May 27, 1930. F. M. VENZIE 1,760,027

BUILDING STRUCTURE

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Fig. 1.

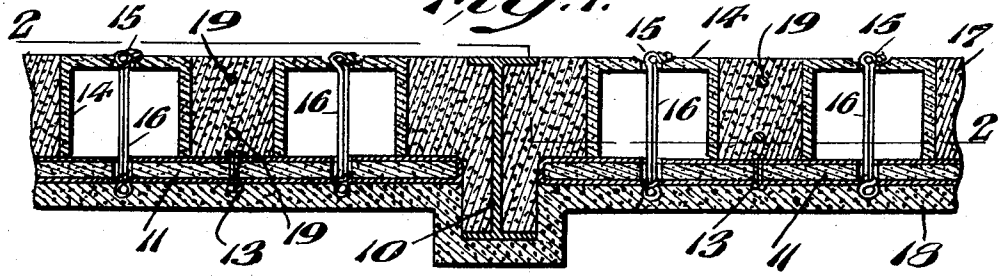


Fig. 2.

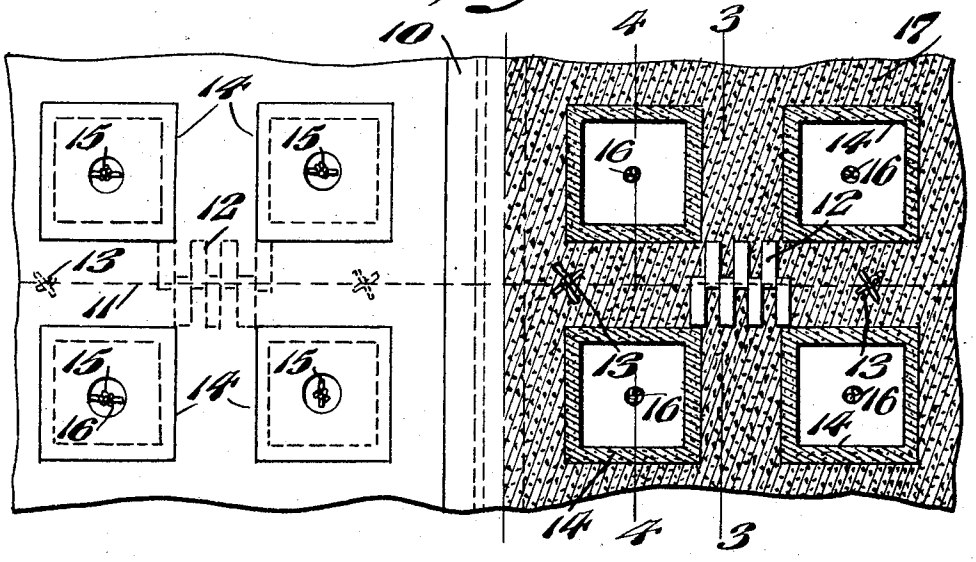


Fig. 3.

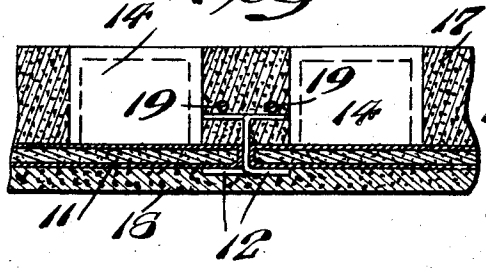
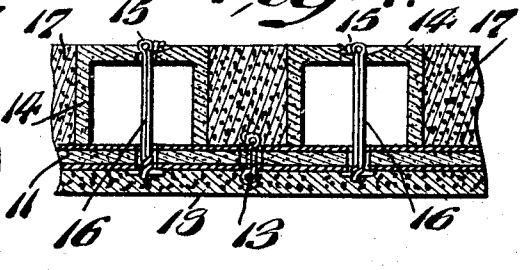


Fig. 4.



INVENTOR:
FREDERICK M. VENZIE:
BY
ATTORNEY:

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Fig. 5.

