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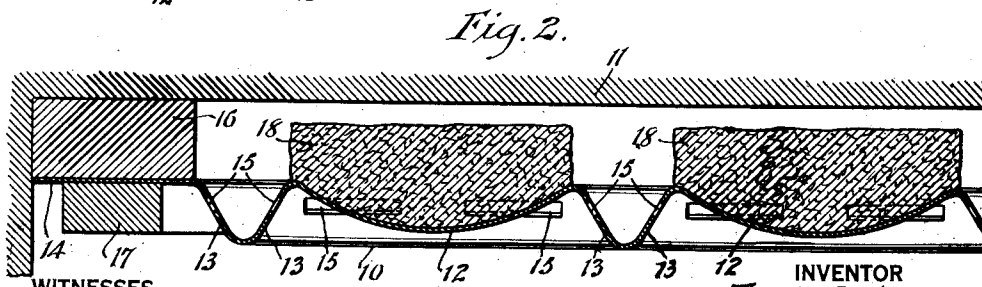
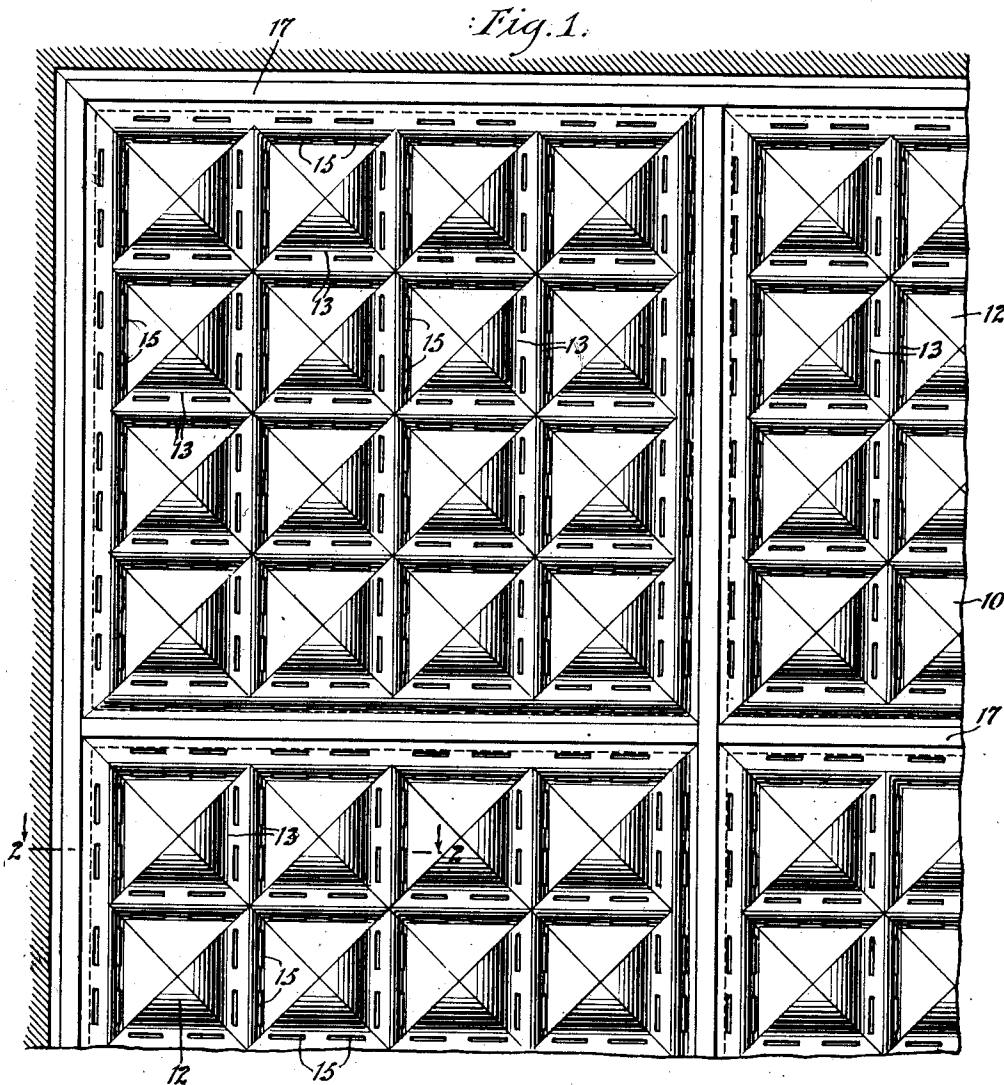
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CEILING FOR SOUND CORRECTION

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CEILING FOR SOUND CORRECTION

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This invention relates to an acoustical correction structure.

