject to tremendous high-power vibrations which tend to set the cabinet walls into vibration. However, it is normally very undesirable that the cabinet walls vibrate, since such vibrations detract from the acoustical energy generated in the speaker cones. Furthermore, vibrations of the cabinet walls can cause undesired "buzzing" other sounds.

Ideally, from a theoretical standpoint, the walls and baffles of a speaker cabinet should be totally rigid, for example made of concrete. This being impractical in almost all instances, it is greatly desired to approach the theoretical ideal with a wooden or particle board cabinet that is simple and economical to manufacture, that creates the desired acoustic response, and that is aesthetically pleasing.

Patents discovered in novelty searches (both utility and design) conducted relative to the present cabinet are as follows: 1,915,954; 2,143,175; 2,224,919; 2,544,742; 2,602,860; 2,632,055; 2,170,662; 2,792,069; 2,814,354; 2,853,146; 3,052,758; 3,054,856; 3,104,729; 3,125,181; 3,138,667; 3,241,631, 3,285,364; 3,299,206; 3,308,237; 3,356,179; 3,393,764; 3,416,804; 3,582,553; Austrian Patnet 165,502; French Patent 1,141,643; German Pat. Nos. 575,492; 915,460; 952,360.

SUMMARY OF THE INVENTION

A rectangular wooden cabinet having an open front is rigidly braced by means of two opposed generally triangular wooden baffles, and two opposed generally trapezoidal wooden baffles. All of the baffles are inclined in convergent manner toward the rear wall of the cabinet, at the same angle thereto. The inner baffle portions abut, and are connected to, an elongated key member which is secured to such rear wall. Triangular wooden braces extend between the rear cabinet wall and the adjacent baffle edges, the latter being spaced apart sufficiently far that port slots are formed at regions radially outwardly of the braces. Such port slots serve to vent the chambers defined behind the baffles, as desired in order to optimize the performance of loudspeakers which are mounted on the respective baffles over openings therethrough.

A knit elastic grill cloth is stretched over the cabinet front, forwardly of the baffles and speakers. The central region of the grill cloth is pulled rearwardly by a connector means which is secured to the key member. The result is a horn-shaped grill cloth, which is perforate (due to the weaving of the cloth) in order that sound from the speakers may pass therethrough.

The method of assembling the cabinet comprises separately mounting each baffle, thereafter inserting the braces through the speaker openings, thereafter sliding the braces radially inwardly and securing them in position, and then mounting the speakers and the grill cloth.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is an isometric view of a speaker cabinet assembly constructed in accordance with the present invention;

FIG. **2** is an exploded view showing the open-fronted rectangular cabinet and also showing the baffle and brace means (the loudspeakers being omitted);

FIG. **3** is a front elevation of the cabinet assembly, with most of the grill cloth broken away;

FIG. **4** is a central vertical section of the cabinet assembly;

FIG. **5** is a central horizontal section of the cabinet assembly;

FIG. **6** is a fragmentary sectional view taken on line **6—6** of FIG. **3**;

FIG. **7** is a fragmentary sectional view on line **7—7** of FIG. **6**; and

FIG. **8** is an enlarged fragmentary view of the right-central portion of FIG. **4**.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings, and particularly to FIG. **2**, the loudspeaker cabinet assembly is illustrated to comprise a rectangular cabinet **10** having an open front and having a rear wall **11**. The upper and lower side (end) walls **12** and **13** of the cabinet are relatively short, whereas the vertical side walls **14** and **15** of the cabinet are relatively long. All of the cabinet walls, which are preferably formed of wood or a wood substitute (particle board), are secured to each other in a rigid manner by suitable adhesive or fastener means, not shown. In addition, the exterior of the cabinet is preferably covered with a suitable air-impervious decorative plastic cloth.

The edges **16**, where the various side walls **12–15** meet each other, are referred to hereinafter as "corner edges."

