April 2, 1940. J. T. WELCH 2,195,910

TILE STRUCTURE

Filed Jan. 27, 1939

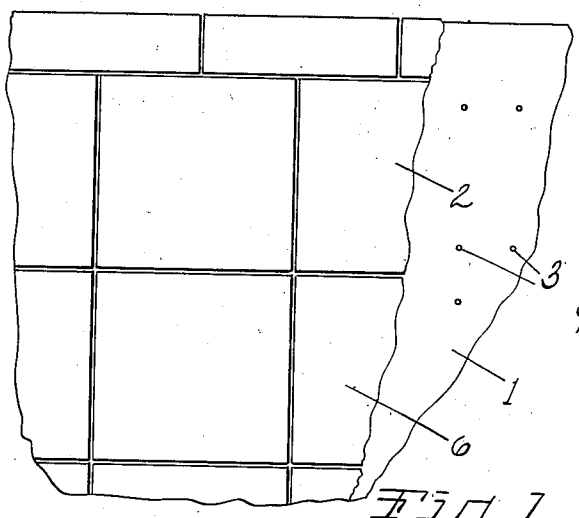


Fig. 1.

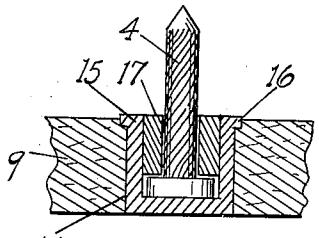


Fig. 4.

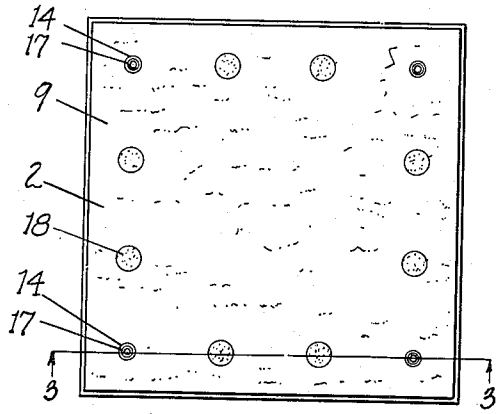


Fig. 2.

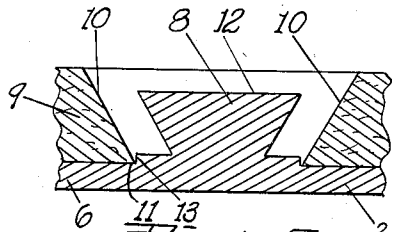


Fig. 5.

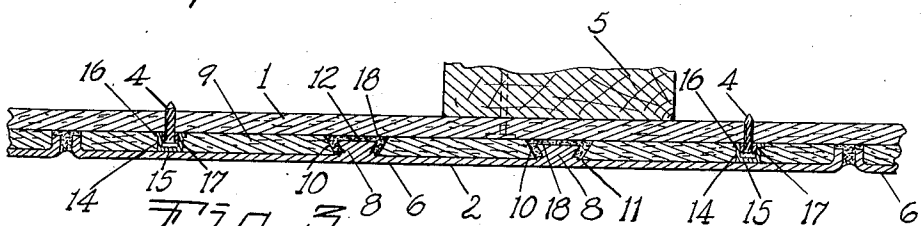


Fig. 3.

INVENTOR.

John T. Welch

BY Earl & Chappell

ATTORNEYS

Patented Apr. 2, 1940 2,195,910

UNITED STATES PATENT OFFICE

2,195,910

TILE STRUCTURE

John T. Welch, Dowagiac, Mich., assignor of one-half to Charles J. Stanley, Chicago, Ill.

Application January 27, 1939, Serial No. 253,046

11 Claims. (Cl. 72—19)

This invention relates to improvements in tile structure.

The main objects of my invention are:

First, to provide a novel tile for walls and like surfaces.

Second, to provide a tile of the type described which is inexpensive but very attractive in appearance.

Third, to provide a tile of the type described and means for readily and quickly securing the same to a foundation panel or like surface.

Fourth, to provide a tile having a facing and body plate and novel means for securing the facing and plate together and to a foundation surface or panel.

