

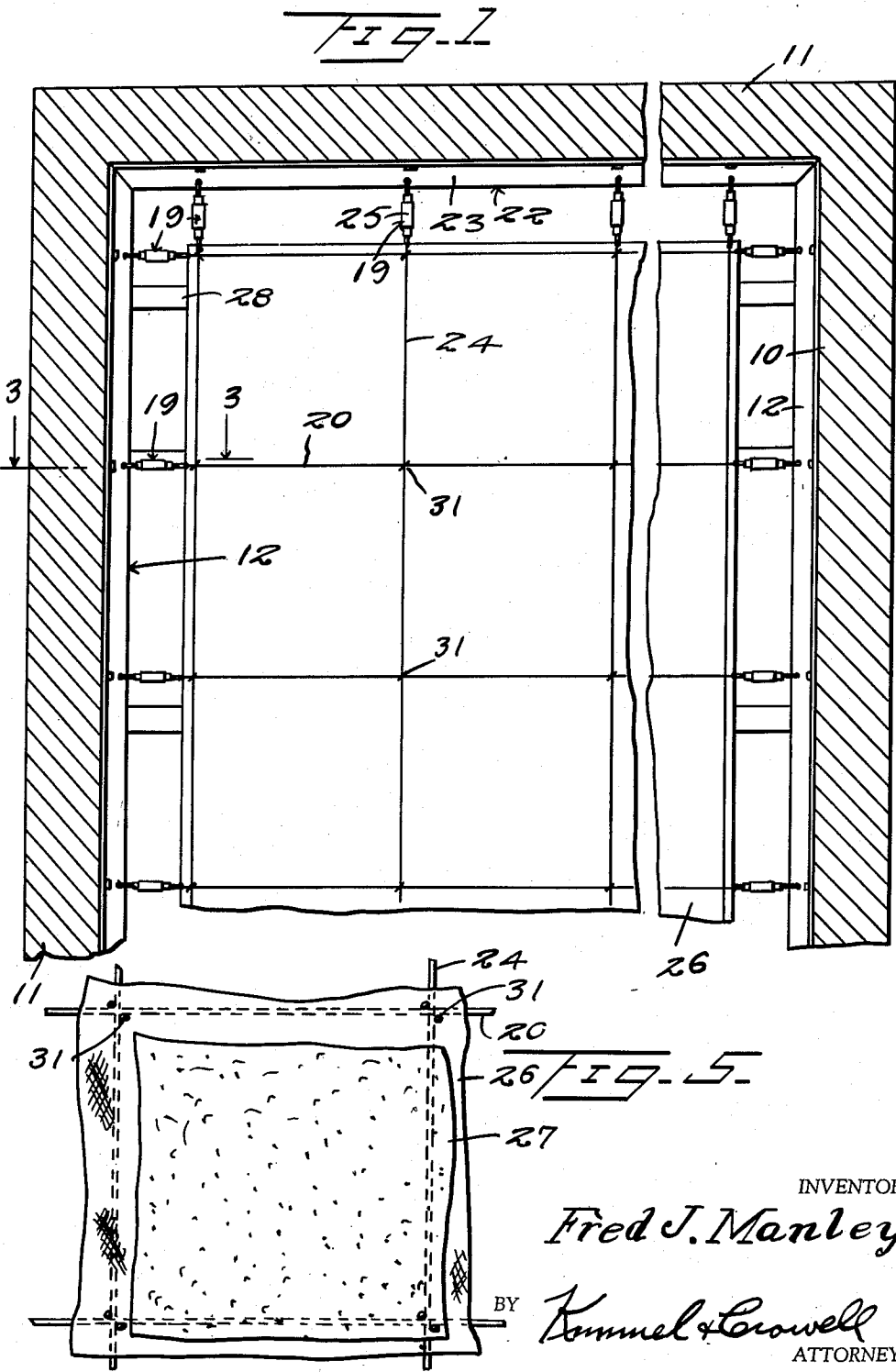
Sept. 16, 1952

F. J. MANLEY
CEILING CONSTRUCTION

2,610,365

Filed April 12, 1951

3 Sheets-Sheet 1



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Fig. 2.

