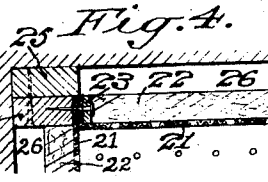
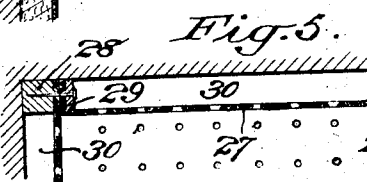
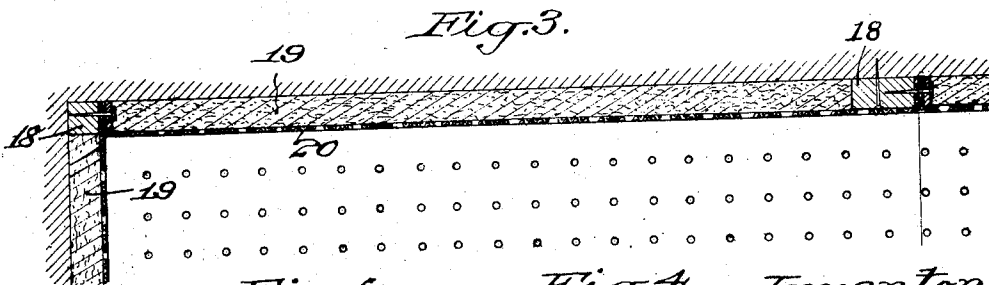
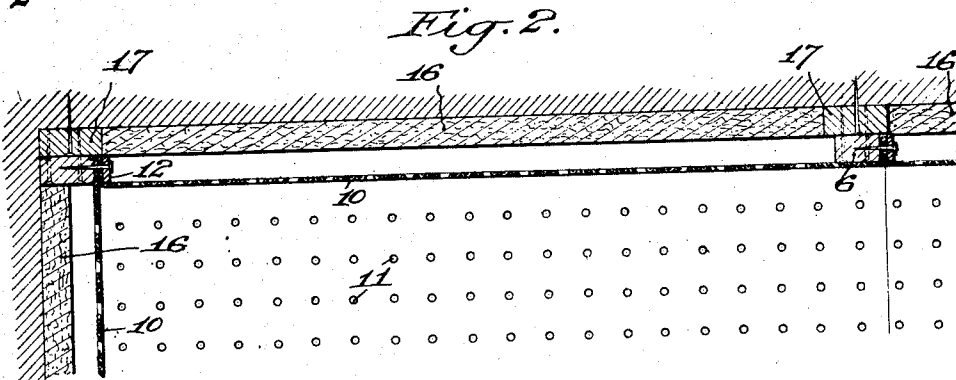
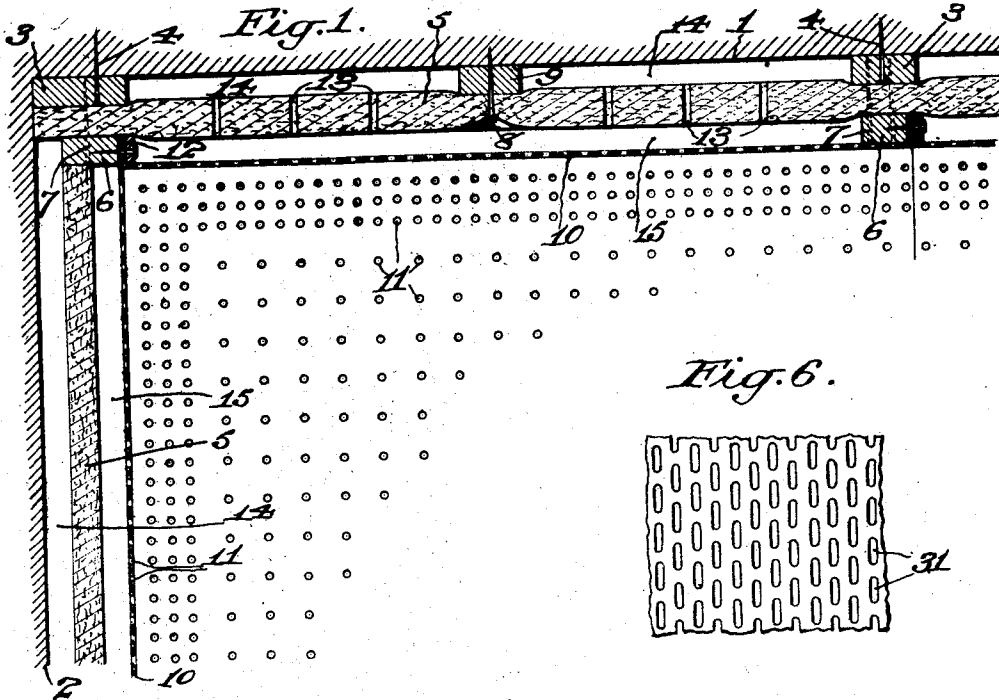


J. W. DILLON.
SOUND DEADENER FOR BUILDING STRUCTURES.
APPLICATION FILED FEB. 14, 1920.

1,385,741.

Patented July 26, 1921.



Inventor:-
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by attorneys
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UNITED STATES PATENT OFFICE.

JAMES W. DILLON, OF MOUNT VERNON, NEW YORK.

SOUND-DEADENER FOR BUILDING STRUCTURES.

1,385,741.

Specification of Letters Patent.

Patented July 26, 1921.

Application filed February 14, 1920. Serial No. 358,764.

To all whom it may concern:

Be it known that I, JAMES W. DILLON, a citizen of the United States, and resident of Mount Vernon, in the county of Westchester and State of New York, have invented a new and useful Improvement in Sound-Deadeners for Building Structures, of which the following is a specification.