Further objects relating to details and economies of my invention will definitely appear from the description to follow. The invention is defined in the claims.

A structure embodying the features of my invention is illustrated in the accompanying drawing, wherein:

Fig. 1 is a fragmentary view in elevation illustrating a foundation wall panel having tile in accordance with my invention applied thereto.

Fig. 2 is a rear view of the tile of my invention.

Fig. 3 is an enlarged fragmentary view in section on a line corresponding to line 3—3 of Fig. 2, further illustrating the foundation panel and a portion of the studding to which it is secured.

Fig. 4 is an enlarged fragmentary sectional detail illustrating a rotatable fastener such as I employ for securing the tile of my invention to a wall or foundation surface and the means for securing said fastener to an element of the tile.

Fig. 5 is an enlarged fragmentary sectional view illustrating details of the means for securing the facing and backing elements of my tile together.

Referring to the drawing, the reference numeral 1 indicates a foundation panel or like wall surface, preferably of a suitable building board, adapted to have tile 2 in accordance with my invention applied thereto. The panel 1 is provided with a plurality of rows of holes 3 adapted to receive drive screw fasteners 4 of the tiles, the fasteners being correspondingly spaced on the tiles in the manner to be hereinafter described, whereby to enable the tile to be readily and quickly attached to the panel. The foundation panel itself is suitably secured to the wall or other studding 5 as illustrated in Fig. 3.

The tile in accordance with my invention consists of a facing plate 6 preferably of artificial resin which is premolded to provide a continuous rearwardly projecting circular undercut or dovetail lugs 8 integral therewith. The tile is completed by a body or backing plate 9 of waterproof fibrous material adapted to fit within the peripheral flange 7 and provided with a plurality of circular beveled openings 10 extending therethrough and adapted to receive lugs 8.

The smallest diameter of the beveled openings 10, i. e., at 11, is slightly larger than the largest diameter or base 12 of the circular undercut or frusto-conical lugs 8 whereby the backing plate 9 may be readily slipped over the lugs in assembling the parts of the tile. To facilitate positioning of the backing plate, the facing 6 may be provided with a rear circular shoulder 13 fitting within the opening 10 as illustrated in Fig. 5.

In assembling the backing plate 9 and facing 6 the two are brought together as illustrated in Fig. 5 and the space surrounding the dovetail lug 8 is filled with a suitable plastic cement or filler 18 which upon hardening holds the parts in assembled relation.

The headed drive screw fasteners 4 for securing the tile to the foundation panel 1, and the manner of associating the same with backing plate 9 are clearly illustrated in Fig. 4. The said backing plates have the holes 14 formed therein in a number and spacing corresponding to the number and spacing of a set of the holes 3 in the foundation panel. The reference numeral 15 indicates a socket mounting for the headed fastener 4 which has a driven engagement in the hole 14. The socket 15 is provided with peripheral flange 16 engageable with the backing plate 9 to position the socket relative to the latter.

The fastener 4 is disposed within the socket and a sleeve or bushing 17 is placed around the fastener in gripping engagement with the socket to prevent outward movement of the fastener. In mounting individual tiles on panel 1, the fasteners 4 are forced into corresponding holes 3 in the panel, thereby causing the fasteners to rotate and effect automatic threaded engagement with the panel. After the tiles are mounted on foundation panel 1 as described, the joints therebetween are preferably pointed with a suitable cement to complete the construction.

The above described tile is one which is exceedingly inexpensive as well as readily installed, and when mounted on a panel in the manner described it presents an exceedingly attractive appearance and may be cleaned at will. The parts are effectively secured together so as to resist displacement from one another or from the foundation panel under any stress.

I have illustrated and described an embodiment of my invention which I have found very practical. I have not attempted to illustrate other embodiments which I contemplate as I believe the disclosure made will enable the adaptation of my invention as may be desired.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. A tile comprising a facing plate of artificial resin, a backing plate therefor, means for securing said plates together, comprising a plurality of rearwardly projecting undercut lugs on said facing plate, said backing plate having rearwardly beveled openings therein corresponding in shape to the cross section of said lugs, the smallest area of said openings being at least as great as the largest area of the lugs whereby said lugs may be disposed in said opening and provide a substantial tapered space between the openings and the lugs, means integral with the facing plate and adjacent the lugs for positioning said backing plate relative to said facing plate and the lug thereon, and plastic filling material in the space between said opening and lug.