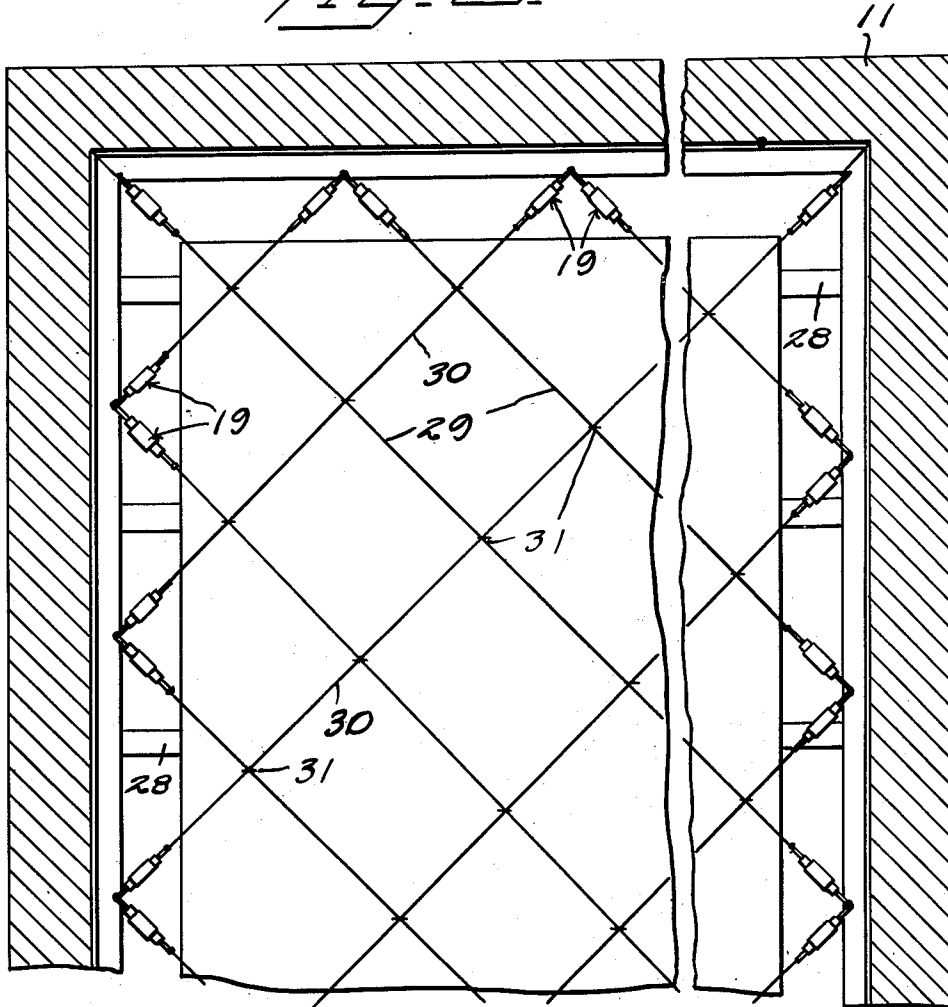
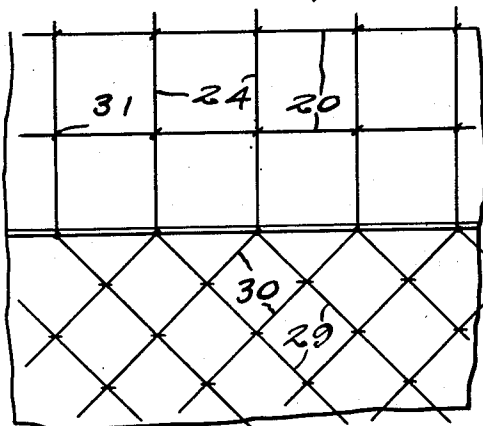


Fig. 6.



