April 23, 1963 O. C. ECKEL 3,086,325

ASSEMBLY OF ACOUSTICAL MEMBERS

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Fig. 1.

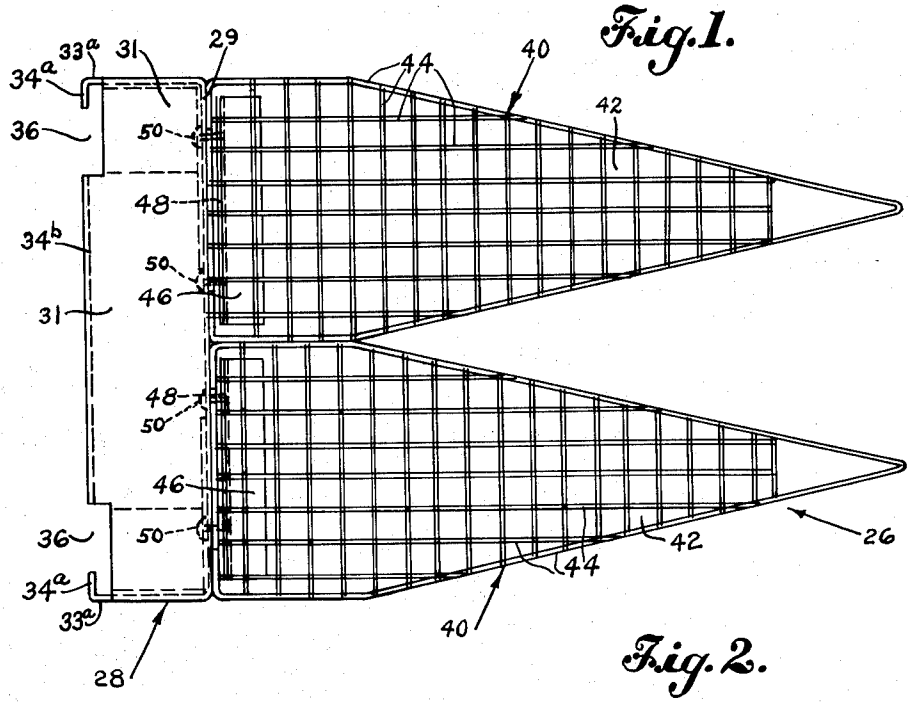
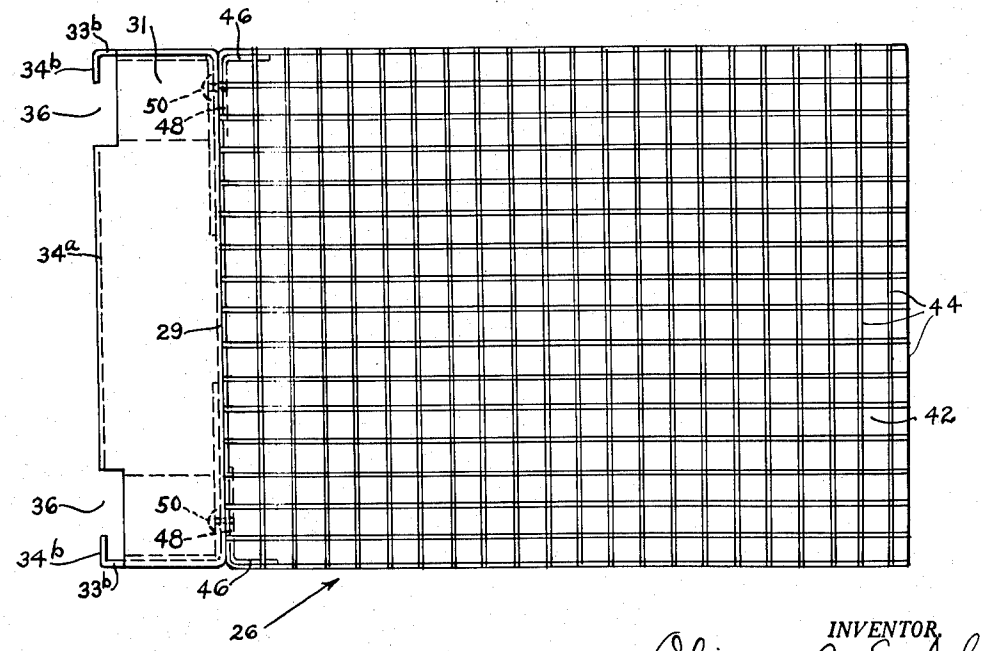


Fig. 2.