This invention relates to an improvement in a sound deadener for ceilings, walls and the like with the object in view of providing a structure which will break the sound waves and absorb them.

Another object is to provide a structure having a membrane perforated throughout its area, to break the sound waves and permit them to pass therethrough to be absorbed.

Another object is to provide a structure having a perforated membrane which may be coated and decorated without destroying its sound breaking qualities.

A practical embodiment of my invention is represented in the accompanying drawing, in which,

Figure 1 represents a portion of a ceiling and adjacent wall in section, showing one form of my improved sound deadener applied thereto.

Figs. 2 to 5 inclusive represent similar views of modified forms of structure, and

Fig. 6 represents a face view of a piece of the woven membrane having another form of perforation therein.

The ceiling is denoted by 1, and the wall by 2, both of which are constructed in the usual manner. In the form shown in Fig. 1, my improved sound deadener is applied to the ceiling and wall in the following manner. Strips of wood 3 are secured to the ceiling and wall at suitable distances throughout their areas, by means of nails 4 or other similar means. To these strips 3, a sheet of unwoven material 5, such as felt, cotton or similar material possessing sound absorbing qualities, is fastened by means of cleats 6 which cleats are secured to the strips 3 by nails 7, shown in dotted outline. The unwoven material may be held in position intermediate the strips 3, by means of nails 8 which pass through the material into a strip 9 on the ceiling or wall.

A membrane 10 of woven material having a series of perforations 11 is fixed to the cleats 6 by means of battens 12 which are nailed to the side of the cleats in such posi-

tion that the abutting edges of two adjacent membranes will form an inconspicuous joint.

In this form the unwoven material 5 is provided with a series of holes 13 and spaced from the ceiling 1 by the strips 3 and 9, so that cells 14 are formed between the ceiling and the unwoven material into which cells the sound waves may pass freely through the holes 13. The woven membrane 10 is spaced from the unwoven material 5 by the cleats 6 and battens 12, to form a chamber 15 in which the sound waves, after being broken by passing through the perforated membrane 10, are retained, or absorbed or from which they are passed through the unwoven material to cells 14.

In the form shown in Fig. 2, the unwoven material 16 is secured in sections between strips 17 and in intimate contact with the ceiling or wall.

In the form shown in Fig. 3, strips 18, unwoven material 19 and perforated woven membrane 20 are secured in intimate contact with the ceiling and wall.

In Fig. 4 are shown perforated woven membranes 21 and sheets of unwoven material 22, which membranes are fastened by battens 23 to cleats 24 which are secured to strips 25 on the ceiling and wall and serve to support the unwoven material. In this form, cells 26 are formed between the unwoven material and the ceiling and wall, and the woven membrane is arranged in intimate contact with the unwoven material.

In the form shown in Fig. 5 perforated woven membranes 27 are secured to strips 28 by means of battens 29. Chambers 30 are formed between the membranes and the ceiling and wall.

In Fig. 6, I have shown a piece of a membrane having elongated perforations 31.

It is obvious that the perforations may be of any shape or form and spaced apart regularly or irregularly according to the desired design or requirement.

It is evident that various changes may be resorted to in the form, construction and arrangement of the several parts without departing from the spirit and scope of my invention; and hence I do not intend to be limited to the details herein shown and described, but

What I claim is:

1. In a building structure, the combination of a wall or ceiling surface of a room, an exposed perforated fabric membrane,

and means for supporting said membrane in spaced relation and adjacent to said surface, whereby sound within said room is deadened.

- 5 2. In a building structure, the combination of a wall or ceiling surface of a room, an exposed perforated textile fabric membrane, and means for supporting said membrane in spaced relation and adjacent to
10 said surface, whereby sound within said room is deadened.
3. In a building structure, the combination of a wall or ceiling surface of a room, an exposed perforated fabric membrane,
15 means for supporting said membrane in spaced relation and adjacent to said surface, whereby sound within said room is deadened, and a sheet of sound absorbing material located between said surface and
20 said perforated membrane.
4. In a building structure, the combination of a wall or ceiling surface of a room, an exposed perforated textile fabric membrane, means for supporting said membrane in spaced relation and adjacent to
25 said surface whereby sound within said room is deadened, and a sheet of sound absorbing material located between said surface and said perforated membrane.
- 30 5. In a building structure, the combination of a wall or ceiling surface of a room, an exposed perforated fabric membrane, means for supporting said membrane in spaced relation and adjacent to said surface,
35 whereby sound within said room is deadened, and a sheet of sound absorbing material located between said surface and said perforated membrane, said sheet of sound absorbing material being spaced from said
40 surface.

6. In a building structure, the combination of a wall or ceiling surface of a room, an exposed perforated fabric membrane, means for supporting said membrane in spaced relation and adjacent to said surface, whereby sound within said room is deadened, and a sheet of sound absorbing material located between said surface and said perforated membrane, said sheet of sound absorbing material being spaced from
50 said perforated membrane.

7. In a building structure, the combination of a wall or ceiling surface of a room, an exposed perforated fabric membrane, means for supporting said membrane in spaced relation and adjacent to said surface, whereby sound within said room is deadened, and a sheet of sound absorbing material located between said surface and said perforated membrane, said sheet of
60 sound absorbing material being spaced from both the said surface and the said perforated membrane.

8. In a building structure, the combination of a wall or ceiling surface of a room, an exposed perforated fabric membrane, means for supporting said membrane in spaced relation and adjacent to said surface, whereby sound within said room is deadened, and a sheet of sound absorbing
70 material located between said surface and said perforated membrane, said sheet of sound absorbing material being perforated and spaced from both the said surface and the said perforated membrane.

In testimony, that I claim the foregoing as my invention, I have signed my name, this 11th day of February, 1920.

JAMES W. DILLON.