June 28, 1932. F. M. VENZIE 1,864,965

CEILING CONSTRUCTION

Filed June 8, 1931 2 Sheets-Sheet 1

Fig. 1.

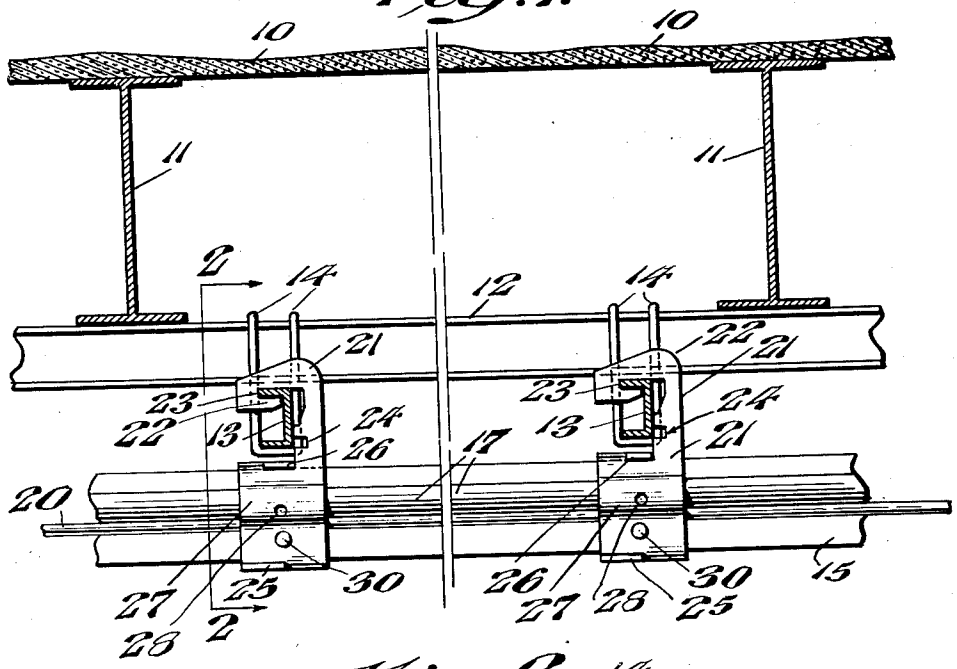


Fig. 2.

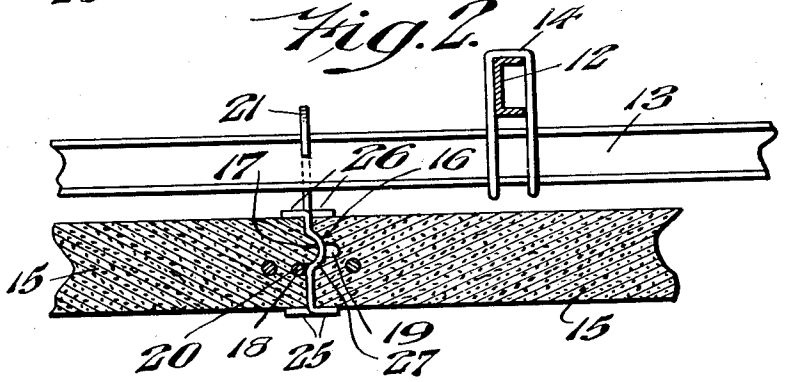
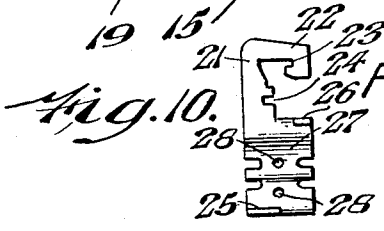


Fig. 3.



Fig. 10.



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Fig. 4.