Four cooperating rigid baffles are provided in inclined relationship in the cabinet **10**. The upper and lower ones of such baffles are numbered, respectively, **17** and **18** and are substantially triangular in shape, The left and right ones of such baffles, numbered **19** and **20**, respectively, and as viewed in FIG. **3**, are substantially trapezoidal in shape. Each trapezoid and each triangle has two base angles of 45°, and each has side edges which converge in a direction away from the base (relatively long) edge. In the case of triangular baffles **17** and **18**, the side edges converge to a substantial vertex. In the case of trapezoidal baffles **19** and **20**, the side edges converge toward a relatively short inner edge which is parallel to the base edge.

Each baffle **17–20** is preferably formed of particle board, wood or other rigid material, and each has a large circular opening **21** therein (FIG. **2**) over which is mounted a loudspeaker **22**. The construction of each

loudspeaker **22** is conventional and therefore need not be described.

The base (relatively long) edges **23** of upper and lower baffles **17** and **18** are inclined or beveled in order that they may fit flatwise against the interior surfaces of upper and lower walls **12** and **13** of the cabinet, as shown in FIG. **4**, and at regions spaced a short distance inwardly from the forward edge of the cabinet. Correspondingly, the base edges **24** of the left and right baffles **19** and **20** are inclined or beveled (FIG. **5**) and fit flatwise against the interior surfaces of vertical side walls **15** and **14**, at regions spaced the same short distance inwardly from the forward edge of the cabinet.

An elongated rectangular key member (board) **26** is secured in vertical relationship and in flatwise engagement with the interior surface of rear cabinet wall **11**. The length of key member **26** is somewhat longer than the length of the inner edges of trapezoidal baffles **19** and **20**. The width of the key member is somewhat longer than the width of the vertex regions of triangular baffles **17** and **18** (the triangular baffles being very slightly cut off or truncated in order that the vertex regions may fit against substantially the full lengths of the ends of key member **26**, as shown in FIG. **3**). The regions of baffles **17-20** which are adjacent key member **26** are inclined or beveled, as best shown in FIGS. **4** and **5**, so as to fit flatwise against the edges thereof.

All of the baffles **17–20** are inclined at the same angle (preferably about 45°) to the rear cabinet wall **11**. The relationships are such that the length of key member **26**, minus the width of such key member, is equal to the length of cabinet **10** (interior dimension) minus the width of the such cabinet (interior dimension).

The key member **26** is accurately located centrally of the cabinet, with its side edges parallel to and spaced equal distances from the vertical of walls of the cabinet, and with its end edges spaced equal distances from the top and bottom walls of the cabinet.

The cabinet assembly further comprises four triangular braces **27–30** (formed of particle board or wood) which radiate from the four corners of key member **26** toward the corner edges **16** of cabinet **10**, as shown in FIG. **3**. The braces **27–30** are right triangles, and have hypotenuse (forward) edges **31** which incline at the same slope (about 45°) as that of the respective baffles **17–20**. The outer edges **32** of braces **27–30** are not located near the side walls **12–15** of cabinet **10**, but instead are spaced major distances therefrom to provide four openings **33** which afford communication between the various chambers in which the rear portions of loudspeakers **22** are located.

The braces **27–30** are sufficiently small that they may be inserted rearwardly through speaker openings **21** after the baffles are in mounted condition.

Referring to FIG. **7**, it is pointed out that the forward or hypotenuse edges **31** of braces **27–30** are doubly beveled in order to seat in flatwise relationship the corresponding or adjacent edges of the various baffles (for example, baffles **17** and **20** in FIG. **7**).

It is a very important feature of the present speaker cabinet that the baffles **17–20** are undersize in comparison to the dimensions of cabinet **10**. This undersize relationship does not relate to the altitudes of the triangles and trapezoids which form the baffles **17–20**, but instead relates to the dimensions (parallel to the base edges of the baffles) between the inclined side edges of the baffles. The result is that gaps or slots **35** are provided between opposed adjacent side edges of the baffles, as shown (for example) in FIG. **3**.