The invention has for its general object the provision of improved means which eliminates interfering echoes by reflecting, trapping and absorbing sound waves within chambers, halls, rooms and walled enclosures.

The nature of the invention and its distinguishing features and advantages will appear when the following specification is read in connection with the accompanying drawings, in which

Figure 1 is a fragmentary inverted plan view of a structure embodying features of the invention;

Figure 2 is a section on the line 2—2 of Figure 1;

Figure 3 is a section on the line 3—3 of Figure 4 showing a modification of the invention;

Figure 4 is a fragmentary inverted plan view.

In Figures 1 and 2 of the drawings there is shown a sound correction ceiling 10 which it is to be understood will be arranged within the confines of a chamber, hall, room or other walled enclosure below an adjacent section thereof which forms the usual ceiling 11, a fragment of which is shown. The ceiling 10 is constructed of sheet material, preferably metal, and will consist of similar parts or sections of uniform size. Each ceiling part or section will be developed from the sheet metal to present deflecting areas or sections 12 and 13, and marginal attaching edges 14. The sections 12 are arcuate, and these sections 12 are joined by the sections 13 which converge in a downward direction relatively to each other in intersecting planes so as to surround the section 12, as shown most clearly in Figure 1. Each of the sections 13 has sound passages or openings 15 therein. The parts of the ceiling thus constructed are arranged in the same horizontal planes and are secured by means of spacers 16 and strips 17.

The spacers 16 are secured in place to the usual ceiling 11. The marginal edges 14 of the ceiling parts 10 are arranged between the spacers 16 and the strips 17, and the latter are secured to the spacers 16 in any practical manner.

It will therefore be apparent that the ceiling 10 will be spaced from the usual ceiling 11 and the distance between these ceilings may be varied to meet certain requirements.

From the foregoing it will be apparent that the sound waves will be deflected by the sections 12 and 13 and that some of the sound waves will pass through the openings 15 into the space between the ceilings 10 and 11. Sound waves will therefore be deflected and trapped to such an extent as to almost entirely eliminate echoes or reverberations.

In accordance with another feature means may be provided for absorbing sound vibrations, and to this end there are provided elements 18 which may be made of material having a relatively high coefficient of sound absorption, such as mineral wool or felt. A similar element 18 is placed on each of the sections 12, the same conforming to the arcuate shape thereof so as to be held against unintentional displacement. In reference to Figure 2 it will be apparent that the elements 18 are disposed between the ceilings 10 and 11 and absorb the sound vibrations trapped in the space between the ceilings 10 and 11.

In Figures 3 and 4 there has been shown a modified form of securing means for the acoustical ceiling 10 in lieu of the spacers 16 and strips 17. The securing means shown in Figures 3 and 4 includes bar supports 20 which are suspended from the usual ceiling 11 by hangers 21. Clips 22 are hung on the spacers 20 and are adapted to engage the marginal edges of the parts of the ceiling 10 to hold them in place. Pieces of moulding 23 are secured to the lower edges of the supports 20 in any practical manner, as by

the use of screw bolts or the like 24, to give to the ceiling 10 a finished appearance. In other respects the structure shown in Figures 3 and 4 will be similar to that shown in Figure 2, and for the sake of clearness the absorptive elements 18 have been omitted from Figure 3.

I claim:

1. The combination with a chamber or enclosure, of a ceiling within the confines of said chamber or enclosure constructed of sheet material to provide sound deflecting sections consisting of arcuate sections and downwardly extending sections bounding each of said arcuate sections, and said downwardly extending sections having sound passages therein.

2. An acoustical correction structure comprising the combination with a chamber or enclosure, of a ceiling constructed of sheet material which is developed to present relatively downwardly converging sections disposed at regular intervals in intersecting planes, and downwardly convex sections bounded by said converging sections each of said converging sections having sound passages therein, and means securing said ceiling in place in spaced relation to the adjacent section of said chamber or enclosure.

3. An acoustical correction structure comprising the combination with a chamber or enclosure, of a ceiling within the confines of said chamber or enclosure, said ceiling consisting of similar members, each of said members being constructed of sheet material to provide sound deflecting sections consisting of convex sections and converging sections joined to and bounding the convex sections, certain of said sections having sound passages therein, and means securing the member in place along its marginal edges only.

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