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ASSEMBLY OF ACOUSTICAL MEMBERS

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Fig. 3.

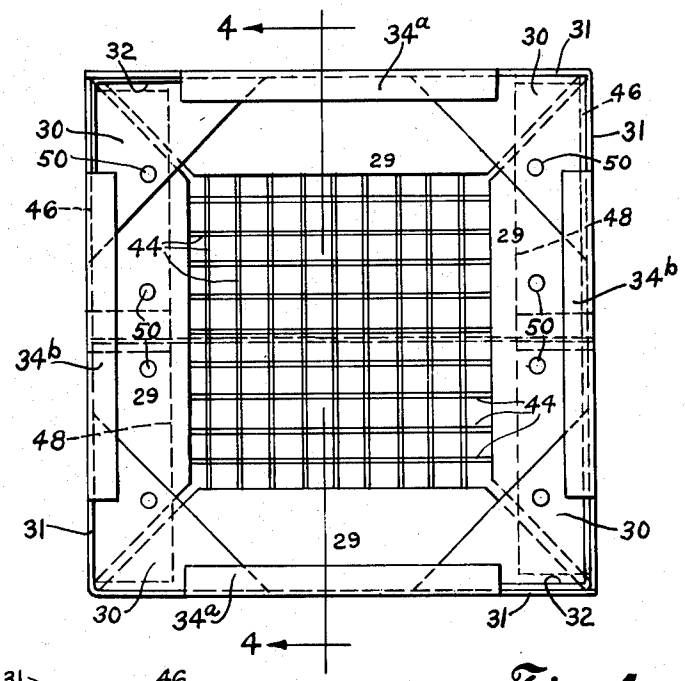
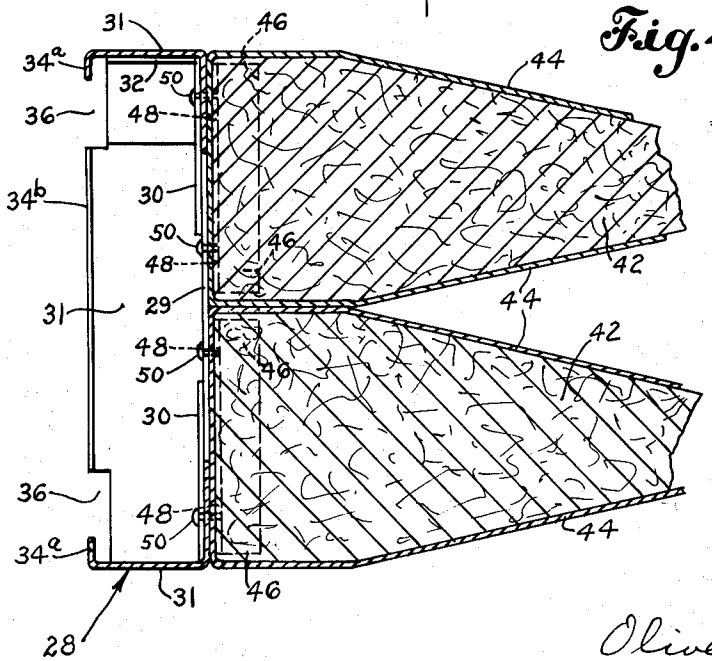


Fig. 4.