The portions of the gaps or slots which are adjacent the triangular braces **27–30** are closed by such braces, as shown in FIG. **7**. Thus, in the finished construction, the only remaining gaps or slots extend radially outwardly from the outer edges **32** of the braces **27–30**, namely between such outer edges **32** and the corner edges **16** of the cabinet.

The functions of the gaps or slots **35** are twofold. In the first place, such gaps or slots serve as ports which port to the ambient atmosphere the chambers behind the baffles **17–20**. This eliminates the necessity of providing separate openings in the baffles for porting of the loudspeakers **22**. Furthermore, and very importantly, a function of the gaps or slots is to facilitate the mounting of the respective baffles **17–20** in the cabinet, with consequent increased ease of manufacture, as described hereinafter.

METHOD OF ASSEMBLY

There will next be described the method of assembly of the present apparatus, except for the grill cloth and related elements which will be described below.

The cabinet **10** is first fully constructed, following which the key member **26** is secured (by adhesive and by suitable staples or other fasteners) to the rear wall **11** of the cabinet and in the precise central location described above. The four baffles **17–20** are then individually mounted to the elements **26–30** and to the cabinet side walls **12–15**, such mounting being effected by adhesive and by suitable staples or other fasteners. It is a major feature of the invention that the present construction, whereby the slots **35** are provided between the adjacent side edges of the baffle members, permits and facilitates individual mounting of such baffle members, with consequent great lessening of the difficulty of assembly. (It is pointed out that although FIG. **2** shows the various baffle and brace members as assembled outside the cabinet **10**, this is merely for purposes of illustration and does not denote that there is any preassembly of the elements shown at the left in FIG. **2**.)

After the various baffles **17–20** have been easily mounted in position as described above, the assembler takes each of the triangular braces **27–30** and applies adhesive to the rearmost edge thereof (the one adapted to seat against the rear cabinet wall **11**). He then sequentially inserts each brace through a speaker hole **21**, mounts the outer beveled edge of the brace in its position adjacent two opposed baffle edges (as shown, for example, in FIG. **7**), and then slides the brace radially inwardly as far as it will go.

The amount of radial-inward sliding will depend upon various factors, including the tolerances with which the parts are cut and fit. It is an important feature of the invention that the present system permits these tolerances to be rather large, instead of precise, which is to be contrasted with the situation which would occur if the braces **27–30** where preassembled to the rear cabinet wall **11** (prior to mounting of the baffles **17–20**).

After the braces **27–30** are mounted as described, a soft adhesive (which never gets completely hard) is placed along the hypotenuse edge **31** of each brace **27–30**, as indicated at A in FIG. **7**. Staples or other suitable fastener means are further employed to secure the braces **27–30** to rear cabinet wall **11**, the staples being inserted from the rear side of such wall.

The described assembly produces a very rigid relationship with a minimum of cost and a minimum of weight, as is desired in order to enhance the acoustic characteristics of the loudspeaker cabinet assembly. The "braces" **27–30** not only perform the important bracing function, but also the function of closing the inner ends of the slots (it being pointed out that the adhesive A also acts as a filler, and aids in such closing).

Because the inner slot ends are closed by the braces and by adhesive A, the clearances (spacing) between the opposed baffle edges may be quite large, without exceeding the port sizes required by speakers **22** for optimum acoustical performance. The large spacing between the baffle edges facilitates mounting of the baffles.

When variations in the speakers **22** are sufficiently great that the port sizes should be changed, this is readily and economically effected by changing the lengths of braces **27–30**.

Because adhesive A never becomes completely or "bone" hard, there is no substantial change that it will crack or break, despite the high-power vibrations of the speaker cones.

The next step in the method comprises mounting the speakers in openings **21**. This is possible because the loudspeakers **22** are of a "front-mounted" type, wherein the flanges are disposed on the outer faces of the baffles, and wherein the conical portions of the speakers extend rearwardly through the openings **21**. Mounting of the speakers is effected by bolts or other suitable means.