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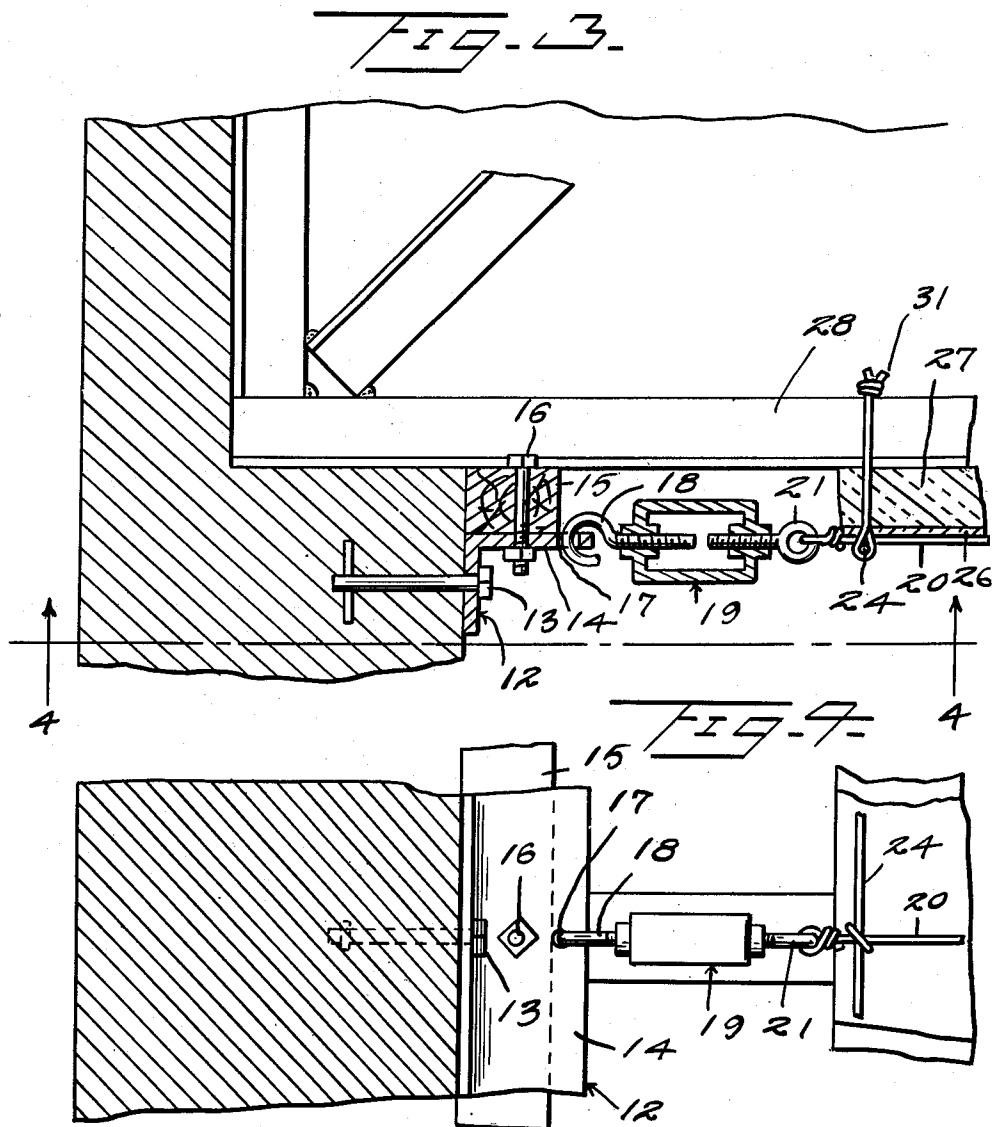
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CEILING CONSTRUCTION

Fred John Manley, Knoxville, Tenn.

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2 Claims. (Cl. 20-4)

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This invention relates to a ceiling construction for halls, auditoriums, theaters or the like. In halls, auditoriums, theaters or like structures, a major constructional problem is in the proper supporting of a ceiling, particularly where the distance between side and end walls is relatively great. Heretofore, the ceilings have been supported by means of a number of beams to which the ceiling material has been applied. This prior construction produces a very heavy ceiling load on the supports, and results in a relatively high cost for the ceiling. It is an object of this invention to provide an improved ceiling construction which eliminates the use of beams or other heavy supports and which will result in a very light weight ceiling having good acoustical properties.

Another object of this invention is to provide a ceiling construction which may be used for any width or length of span between the side and end walls.

A further object of this invention is to provide a ceiling construction which may be produced and applied at a cost which is very much less than the cost of prior ceilings.

A further object of this invention is to provide a ceiling construction which is fireproof and will add an artistic touch to the interior of the building.

It is well known that in many instances ceilings have fallen either partially or entirely with resultant injury to the building and any person below the ceiling at the time of the fall. A further object of this invention is to provide a ceiling construction which is light in weight so that no appreciable strain will be placed on the trusses or walls and in the event of a break in the ceiling or the supporting means therefor, the ceiling material will be dispersed so as not to cause damage to persons or equipment in the path of the falling material.