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ASSEMBLY OF ACOUSTICAL MEMBERS

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Fig. 5

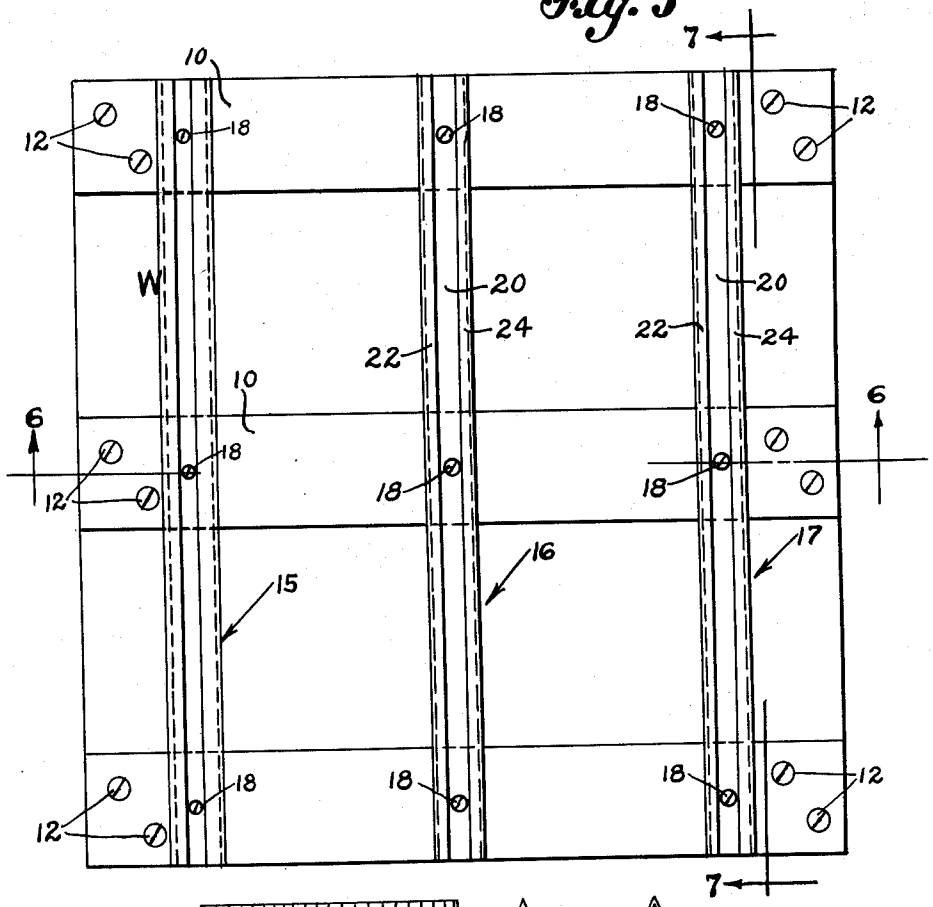
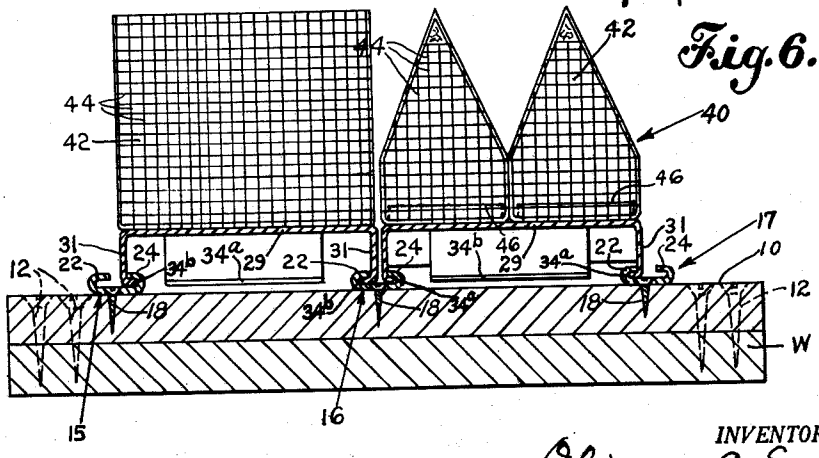


Fig. 6.