THE GRILL CLOTH ASSEMBLY

Because of the fact that the baffle means for the speakers do not extend across the front of the cabinet (as is conventional in commercial speaker assemblies), but instead incline rearwardly and thereby provide a large cavity within the cabinet and forwardly of the baffle means, it becomes possible to mount the grill cloth in a novel manner which creates a highly pleasing aesthetic design. The grill cloth and the speaker, baffle and brace means therefore cooperate with each other to produce a speaker assembly which not only sounds excellent but also has a pleasing appearance.

The grill cloth, indicated at **37**, is a porous air-permeable fabric which is knit and is stretchable or elastic. Preferably, the knit is a "double knit," to thus increase the stretchability. The knit should be of a type which will not run or ravel despite punctures therethrough or cuts therein.

The peripheral portion of the grill cloth **37** is mounted to a rectangular wooden frame **38** which is adapted to fit within the forward portion of cabinet **10**, forwardly of the outer edges of baffle members **17–20**. Such mounting may be effected by staples, for example. A connector member **39** (FIG. **8**) is connected centrally to the key member **26** in perpendicular relationship thereto and also in perpendicular relationship to the rear wall **11** of the cabinet. Such mounting is by a bolt or screw **41** which extends through the rear wall **11** and through the key **26**, and is threaded axially into the end of the connector.

The forward or outer end of connector member **39** is internally threaded in order to receive a bolt or screw **42** which is adapted to secure to the connector **39** a disc-shaped (or otherwise suitably and decoratively shaped) central stretching element **43**. Element **43** has a central screw hole therein.

After the grill cloth **37** has been mounted over frame **38** and has been stapled to such frame, after the frame has been mounted in the forward portion of cabinet **10**, and after the connector **39** has been mounted as described, it is merely necessary for the assembler to position the disc (central stretching element) **43** in the middle of the grill cloth **37** and then push such middle rearwardly toward connector member **39**. To facilitate registry of disc **43** with the member **39**, an elongated element (similar to an ice pick) may be inserted through the central hole in element **43** and used to "find" the member **39** by feel. Once the end of the ice pick has been inserted into the bore in the outer end of element **39**, registry of the disc **43** with such bore is automatically effected by pushing the disc **43** rearwardly against the element **39**. The elongated element is then removed, while the disc **43** is maintained in position, following which the bolt or screw **42** is inserted through the disc **43** and threaded into the element **39** to hold the elements in assembled relationship.

The bolt **42** extends through a central hole previously made in the grill cloth. The outer end of bolt **42** may be covered, as by a nameplate or trademark label, for decorative reasons.

It is pointed out that the grill cloth **37** then automatically assumes the illustrated horn shape, which provides a very pleasing external appearance and creates the subtle impression of enhancing the sound produced by the speaker assembly. The grill cloth **37** is not coated or treated in any way, but instead is maintained porous and air pervious in order that the sound waves may penetrate therethrough.

There has thus been described an attractive, rigid, acoustically excellent speaker assembly. Very importantly, such speaker assembly may be mass produced easily, with a relatively low labor cost.

To eliminate the exposed head of machine screw **41** it may be replaced by a wood screw which projects rearwardly from element **39** and does not penetrate completely through wall **11**.

The foregoing detailed description is to be clearly understood as given by way of illustration and example only, the spirit and scope of this invention being limited solely by the appended claims.

I claim:

1. A loudspeaker cabinet assembly, which comprises:

an elongated rectangular cabinet having a closed back and an open front,

first and second generally triangular inclined baffles mounted, respectively, in opposed end portions of said cabinet,

said first triangular baffle having its base portion secured to one end wall of said cabinet and at a region relatively adjacent the open front thereof, the vertex portion of said first baffle being relatively adjacent and connected to the back wall of said cabinet,

said second triangular baffle having its base portion secured to the other end wall of said cabinet and at a region relatively adjacent said open front thereof, the vertex portion of said second baffle being relatively adjacent and connected to said back wall of said cabinet,

first and second generally trapezoidal inclined baffles mounted, respectively, in opposed side portions of said cabinet,