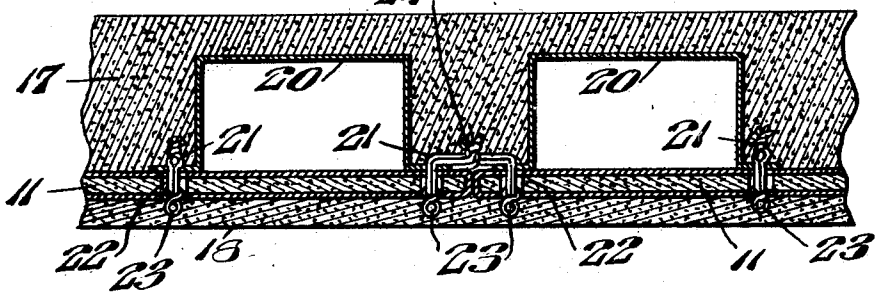


Fig. 6.

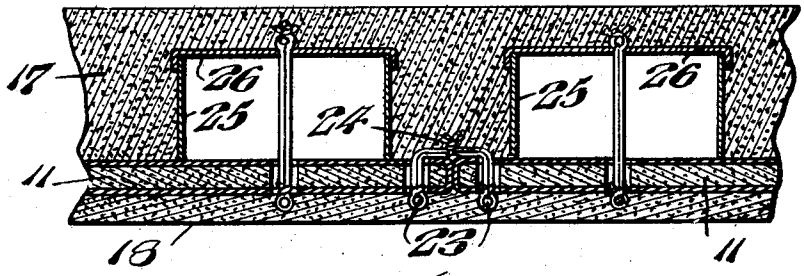


Fig. 7.

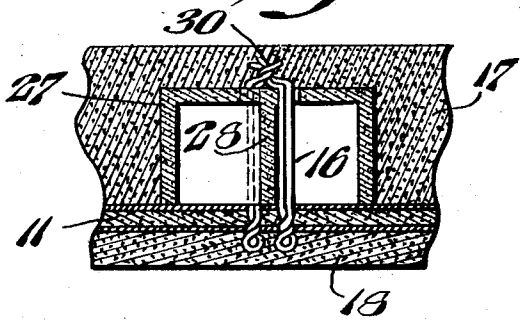
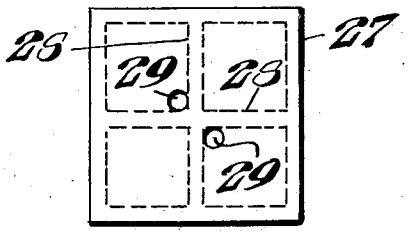


Fig. 8.



INVENTOR:
FREDERICK M. VENZIE:
BY
William J. Sweeton
ATTORNEY.

Patented May 27, 1930 1,760,027

UNITED STATES PATENT OFFICE

FREDERICK M. VENZIE, OF PHILADELPHIA, PENNSYLVANIA

BUILDING STRUCTURE

Application filed September 5, 1929. Serial No. 390,463.

This invention, generally stated, relates to building structure and has more especial relation to a ceiling construction.

One object of the present invention is to provide a simple, efficient manner of constructing ceiling structures in which horizontally disposed, inverted hollow tiles of substantially cup-shape are employed.

Another object of the present invention is to provide a ceiling structure of the character stated in which plaster boards are employed below said cup-shaped tiles and are interlocked with respect thereto by means of wire clips.

Other and further objects of the present invention reside in the provision of general details of construction and in the arrangement and construction 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 top sectional view of a ceiling structure embodying the invention.

Fig. 2, is a view taken upon the line 2—2 of Fig. 1, and viewed from the rear of Fig. 1.

Fig. 3, is a view in section taken upon the line 3—3 of Fig. 2.

Fig. 4, is a view in section taken upon the line 4—4 of Fig. 2.

Fig. 5, is a fragmentary view in longitudinal section illustrating a modified form of horizontal tile structure.

Fig. 6, is a similar view illustrating a further modified form of tile structure.

Fig. 7, is a similar view illustrating a still further modified form of tile structure.

Fig. 8, is a top or plan view of one of the hollow tiles disclosed in Fig. 7.

For the purpose of illustrating my invention I have shown in the accompanying drawings several forms thereof which are at present preferred by me, since the same have 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 to the drawings in detail, the reference numeral 10 designates a metal I-beam. In practice a number of these beams are spaced apart, although but one is shown in the drawings. Between adjacent beams I arrange horizontally disposed plaster boards 11 of conventional type. These plaster boards have their meeting edges coupled together by means of metal clips 12, see Fig. 2, of the type shown in my co-pending application for Letters Patent, Serial No. 363,894, filed May 17, 1929.