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ASSEMBLY OF ACOUSTICAL MEMBERS

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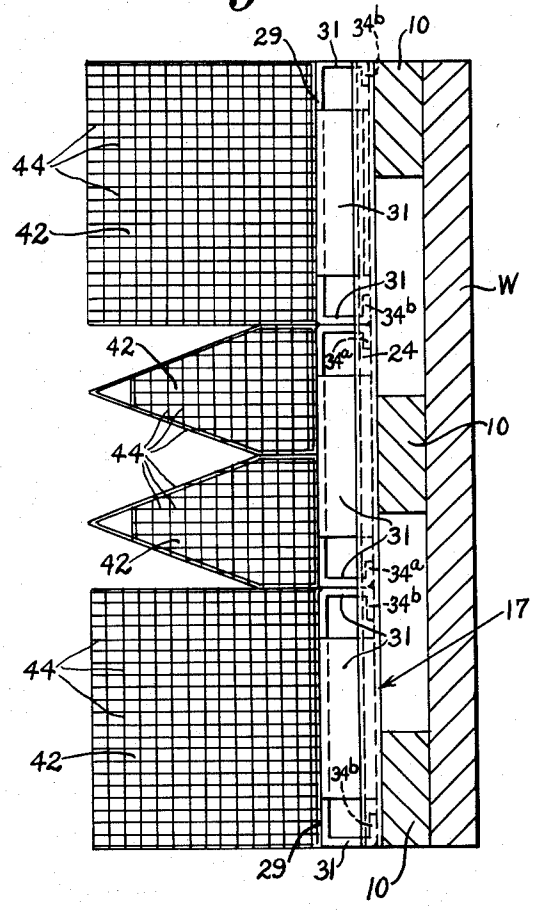
Fig. 7.



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3,086,325

ASSEMBLY OF ACOUSTICAL MEMBERS

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Filed Jan. 27, 1961, Ser. No. 85,280
9 Claims. (Cl. 50—101)

This invention relates to an assembly of acoustical members or other articles especially for use in the interiors of rooms, acoustical chambers and the like.

In making an acoustical chamber the sound absorbing structures are supported by attaching them to the walls, ceilings or the like, and they are commonly attached as by screwing, one unit at a time, by the workmen making the installation, which is in a slow and tedious job, and when the structures are large and heavy it is difficult as well.

One object of my invention is to provide a said assembly having supports that can be attached to walls or the like in a room, previously to installing the sound absorbing devices, and that will receive said structures by merely sliding them into position on said supports, thus being able to make the installation to sound-proof a room in a short time with relatively unskilled labor.

Since it is desirable to position the wedge-shaped members in different positions it is another object to provide the sound absorbing devices with two pairs of connecting flanges so that either pair can connect with a said support thus enabling a workman to place a device in either of two different angular positions without making any changes or adjustments therein.

A further object is to form said device of parts that can be made separately and readily assembled so as to make a unitary article of a joiner and sound absorbing members that can easily be slid onto said supports and correctly positioned by a simple movement.

The foregoing and other objects which will appear as the nature of the invention is better understood, may be accomplished by a construction, combination and arrangement of parts such as is disclosed by the drawings. The nature of the invention is such as to render it susceptible to various changes and modifications, and therefore, I am not to be limited to the construction disclosed by the drawings nor to the particular parts described in the specification; but am entitled to all such changes therefrom as fall within the scope of my claims.

In the drawings:

FIG. 1 is a side elevational view of a sound absorbing device forming part of my assembly.

FIG. 2 is a side elevational view of said device taken at a right angle to the view shown in FIG. 1.

FIG. 3 is an inner bottom elevational view of said device.

FIG. 4 is a sectional view taken on the line 4—4 of FIG. 3, the sound absorbing devices being shown broken away.

FIG. 5 is an elevational view on a reduced scale of a support on which said devices are mounted in position of use.