said first trapezoidal baffle having its base portion secured to one side wall of said cabinet and at a region relatively adjacent said open front thereof, the portion of said first trapezoidal baffle opposite said base portion thereof being relatively adjacent and connected to said back wall of said cabinet,

said second trapezoidal baffle having its base portion secured to the other side wall of said cabinet and at a region relatively adjacent said open front thereof, the portion of said second trapezoidal baffle opposite said base portion thereof being relatively adjacent and connected to said back wall of said cabinet,

means to vent to the atmosphere the portions of said cabinet between said baffles and said back cabinet wall,

loudspeakers mounted over openings provided through at least a plurality of said baffles, and grill cloth mounted over said open front of said cabinet to conceal said baffles and said loudspeakers.

2. The invention as claimed in claim **1**, in which said baffles are connected to said back wall of said cabinet by means comprising an elongated rectangular key member which is secured to said back wall, the sides of said key member being respectively adjacent said portions of said trapezoidal baffles which are opposite said base portions thereof, the ends of said key member being respectively adjacent said vertexes of said triangular baffles.

3. A loudspeaker cabinet assembly, which comprises:

a cabinet having a closed back and an open front,

several baffles mounted in inclined relationship in said cabinet,

each of said baffles having a base edge and also having two side edges which converge toward each other in a direction away from said base edge,

said base edges being connected, respectively, to side wall portions of said cabinet and at regions relatively adjacent the open front of said cabinet,

the portions of said baffles remote from said base edges being relatively adjacent and connected to the back wall of said cabinet,

a side edge of each baffle being spaced away from the proximate side edge of the adjacent baffle,

whereby slots or gaps are formed between side edges of adjacent baffles, and

loudspeakers mounted on at least a plurality of said baffles over openings therethrough,

said loudspeakers being ported by said slots or gaps.

4. The invention as claimed in claim **3**, in which means are provided to close the portions of said slots which are relatively adjacent the central region of said cabinet, whereby the ports for said speakers include only the portions of said slots which are relatively adjacent the side walls of said cabinet.

5. The invention as claim in claim **4**, in which said closure means comprise braces having forward edges which close said central slot portions, and also having rear edges which are connected to said back wall of said cabinet, said braces making said baffles and said cabinet relatively rigid.

6. The invention as claimed in claim **3**, in which an air-pervious grill cloth is mounted over the front of said cabinet, said grill cloth being formed of stretchable knit fabric, the central region of said grill cloth being stretched inwardly toward said baffle portions remote from said base edges, whereby the shape of said grill cloth simulates a horn.

7. The invention as claimed in claim **6**, in which a connector means is connected between said back wall and the central region of said stretchable grill cloth.

8. A loudspeaker cabinet assembly, which comprises:

a rectangular cabinet having a closed back and an open front,

four baffles mounted in inclined relationship in said cabinet,

each of said baffles being inclined at the same angle to the back wall of said cabinet,

each of said baffles having a base edge and also having two side edges which converge toward each other in a direction away from said base edge,

said base edges being connected, respectively, to the side walls of said cabinet and at regions relatively adjacent the open front of said cabinet,

the portions of said baffles remote from said base edges being relatively adjacent and connected to said back wall of said cabinet,

said baffles having dimensions sufficiently small, in directions parallel to said base edges thereof, that each side edge of each baffle is spaced away from the opposed side edge of the adjacent baffle,

whereby slots are formed between the opposed side edges of adjacent baffles, and

loudspeakers mounted on at least a plurality of said baffles over openings therethrough,

said loudspeakers being ported by said slots.

9. The invention as claimed in claim **8**, in which a key member is connected centrally to said back wall of said cabinet and forms at least part of the means for connecting to said back wall said portions of said baffles which are remote from said base edges.

10. The invention as claimed in claim **9**, in which two opposed ones of said baffles are generally trapezoidal, in which the remaining two opposed ones of said baffles are generally triangular, in which said key member is elongated and is connected at its ends to the vertex portions of said triangular baffles, and in which said key member is connected at its sides to the edges of said trapezoidal baffles which are parallel to and remote from the base edges thereof.