In addition to these clips I tie the plaster boards together upon opposite sides of said clips 12 by means of wires 13. Upon the plaster boards 11 thus arranged I position a plurality of inverted, substantially cup-shaped tiles 14 spaced apart as best seen in Fig. 2. In practice these tiles are preferably made of concrete and in cross-section are of rectangular configuration. The top of each tile is apertured and also is counter-sunk at 15. Each plaster board 11 is apertured in alignment with the apertured and counter-sunk portion of a tile and a tie-rod 16 of the type shown in my co-pending application for Letters Patent Serial No. 326,453, filed December 17, 1928, is introduced in a vertical manner through said apertures for anchoring a tile with respect to a plaster board. A cementitious fill 17 is then introduced upon said plaster boards 11 and around said tiles 14 flush with the tops thereof. The said fill 17 may have reinforcing rods 19 arranged therein between adjacent tiles. A suitable ceiling composition 18 is now applied to the underside of the plaster boards.

Referring now to Fig. 5, the tiles there shown and designated 20 are of metal and each tile is flanged at 21. The flanges are apertured in alignment with apertures 22 in the plaster boards 11 and tie rods 23 introduced through the apertures in said flanges and plaster boards for securing the tiles 20

with respect to the plaster boards. Where tie rods are closely associated the free ends of adjacent tie rods may be twisted together as at 24.

Referring now to the form of structure shown in Fig. 6, the inverted cup-like tiles 25 are two-part and are each provided with a removable cover 26. The parts 25 and 26 are secured with respect to the plaster boards 11 by means of tie rods 16.

Referring now to the structure shown in Fig. 7, the inverted cup-shaped tile 27 is interiorly provided with walls or partitions 28 for strengthening purposes. Tie rods 16 penetrate apertures 29 in the top wall of tile which apertures are arranged upon opposite sides of a partition as may be best seen in Fig. 8. The ends of these tie rods are twisted together at 30.

What I claim is:

1. In a building construction of the character stated, spaced beams, plaster-boards arranged between said beams, a plurality of inverted substantially cup-shaped tiles arranged upon the upper surface of said plaster-boards, vertically disposed tie-rods for securing a tile with respect to a plaster-board, clips for securing adjacent plaster-boards together at their sides, and a fill of cementitious material above the plaster-boards and around said tiles.

2. In a building construction of the character stated, spaced beams, plaster-boards arranged between said beams, a plurality of inverted substantially cup-shaped tiles of rectangular cross-section arranged upon the upper surface of said plaster-boards, vertically disposed tie-rods for securing a tile with respect to a plaster-board, clips for securing adjacent plaster-boards together at their sides, and a fill of cementitious material above the plaster-boards and around said tiles.

3. In a building construction of the character stated, spaced beams, plaster-boards arranged between said beams, a plurality of inverted substantially cup-shaped tiles arranged upon the upper surface of said plaster-boards, vertically disposed tie-rods passing through apertures in the tile tops and apertures in the plaster-boards, for securing a tile with respect to a plaster board, clips for securing adjacent plaster-boards together at their sides, and a fill of cementitious material above the plaster-boards and around said tiles.

4. In a building construction of the character stated, spaced beams, plaster-boards arranged between said beams, a plurality of inverted substantially cup-shaped tiles arranged upon the upper surface of said plaster-boards, vertically disposed tie-rods for securing a tile with respect to a plaster-board, clips for securing adjacent plaster-boards together at their sides, tie rods for securing together adjacent ends of said plaster-boards, and a fill of cementitious material above the plaster-boards and around said tiles.

5. In a building construction of the character stated, spaced beams, plaster-boards arranged between said beams, a plurality of inverted substantially cup-shaped tiles arranged upon the upper surface of said plaster-boards, vertically disposed tie-rods for securing a tile with respect to a plaster-board, clips for securing adjacent plaster-boards together at their sides, a fill of cementitious material above the plaster-boards and around said tiles, and means for reinforcing said tiles interiorly by means of ribs.

In testimony whereof, I have hereunto signed my name.

FREDERICK M. VENZIE.