July 12, 1949. S. M. LICHACZEWSKI 2,475,708

TILE WALL STRUCTURE

Filed April 8, 1947

Fig. 1.

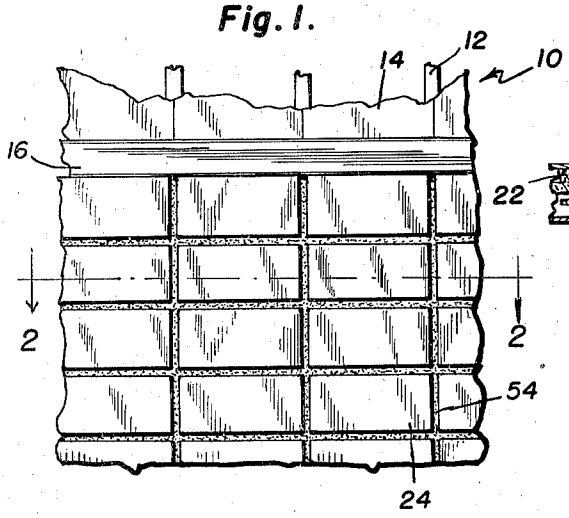


Fig. 2.

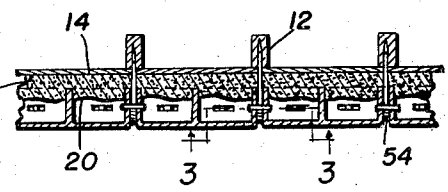


Fig. 3.

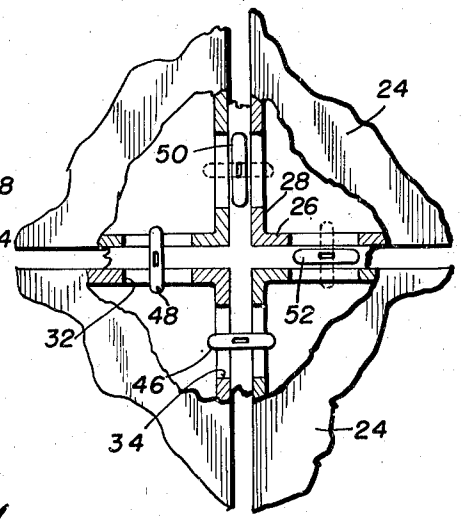


Fig. 4.

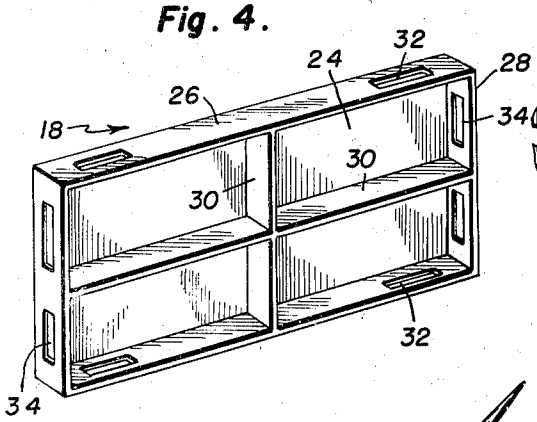
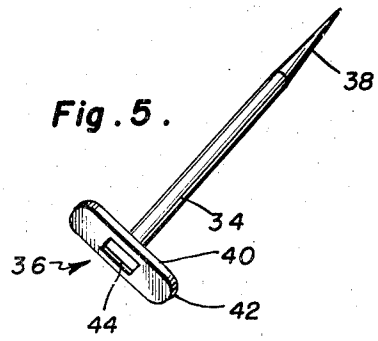


Fig. 5.



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TILE WALL STRUCTURE

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1 Claim. (Cl. 72—21)

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This invention refers generally to wall structures, and particularly to tile wall structure in which a plurality of regularly spaced tiles are secured to a plain wall structure by means of specially designed nails with heads which are turned after the nail is driven to engage slotted side portions of the tiles, novelty residing in the structure of the tiles per se, as well as in the method and means of securing these tiles to said plain wall structure.

It is a primary object of this invention to provide a tile wall structure which is extremely simple to build, it being such that those relatively unskilled in the building art may easily use this wall structure.

It is a further object of this invention to provide a wall structure which is extremely strong and durable, each tile being supported at a relatively large number of points, by reason of the novel nailing attachment means as well as the embedding of the sides of the tile and a pair of cross members in each tile, in cementitious material.

It is a still further object of this invention to provide a wall structure which has an outside surface impervious to water and generally adapted to accomplish the functions required thereof, as well as being easily made decorative.

Still another object of this invention is to provide a wall structure which can be applied or built without special tools and equipment and with a minimum of labor.

And a last object to be specifically mentioned is to provide a wall structure in which the elements thereof are relatively inexpensive and practicable to manufacture according to generally recognized manufacturing processes, easily maintained in a clean and attractive condition, susceptible of various types of ornamentation, and which is generally adapted for efficient service and durability.