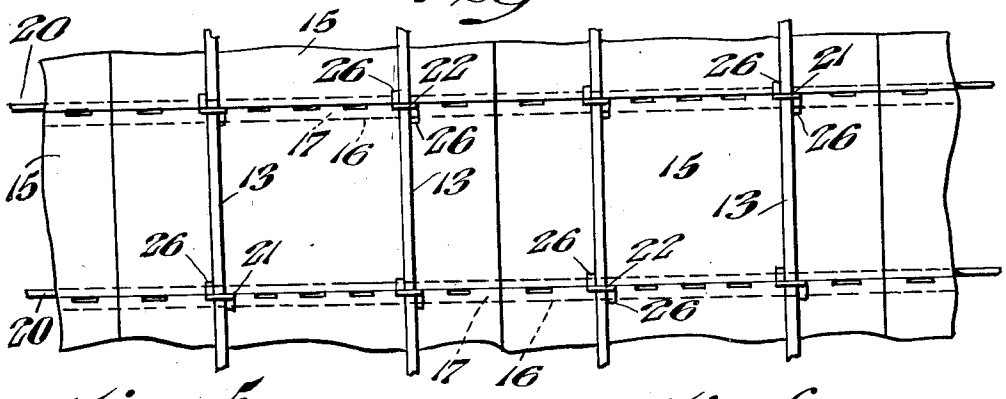


Fig. 5.

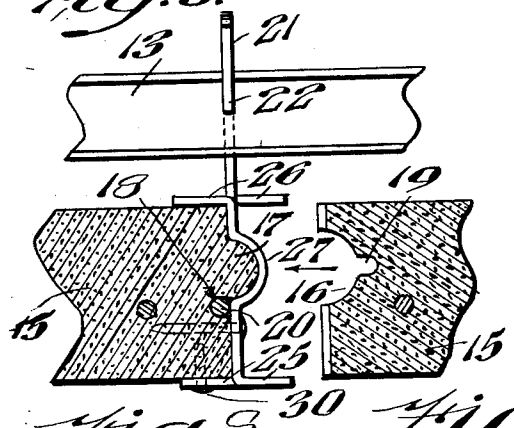


Fig. 6.

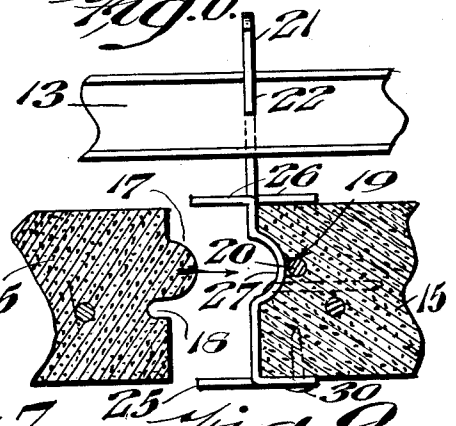


Fig. 8.

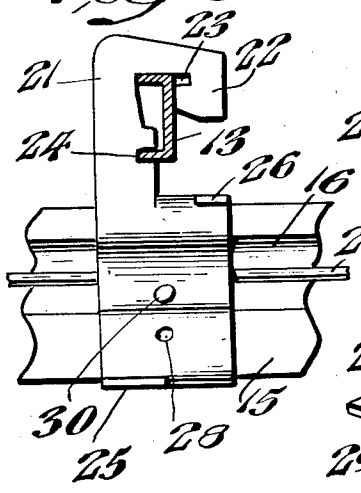


Fig. 7.

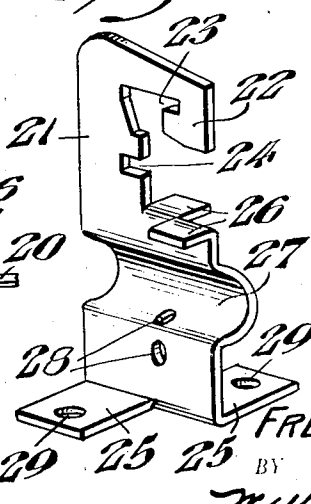
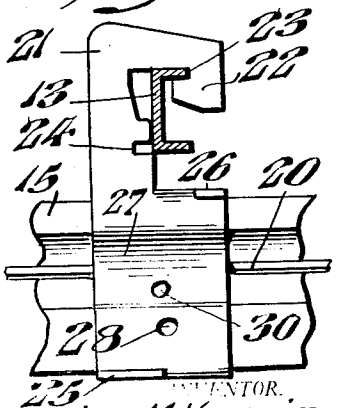


Fig. 9.