FIG. 6 is a sectional view taken on the line 6—6 of FIG. 5 and adding two of said devices which are shown in mounted position on a said support to form my assembly, the sound absorbing devices being shown in elevation.

FIG. 7 is a sectional view taken on the line 7—7 of FIG. 5 and adding three of said devices which are shown in mounted position on a said support to form my assembly, the sound absorbing devices being shown in elevation.

As illustrated, my assembly has a plurality of straps or supports **10** that are spaced apart as shown and screwed as at **12** to a wall, floor or ceiling W, for instance.

Tracks **15**, **16** and **17** are screwed as at **18** to, and form part of, said supports **10**, only three tracks being shown for illustration. Each track has a main body, shown as a flat portion **20** from which extends inwardly a flange **22**, and laterally opposite and spaced from the latter is another inturned flange **24**, which flanges or rails also serve as retainers as later explained.

A sound absorbing device **26** or other article, embodies a joiner **28** having attaching portions **29** reinforced by corner pieces **30** and from which four sides **31** extend outwardly and which are reinforced by two angle pieces **32**. Each said side has an extension of reduced width extending outwardly and a connecting flange that extends therefrom laterally inward and is of lesser length than the side **31** it extends from. Two of said extensions are given the numeral **33***a* and are laterally opposite each other, and the other two have the numeral **33***b*. Two of said connecting flanges that are oppositely disposed, are given the numeral **34***a*, and the other two that are oppositely disposed are given the numeral **34***b*. There are cut-outs **36** at opposite ends of each said flange **34***a* and **34***b* to permit either pair of said joiner flanges, **34***a* or **34***b*, to slide into a connection with said track retainer flanges **22** and **24**.

Attached to each said joiner **28** is one or more structures **40** such as the sound absorbing members shown, each having a main body of glass wool **42** or other material, herein shown, having wedge-shaped outer portions, and covered by an open-mesh member **44**. Each said member **40** has, near its inner end, an angle connector having a relatively short outer portion **46** extending along a side and a relatively long inner or attaching portion **48** at a right angle to the latter. Screws **50** attach said inner portion **48** to said joiner **28** thus uniting the said sound absorbing members or structures **40** and joiner **28** so they can be handled as a unitary device.

In assembling my invention on a wall, one of a pair of said connecting flanges, either **34***a* or **34***b*, is retained by a said retainer flange **22** of one said track **16**, while the other said flange of the pair, either **34***a* or **34***b*, is retained by a said retainer flange **24** of another said track **17**. Thus the two said tracks **16** and **17** each provide a retainer flange for the pair of connector flanges **34***a* of one said device **26** and also for the pair of connector flanges **34***b* of another said device **26** above or below the latter device, when the two devices are installed on the same two tracks **16** and **17**. In this arrangement the outer or dihedral edges of said sound absorbing members **40** of one said device are disposed at right angles to those of the other said device. This is illustrated in FIG. 7 of the drawings.

Also in the assembly, it is desirable to position said devices **26** laterally adjoining each other so that the outer or dihedral edges of one of said device extend at right angles to said edges of the other device. In this event one of said flanges **34***a* of one said device and one of said flanges **34***b* of another said device will be on the same track. One said flange **34***b* is retained by a said retainer flange **22** and another said flange **34***a* by a retainer flange **24** as shown in said FIG. 6.

What I claim is:

1. An assembly of acoustical members comprising a support having two tracks, each said track having two inwardly extending retainer flanges spaced laterally apart, two sound absorbing devices each embodying a joiner attached to said tracks and having four right-angled side portions and four connector flanges extending angularly inward from said side portions, any two of said connector flanges that are oppositely disposed being of such size that they are receivable on, and overlapped by, one said retainer flange of one said track and one said retainer

flange of another said track, and are slidable along said latter two retainer flanges.