A further object of this invention is to provide a ceiling construction which includes a heat insulating means so as to effect an economy in heating and cooling the building.

With the above and other objects in view, my invention consists in the arrangement, combination and details of construction disclosed in the drawings and specification, and then more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is a fragmentary bottom plan partly in horizontal section of a ceiling constructed according to an embodiment of this invention.

Figure 2 is a fragmentary bottom plan partly

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in horizontal section of a modified arrangement of this ceiling construction.

Figure 3 is a fragmentary sectional view taken on the line 3-3 of Figure 1.

Figure 4 is a fragmentary sectional view taken on the line 4-4 of Figure 3.

Figure 5 is a fragmentary top plan of the ceiling construction.

Figure 6 is a bottom plan showing another arrangement of this ceiling construction.

Referring to the drawings and, first, to Figure 1 the numerals 10 and 11 designate generally opposite side and end walls of a building construction. The side walls 10 have secured thereto horizontally disposed angle members 12 which are secured to the side walls 10 by means of anchor bolts 13 or the like.

The angle members 12 have a horizontal upper side 14, and the upper side 14 has secured thereto a horizontally disposed wooden strip 15, the latter being secured to the upper side 14 by means of fastening members 16. The horizontal upper side 14 of the side angle members 12 are provided with spaced openings 17 for receiving a hook or eye 18 formed as part of a turnbuckle 19.

A plurality of transversely disposed wires 20 are secured between the turnbuckles 19, and the ends of the wires 20 are secured in eyes 21 carried by the turnbuckle 19. The end walls 11 have secured thereto horizontally disposed angle members 22 having a horizontal upper side 23 and a plurality of parallel longitudinal ceiling supporting wires 24 are secured between turnbuckles 25 secured to the angle members 22. The wires 24 cross the wires 20 and form a perforate or open webbing or support on which a mineral fabric 26 in the form of glass fabric or the like is adapted to be seated. The glass fabric 26 has mounted on the upper side thereof a mineral heat insulating means 27 which not only provide for heat insulation above the ceiling, but also provide a fireproof means in cooperation with the fireproof fabric 26.

As shown in Figure 3 the crossed wires 20 and 24 are disposed closely adjacent the truss members 28 disposed on the upper portions of the side walls 10 so that when the ceiling construction is in applied position the space above the heat insulating means 27 will form an attic or air space.

Referring now to Figure 2 there is disclosed a modified arrangement of ceiling wires wherein the wires 29 and 30 are diagonally disposed. In other respects the construction shown in

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Figure 2 is identical with that shown in Figures 1 and 3.

In Figure 6 there is disclosed a combination of the wire arrangements shown in Figures 1 and 2 including the diagonally disposed wires 29 and 30 and transverse and longitudinal wires 20 and 24. The ceiling construction hereinbefore described will provide a very light weight ceiling which may be used in relatively large halls, auditoriums, or theaters, and will effect a very substantial economy in the heating and cooling of the space below the ceiling. The ceiling construction will also provide a very substantial safety factor which is such that in the event any of the wires should become broken the fabric will still remain in suspended or supported position, but if the fabric should become broken the insulation would be dispersed as it is dropped so that there will not be any injury to any persons below the ceiling or to any equipment.

At each crossing point of wires 20 and 24 a light tie or suspension wire 31 is secured to wires 20 and 24 and is secured to a truss 23 or other support so as to reduce or eliminate sagging.

What is claimed is:

1. In a building having side and end walls, a ceiling construction comprising horizontally disposed apertured side and end angle members, means securing said angle members to said side and end walls, a plurality of crossed wires, turnbuckles extending between and secured to said angle members and the ends of each of

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said wires and a sheet of glass fabric seated on and supported by said wires, the edges of said sheet terminating short of said turnbuckles at the ends of said wires.

2. In a building having side and end walls, a ceiling construction comprising horizontally disposed apertured side and end angle members, means securing said angle members to said side and end walls, a plurality of crossed wires, turnbuckles secured between said wires and said angle members, a glass fabric seated on said wires, heat insulating means seated on the upper side of said fabric, and tie wires connecting the point of intersection of each wire crossing to said ceiling.

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