2. A tile comprising a facing plate of artificial resin, a backing plate therefor, and means for securing said plates together, comprising a plurality of rearwardly projecting undercut lugs on said facing plate, said backing plate having rearwardly beveled openings therein corresponding in shape to the cross section of said lugs, the smallest area of said openings being at least as great as the largest area of the lugs whereby said lugs may be disposed in said openings and provide a substantial tapered space between the openings and the lugs, and plastic filling material in the space between said openings and lugs.

3. A tile comprising a facing plate, a backing plate therefor, means for securing said plates together comprising a rearwardly projecting undercut lug on said facing plate, said backing plate having a rearwardly beveled opening therein corresponding in shape to the cross section of said lug, the smallest area of said opening being at least as great as the largest area of the lug whereby said lug may be disposed in said opening to provide a substantial space between the opening and the lug, and plastic filling material in the space between said opening and lug.

4. A tile for walls and the like, comprising a facing plate of artificial resin having a rearwardly disposed peripheral flange, a body plate for the tile disposed within the flange, a rotatable headed drive screw fastener for securing the tile to a foundation panel, and means for securing said fastener to the body plate comprising a metallic socket mounted in an opening in the body plates and having the fastener rotatably disposed therein, and a bushing surrounding the fastener and frictionally and fixedly engaging the socket, said bushing engaging the fastener head to prevent outward movement of the fastener from the cup.

5. A tile comprising a facing plate, a body plate for the tile, means for securing said facing and body plates together, a rotatable drive screw fastener for securing the tile to a foundation panel, and means for securing said fastener to the tile comprising a socket mounted in an opening in the body plate and having the fastener rotatably disposed therein and a bushing in said element surrounding the fastener and in restraining engagement with the fastener to prevent outward movement of the fastener from the socket.

6. A tile comprising a facing plate, a body plate, and means for securing said plates together comprising a plurality of rearwardly projecting frusto-conical lugs on said facing plate having their base at the rear thereof, said body plate having a plurality of rearwardly tapering apertures substantially equal in area and similar in shape to said base, said lugs being inserted in said apertures, and cement in the space between said lugs and apertures to hold the plate from separating movement.

7. A tile comprising a body plate of waterproof fiberboard having a plurality of conical holes therein, a face plate of artificial resin having border flanges embracing the edges of said body plate and provided with a plurality of tapered lugs disposed centrally of said holes in said backing plate and anchored therein with plastic material filling said recesses and embracing said lugs.

8. A tile comprising a body plate of waterproof board having a plurality of holes therein, a face plate of artificial resin having border flanges embracing the edges of said body plate and provided with a plurality of lugs disposed within said holes in said backing plate and anchored therein with plastic material, a plurality of headed drive screw fasteners, said backing plate having sockets seated therein receiving said fasteners, and fastener retaining members within said sockets rotatably releasing said fasteners.

9. A tile comprising a body plate of waterproof fiberboard having a plurality of holes therein, and a face plate of artificial resin having border flanges embracing the edges of said body plate and provided with a plurality of lugs disposed within said holes in said backing plate and anchored therein with plastic material.

10. A tile comprising a body plate having a plurality of holes therein, a face plate of artificial resin provided with a plurality of lugs disposed centrally of said holes in said backing plate and anchored therein with plastic material filling said recesses and embracing said lugs, a plurality of headed drive screw fasteners, said backing plate having sockets seated therein receiving said fasteners, and fastener retaining members sleeved within said sockets and rotatably supporting said fasteners.

11. A tile comprising a body plate having a plurality of holes therein, and a face plate of artificial resin provided with a plurality of lugs disposed centrally of said holes in said backing plate and anchored therein with plastic material filling said recesses and embracing said lugs.

JOHN T. WELCH.