With these objects definitely in view, this invention resides in certain novel features of construction, combination and arrangement of parts and portions substantially as hereinafter described in detail and particularly pointed out in the appended claims, reference being had to the accompanying drawings which form a material part of this application, and in which—

Figure 1 is a fragmentary elevational view of a wall constructed according to this invention, the upper portion of the figure representing a wall of different character and which may be thought of as representing a wall of a type suitable for the application thereto of tile structure described herein;

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Figure 2 is a horizontal sectional view, taken on the line 2—2 in Figure 1;

Figure 3 is a fragmentary view of a portion of a wall constructed according to this invention, the face portion and portions of the wall of each tile shown in the figure being broken away to illustrate how the headed nails and the slotted walls of the tiles coact in a manner assuring the proper securement of the tiles to the wall, the figure being taken substantially upon the line 3—3 in Figure 2;

Figure 4 is a perspective view of the rear of one of the tiles; and

Figure 5 is a perspective view of one of the headed nails used in this invention.

Similar characters of reference designate similar or identical parts and portions throughout the specification and throughout the several views of the drawing.

Referring now to the drawings in detail, it will be noted that a wall 10, comprising studding 12 and wall boards 14 or similar wall structure, constitutes the environment wherewith this invention is adapted to be used. This environment will also ordinarily include molding 16 of the type used to border the upper edge of tiling.

It will be noted that a plurality of tiles, each of the character generally represented at 18, are arranged in regular spaced relation and in conjunction with cementitious material 20 applied to the wall boards 14, are, as shown in Figure 2, applied to a layer of similar cementitious material 22.

Each tile is generally rectangular in shape with what will be hereinafter referred to as the front face 24 closing one side of each tile, longer sides 26 and shorter sides 28, these sides being right angularly disposed to the front face 24. A pair of right angularly disposed cross members 30 are preferably integrally formed with the sides 26 and 28 and the front face 24, and the depth of these sides and the cross members 30 will preferably be equal. Each of the sides is apertured, as at 32 and 34, the slots being arranged longitudinally of the sides and of a width slightly greater than the diameter of the shank portion 34 of the nails, generally represented by the numeral 36. The tiles 18 will be constructed of relatively rigid, durable material such as metal or commercial plastic, and the cross members 30 may constitute a simple cross, as illustrated in Figure 4.

The shank portions 34 of the nails are sharp-

ened as at 38 to facilitate the driving thereof into the wall, it being understood that the positioning of the studs 12 of the wall will be such as to enable the majority of the nails 36 to be driven into these studs, consideration of this feature being desirable when walls of new buildings are being constructed for the application of tiles according to this invention. The heads 40 of the nails are elongated transversely of the shank portion 34 and the ends are preferably rounded as at 42, while the upper face of the head 40 is slotted, as at 44, to allow the insertion thereinto of a turning tool of the general nature of a screwdriver.

In applying these tiles to the wall, the following procedure is thought to be the most simple, although variation thereof may be resorted to without changing the structural features of the elements of this invention. A layer of cementitious material 20 is applied to the wall, either directly to the wall boards 14, to the plaster 22, or to lath of any desired character secured to the wall, and the nails 36 are driven into the wall being regularly spaced and positioned to provide a proper pattern of rectangles of dimensions slightly larger than the outside dimensions of the tiles. If desired, the nails 36 may be driven before the cementitious material 20 is applied to the wall, and in any case, the nails are not driven home, the underside of the head 40 being necessarily spaced from the tile a distance only slightly greater than the dimension from the outside of the face 24 of the tile to the adjacent edge of the slot 32. The next step will ordinarily be the application of the tiles to the wall, with the inner edges of the clasp members 30 and the sides 26 and 28 embedded in the cementitious material 20, and the sides 26 and 28 in juxtaposition with the nails 36.

With the tiles 18 held in this position, the heads 40 of the nails are turned by a screwdriver inserted in the slot 44 in each head, so that the outer ends 42 of the heads enter the slots 32 and 34, thus retaining the tiles in place. It will be understood, of course, that the spacing of the nails must be accomplished with consideration to the spacing of these slots 32 and 34, and that the driving of the nails must be accomplished with reasonable care. If reference is now had to Figure 3, it will be seen that this procedure has been represented by the nail heads 46 and 48 turned to engage the tiles on the edges of the

slots 32 and 34. The nail heads 50 and 52 are represented as positioned prior to the turning of the nail heads, and these same nail heads are shown in final tile-engaging positions in dash lines. Obviously, the hardening of the cementitious material 20 will further lock or bond the tiles in position, and a finished exterior is obtained by applying suitable cementitious material of the same or another character to cover the nail heads and to fill in the channels between the tiles to the desired degree. This material filling in these channels is represented by the numeral 54, in Figure 2.

The operation of this invention will be fully understood from a consideration of the foregoing description and further description thereof is deemed unnecessary.

Though there has been shown a particular embodiment of this invention, this application is not limited to this particular embodiment, but it is desired to include in the scope of this invention the construction, combination and arrangement of parts and portions substantially as set forth in the appended claim.

What is claimed as new and desired to be secured by Letters Patent is:

A wall structure including wall boards, cementitious material on said wall boards, a plurality of hollow tiles, each tile comprising a face plate and peripheral sides right angularly disposed to and integral with said face plate, and cross bars terminally secured to and between said sides and secured to the inner side of said face plate, the edge portions of said cross bars and sides remote from said face plate being embedded in said cementitious material, said sides having slots, and nails with elongated heads having their shanks partially inserted in said wall boards and material between said tiles with the end portions of said heads extending into and engaging opposed slots of adjacent tiles.

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