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1,864,965

UNITED STATES PATENT OFFICE

FREDERICK M. VENZIE, OF PHILADELPHIA, PENNSYLVANIA

CEILING CONSTRUCTION

Application filed June 8, 1931. Serial No. 542,813.

This invention, generally stated, relates to a building construction and has more especial relation to a suspended ceiling of precast tiles of suitable material.

One object of the present invention is to provide a ceiling structure of this character in which the ceiling slabs may be conveniently and rapidly positioned by unskilled labor.

A further object of the present invention is to provide a ceiling of this character in which the precast slabs have overlapped, interlocking connection with one another.

A still further object of the present invention is to provide a ceiling structure of the character stated in which use is made of specially designed clips for interlocking the suspended slabs with respect to channel irons.

A still further object of the present invention is to provide a ceiling structure of the character stated in which the mechanic erecting the slabs may conveniently and rapidly attach the slabs in secure position against movement by merely snapping small metallic clips over the channel irons without the necessity of tools.

Other and further objects of the present invention reside in the provision of general details of construction and in the arrangement, combination, and connection of parts for attaining the results sought by the foregoing objects.

The invention consists of the novel construction hereinafter described and finally claimed.

The nature, characteristic features and scope of the invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, and in which:

Fig. 1 is a fragmentary view, principally in longitudinal section, illustrating precast ceiling slabs as suspended beneath a floor;

Fig. 2 is a view in cross section taken upon the line 2—2 of Fig. 1;

Fig. 3 is an edge view of one of the blocks shown in the foregoing figures;

Fig. 4 is a fragmentary view in plan illustrating the manner of assembling adjacent ceiling slabs or blocks;

Fig. 5 is a detail view principally in section illustrating adjacent ends of the ceiling slab or block about to be assembled;

Fig. 6 is a similar view showing opposite ends of the same slab or block about to be assembled;

Fig. 7 is a view in perspective of one of the clips shown in the foregoing figures;

Fig. 8 is a detail view in elevation showing how the clip illustrated in Fig. 7 is adapted for use in connection with a plasterer's channel in one position;

Fig. 9 is a similar view illustrating how the same clip is adapted for use in connection with a plasterer's channel where the flanges thereof are differently arranged, and

Fig. 10 is a view in elevation of a slightly modified form of clip.

For the purpose of illustrating my invention I have shown in the accompanying drawings one form thereof which is at present preferred by me, since the same has been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of the instrumentalities as herein shown and described.

Referring now to the drawings in detail, the reference numeral 10 designates a floor of cementitious material supported upon floor beams usually I-beams 11. Arranged beneath the floor beams 11 and at right angles with respect thereto are channel irons 12. Suspended from the channel irons 12 and arranged at right angles with respect thereto are other channel irons 13. The channel irons 13 are suspended from the channel irons 12 by means of clips 14 which may be formed of wire or other suitable construction forming no part of the present invention. The reference numeral 15 designates precast slabs of cementitious material. One end of each slab 15 is provided with a laterally extended groove 16 and the opposed end of each slab is provided with a laterally disposed rib 17, as best seen in Figs. 5 and 6. Immediately beneath the rib 17 of each block is a recess 18. Arranged midway of each groove 16 of

each block is a laterally extended recessed portion 19. In assembling the ceiling slabs or blocks the ribs 17 and grooves 16 are caused to engage one another for interlocking purposes. In order to more efficiently cause an interlocking of slab ends there may be extended entirely across the building structure bars 20 which in practice are usually formed of heavy wire. These rods 20 are so arranged that they may co-operatively engage the grooves 18 and 19 of the blocks or slabs 15. These rods 20 are best seen in Figs. 4, 5, and 6.