11. The invention as claimed in claim **8**, in which means are provided to close the portions of said slots which are relatively adjacent the central region of said cabinet, whereby the ports for said speakers include only the portions of said slots which are relatively adjacent the side walls of said cabinet.

12. The invention as claimed in claim 11, in which said closure means comprise braces having forward edges which close said central slot portions, and also having rear edges which are connected to said back wall of said cabinet, said braces making said baffles and said cabinet relatively rigid.

13. The invention as claimed in claim 12, in which said braces are triangular in shape and have inner portions which are adjacent the central part of said back wall, said braces having outer edge portions which are spaced from the side walls of said cabinet.

14. The invention as claimed in claim 13, in which the opposed edges of said baffles are parallel to each other, in which the forward edges of said triangular braces are seated between, and bridge the gaps between, adjacent edge portions of said baffles, and in which a cement and filler means is provided along said forward brace edges.

15. The invention as claimed in claim 14, in which said cement and filler means is a cement of a type which does not become completely hard.

16. The invention as claimed in claim 14, in which the forward edges of said triangular braces are doubly beveled to seat the side edges of said baffles.

17. A method of assembling a loudspeaker cabinet, which comprises:

providing a rectangular cabinet having an open front and a closed back,

providing four speaker baffles each having a relatively long base edge, and also having two side edges which converge in a direction away from said base edge,

mounting the first of said baffles in inclined relationship in said cabinet, with said base edge disposed along and connected to one side wall of said cabinet relatively adjacent the open front of said cabinet, and with the baffle portion remote from said base edge disposed relatively adjacent and connected to the central region of the back wall of said cabinet,

separately mounting the second, third and fourth of said baffles in said cabinet in a manner similar to the mounting of said first baffle, and also in such manner that each side edge of each baffle is opposed to and spaced from a side edge of the adjacent baffle, to thus form port slots between said opposed side edges,

said port slots permitting each baffle to be mounted separately from the others, in simple manner, and

filling in and closing portions of said port slots which are remote from the side walls of said cabinet.

18. The invention as claimed in claim 17, in which said method further comprises inclining each of said four baffles at the same angle relative to said back wall of said cabinet, and also comprises effecting said filling and closing step by mounting a brace at each pair of opposed side edges of said baffles and in spaced relationship from the side walls of said cabinet.

19. The invention as claimed in claim 18, in which at least a plurality of said baffles have large-diameter speaker openings therethrough, and in which said step of mounting said braces comprises inserting each brace through a speaker opening.

20. The invention as claimed in claim 18, in which said step of mounting said braces comprises sliding each brace toward the central region of said cabinet to a position such that firm contact is made with the opposed side edges of said baffles, and then securing such brace in position.

21. The invention as claimed in claim 20, in which said securing step is effected at the forward edge of each brace by a cement and filler material.

22. The invention as claimed in claim 17, in which said method further comprises effecting front-mounting of loudspeakers over openings in said baffles, and mounting grill cloth over the front of said cabinet.

23. The invention as claimed in claim 22, in which said method further comprises employing stretchable knit grill cloth, forcing the central region of said cloth toward said back wall to cause said cloth to be horn-like, and maintaining said grill cloth in such horn-like stretched condition.

24. A loudspeaker cabinet assembly, which comprises:

a cabinet having an open front portion,

loudspeaker means mounted in said cabinet in spaced relationship from said open front portion thereof,

stretchable knit porous grill cloth mounted over said open front portion, and

means to stretch the central region of said grill cloth rearwardly from said front portion to thus cause said grill cloth to assume a horn-like shape,

said stretch means including means to secure said central grill cloth region in said rearwardly-stretched condition.

25. The invention as claimed in claim 24, in which said securing means includes a stretching element mounted on the forward side of said central region, a connector member extending rearwardly from said stretching element, and means to secure said connector member to the rear wall of said cabinet.

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