2. An assembly of acoustical members comprising a support having two tracks, each said track having two inwardly extending retainer flanges spaced laterally apart, two sound absorbing devices each embodying a joiner attached to said tracks and having four right-angled side portions, four extensions continuing from, and being of lesser width than, said side portions, and four connector flanges extending angularly inward from said four extensions, any two of said connector flanges that are oppositely disposed being of such size that they are receivable on, and overlapped by, one said retainer flange of one said track and one said retainer flange of another said track, and are slidable along said latter two retainer flanges.

3. An assembly of acoustical members comprising a support having two tracks, each said track having two inwardly extending retainer flanges spaced laterally apart, two sound absorbing devices each embodying a joiner having a flat attaching portion attached to said tracks, four right-angled side portions extending from the latter, four extensions continuing from, and being of lesser width than, said side portions, and four connector flanges extending angularly inward from said four extensions, any two of said connector flanges that are oppositely disposed being of such size that they are receivable on, and overlapped by, one said retainer flange of one said track and one said retainer flange of another said track, and are slidable along said latter two retainer flanges.

4. An acoustical member comprising a joiner member of substantially rigid material and of substantially rectangular shape, said joiner member having normally extending portions along at least two opposed edges, said portions having inward and opposed extensions, and an acoustic sound absorbing member attached to said joiner on the side thereof opposite to that from which said extensions are located and extending outwardly therefrom.

5. An acoustical member comprising a joiner member of substantially rigid material and of substantially rectangular shape, said joiner member having two normally extending portions along at least two opposed edges, and two other normally extending portions along two other opposed edges, said portions having inward and opposed extensions, and an acoustic sound absorbing member attached to said joiner on the side thereof opposite to that from which said extensions are located and extending outwardly therefrom.

6. An acoustical member comprising a joiner member of substantially rigid material and of substantially rectangular shape, said joiner member having two normally extending portions along at least two opposed edges, and two other normally extending portions along two other opposed edges, said portions having inward and opposed extensions which are of lesser width than said portions, and an acoustic sound absorbing member attached to said joiner on the side thereof opposite to that from which said extensions are located and extending outwardly therefrom.

7. An acoustical member comprising a joiner member of substantially rigid material and of substantially rectangular shape, said joiner member having an attaching portion and having normally extending portions along at least two opposed edges, said latter portions having

inward and opposed extensions, and an acoustic sound absorbing member attached to said joiner on the side thereof opposite to that from which said extensions are located and extending outwardly therefrom and comprising an angular portion extending alongside said sound absorbing member and another angular portion outside of and overlapping said latter member, and means attaching said latter angular portion and said joiner member attaching portion together.

8. An assembly of acoustical members comprising a support having three tracks spaced laterally apart, each said track having two inwardly extending retainer flanges spaced laterally apart, two sound absorbing devices each embodying a joiner having four right-angled side portions and four connector flanges of lesser width than, and extending angularly inward from said side portions, each said device embodying a sound absorbing member having a main body of sound absorbing material tapering in width towards the outside end, said body outside end of one said device extending at an angle to the body outside end of the other said device, two of said connector flanges that are oppositely disposed of one said device extending between the first and second of said tracks and overlapped by one said retainer flange of each of said latter two tracks, and two of said connector flanges that are oppositely disposed of the other said device extending between the second and third of said tracks and overlapped by a retainer flange of each of the latter two said tracks.

9. An assembly of acoustical members comprising a support having two tracks spaced laterally apart, each said track having two inwardly extending retainer flanges spaced laterally apart, two sound absorbing devices each embodying a joiner having four right-angled side portions and four connector flanges of lesser width than, and extending angularly inward from said side portions, each said device embodying a sound absorbing member having a main body of sound absorbing material tapering in width towards the outside end, said body outside end of one said device extending at an angle to the body outside end of the other said device, two of said connector flanges that are oppositely disposed of one said device extending between said two tracks and overlapped by one said retainer flange of each said track and two of said connector flanges that are oppositely disposed of the other said device extending between said two tracks and overlapped by a retainer flange of each of said two tracks.

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