In order to support the slabs or blocks 15 I make use of a novel form of clip best seen in Fig. 7. This clip comprises a one piece stamping of thin sheet metal, a description of which will now be given. Primarily, the clip consists of a hook-like portion arranged to co-operatively engage over the channel iron 13 at one end and at its other end to co-operatively engage with the rib 17 and groove 16 of the slabs or blocks 15, and thereafter to co-operatively engage with the upper and lower faces of the blocks. Each clip comprises a thin, flat body 21 the upper portion of which is hook-shaped as at 22, which hook-shaped portion 22 is provided with a pair of recesses 23 and 24, the purpose of which will presently appear. The lower end of each clip is provided with oppositely disposed flanges 25 arranged at right angles with respect to the body 21. Intermediate of the flanges 25 and the hook-shaped portion 22 the body 21 is provided with oppositely disposed flanges 26. Intermediate the flanges 25 and 26 the body 21 is provided with an arcuate, laterally disposed portion 27, as is clearly illustrated in Fig. 7. This portion 27, as well as the body 21, is apertured as at 28 for nail reception and the flanges 25 are similarly apertured as at 29 for nail reception.

A description will now be given of the manner of suspending ceiling slabs 15. The mechanic takes a clip of the type illustrated in Fig. 7 and fits the upper or hooked end thereof over a channel iron 13, so that the underside of the hook portion abuts upon the upper flange of the channel iron. Sometimes the channel iron is so positioned that the grooved portion 23 of the hooked portion 22 of the clip may be caused to engage with said upper flange of the channel iron. In other cases it may be that by reason of the position of the channel iron 13 the grooved portion 24 of the clip may be caused to engage with the lower flange of the channel iron. In either event, the clip is securely anchored with respect to the channel irons. The ceiling slabs or blocks 15 are then caused to engage between the flanges 25 and 26, as clearly illustrated in Fig. 2, it being understood that the rib 17 of one slab or block nests with the arcuate portion 27 of a clip and that said arcuate portion 27 nests with the groove 16 of a companion block or slab, as clearly illustrated in Fig. 2. This nested relation of parts not only is provided by the slabs or blocks themselves but the ribbed and grooved portions of the slabs or blocks in combination with the novel arrangement of clip parts serves to provide a positive interlock of slab parts. However, to accentuate the interlock of parts, nails 30 may be used for penetration of the apertures 28 and 29 of the clips for engagement with the slabs or blocks 15.

The purpose of the serrated edge of the plaster block as shown in Fig. 3 is so that the portion 27 of the clips may be accommodated.

I am aware that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and I therefore desire the present embodiment to be considered in all respects as illustrative and not restrictive, reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

What is claimed is:

1. A clip of the character stated, comprising an integral structure made up of a single blank having a vertical, flat body the bottom of which is provided with oppositely disposed, horizontally arranged flanges extended from said body at right angles thereto, the top of said body being provided with a hook-shaped portion immediately below which said body has extended therefrom at right angles to said body oppositely disposed flanges, said body intermediate of said flanges being provided with an arcuate portion.

2. A clip of the character stated comprising an integral structure made up of a single blank having a vertical, flat body the bottom of which is provided with oppositely disposed horizontally arranged flanges extended from said body at right angles thereto, the top of said body being provided with a hook-shaped portion disposed in the same plane with said body, immediately below which said body has extended therefrom at right angles to said body oppositely disposed flanges, said body intermediate of said flanges being provided with an arcuate portion.

3. A clip of the character stated, comprising an integral structure made up of a single blank having a vertical, flat body the bottom of which is provided with oppositely disposed, horizontally arranged flanges extended from said body at right angles thereto, the top of said body being provided with a hook-shaped portion, said hook-shaped portion being provided with oppositely disposed recesses for channel-iron engagement, immediately below which hook-shaped portion said body has extended therefrom at right angles to said body oppositely disposed flanges, said body intermediate of said

flanges being provided with an arcuate portion.

4. A clip of the character stated, comprising an integral structure made up of a single blank having a vertical, flat body the bottom of which is provided with oppositely disposed, horizontally arranged flanges extended from said body at right angles thereto, the top of said body being provided with a hook-shaped portion immediately below which said body has extended therefrom at right angles to said body oppositely disposed flanges, said body intermediate of said flanges being provided with an arcuate portion, said body, arcuate portion, and lower flanges being provided with nail receiving openings.

FREDERICK M. VENZIE.