May 9, 1933. T. GENTZ 1,908,663

ROOF AND FLOOR CONSTRUCTION

Filed June 25, 1928

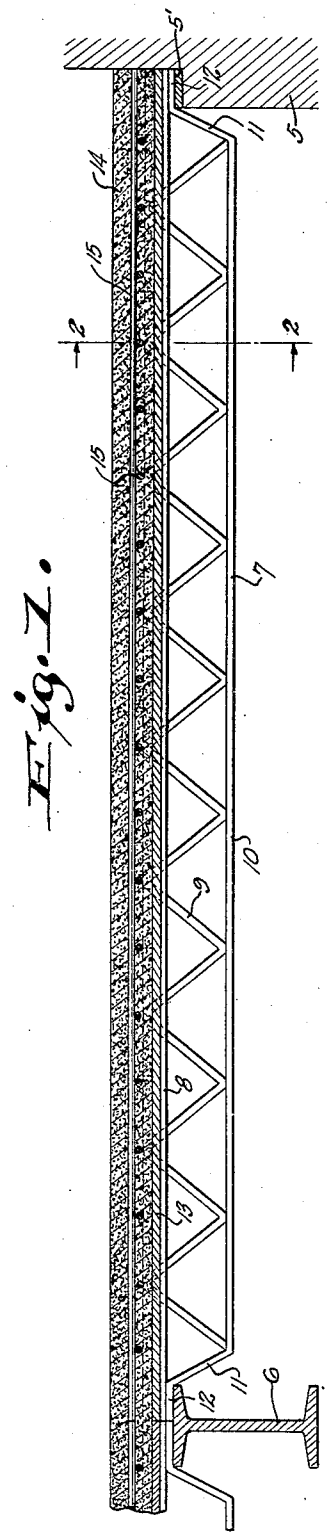

Fig. 1.

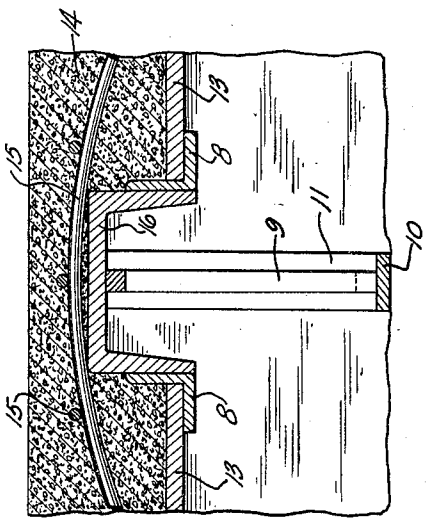

Fig. 3.

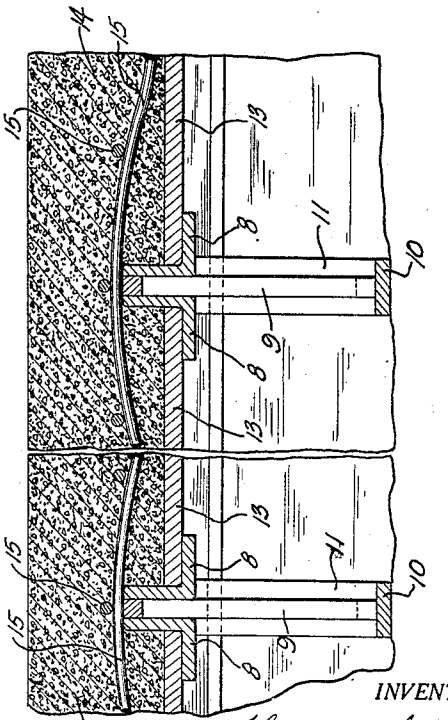

Fig. 2.

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UNITED STATES PATENT OFFICE

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ROOF AND FLOOR CONSTRUCTION

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This invention relates to improvements in roof and floor construction.

It is one of the objects of this invention to provide an improved roof and floor construction which is fireproof, which is an efficient heat insulator, and which possesses the desirable characteristics of strength and lightness of weight.

It is a further object of this invention to provide a roof and floor construction in which joists of a particular type are employed in the combination to serve as the transverse supporting means, the said joists being light in weight and permitting a larger span between bearing points.

It is a more specific object of this invention to provide a construction in which the roof or floor composition is supported between metallic angle bars, said angle bars being arranged in pairs, and each pair forming the upper portion of a joist, the said joist including an angular web bar embraced at upper portions between the angle bars thereby forming a supporting means which allows a larger span without impairing the strength of the construction.

It is a further object of this invention to provide a roof and floor construction which is simple, inexpensive to install, and well adapted for the purpose described.

With the above and other objects in view, the invention consists of the improved roof and floor construction and all its parts and combinations as set forth in the claims and all equivalents thereof.

In the accompanying drawing, in which the same reference characters designate the same parts in all of the views:

Fig. 1 is a vertical sectional view of a portion of a floor embodying the improved construction;

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1, part being broken away; and

Fig. 3 is a view similar to Fig. 2 showing a modified form.

Referring to the drawing, the numeral 5 designates the wall of a building having a recess 5′ and the numeral 6 a supporting beam. Spanning the distance between the wall and the beam are a plurality of transverse supporting members or joists 7 spaced at intervals from one another. The joists comprise a pair of angle bars 8 embracing opposite sides of upper portions of an angular web bar 9, as clearly shown in Figs. 1 and 2. The lower portions of the web bar are secured to a bottom chord 10 which extends parallel to the angle bars. The end portions of the bottom chord extend angularly upwardly as at 11 and then outwardly as at 12 where they are secured to the angle bars.

The angle bars provide flanges for supporting the side edges of plaster boards 13, the said plaster boards extending to the angle bar of the next joist. The plaster boards form the foundation for the roof composition which consists of cementitious material 14 which is poured over the plaster boards to a depth greater than the height of the angle bars. The cementitious material is reinforced by a metallic mesh 15 which is laid over the top of the angle bars, the mesh being permitted to sag intermediate of the joists, thereby carrying the greater part of the weight of the cementitious material.

In the modified form of joist illustrated in Fig. 3 the angle bars are spaced apart by an inverted channel bar 16, the angles being welded to the sides of the channel. The web member extends up into the channel, its upper portions being welded or otherwise secured to the lower side of the top of the channel bar.

This roof construction is capable of carrying considerable weight due to the fact that the webbed joists, which form an integral part of the finished roof, present a much stronger construction than if angle or T bars alone without the webbed constructions were used to support the edges of the plaster board.

From the foregoing description it may be seen that the improved roof and floor construction is simple and inexpensive, light in weight, and well adapted for the purpose described.

What I claim is:

A roof or floor construction comprising spaced apart supporting portions, joists laid

in inter-spaced relation transverse of said supporting portions, a pair of angle bars for each joist, the upper portions of the joists being secured between said angle bars and said angle bars having horizontal sides extending laterally in opposite directions and having vertical sides extending upwardly, composition boards supported by the horizontal sides of the angle bars, and a cementitious material carried by said composition boards and extending above the upper edges of the joists, the upper portions of said joists which are secured between the angle bars and the vertical sides of the angle bars extending above the lower surface of the cementitious material and above the upper surface of the composition boards a substantial distance into the cementitious material so that the joists, composition boards and cementitious material are all firmly bonded to one another.

In testimony whereof, I affix my signature.

THEODORE GENTZ.