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HOLLOW WALL TILE.

APPLICATION FILED JAN. 18, 1916.

1,358,055. **Patented Nov. 9, 1920.**

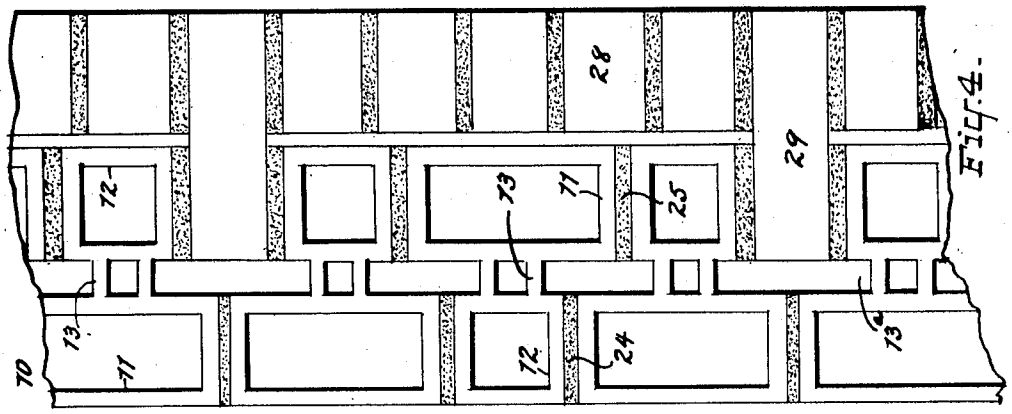


Fig. 4.

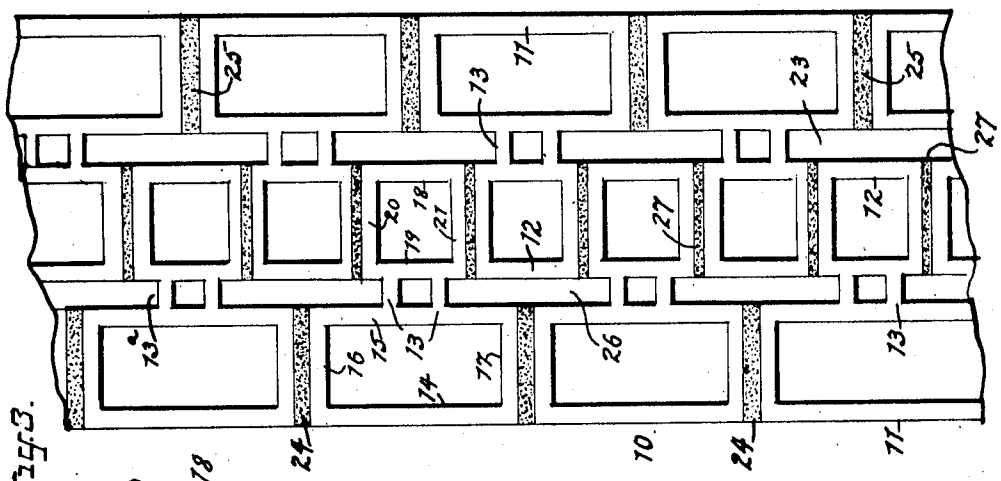


Fig. 3.

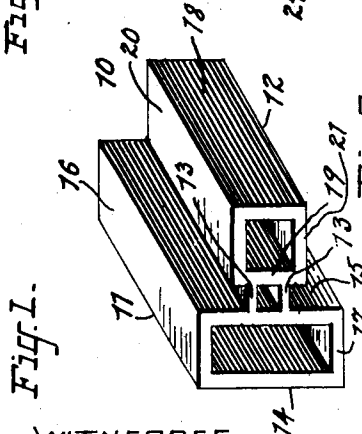


Fig. 1.

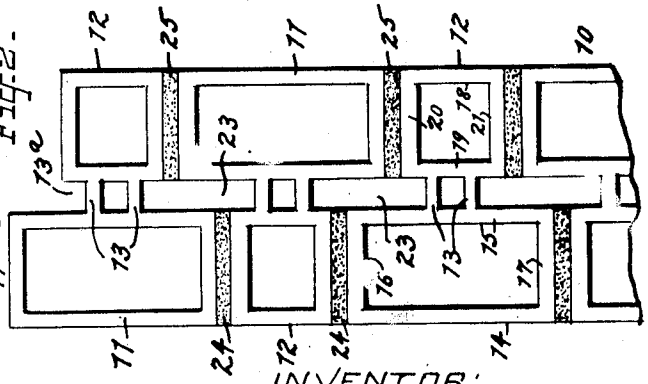


Fig. 2.

WITNESSES.

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HOLLOW WALL-TILE.

1,358,055. Specification of Letters Patent. Patented Nov. 9, 1920.

Application filed January 18, 1916. Serial No. 72,659.

To all whom it may concern:

Be it known that I, WILLIAM J. BURKE, a citizen of the United States, residing at the city of New York, borough of Brooklyn, county of Kings, and State of New York, have invented a certain new and useful Hollow Wall-Tile, of which the following is a specification.

This invention is a hollow tile and a wall resulting therefrom, said tiles being capable of assemblage in different ways so as to produce when assembled in one way a wall eight inches (8″) thick and when assembled in a different manner to result in a wall twelve inches (12″) thick.

A wall composed of hollow tiles in accordance with this invention is characterized by several important functions, chief among which are discontinuous or interrupted mortar joints and hollow spaces intermediate the tiles and independent of the chambers interiorly of said tiles, whereby moisture is precluded from penetrating to the interior surface of the wall, thus resulting in a dry wall without resorting to furring on the interior thereof; the hollow spaces interiorly of the wall and exteriorly to the tiles provide means whereby gas and water pipes or electrical conductors may be incased within the wall and without running the same through the hollow chambers of the tiles themselves; each tile is characterized by broad surfaces whereby mortar beds are applied so as to contribute to efficient bonding of the tiles; the hollow spaces interiorly of the wall and the hollow chambers within the tiles secure the important advantages of excluding the cold in wintry weather and the heat in hot weather besides adding to the sound-proof and fire-proof character of the structure; the tiles being composed of clay material and burned to the required hardness in a kiln are adapted to be manufactured on the existing clay machinery, thus attaining economy, and the tiles are of such form and dimensions that they can be handled with facility so that the work of laying them can proceed with the required ease and expedition.

Other features and advantages of the invention will be apparent from the following detailed description taken in connection with the drawings wherein—

Figure 1 is a perspective view of the tile.

Fig. 2 is an elevation wherein the tiles are assembled to produce a wall substantially eight inches (8″) in thickness.

Fig. 3 is an elevation with the tiles assembled in a different manner to produce a wall substantially twelve inches (12″) in thickness.

Fig. 4 is an elevation of an eight inch (8″) wall with an exterior brick veneer finish.

The tile 10 comprises, generally speaking, a head 11, a foot 12 and a shank 13, each being hollow and the entire tile being composed of clay material formed or "run" in the die of a clay tile machine and subsequently burned in a kiln to the required hardness.

The hollow head 11 consists of side webs 14, 15 and end webs 16, 17, all the webs being uniform in thickness. The foot 12 consists of side webs 18, 19 and end webs 20, 21, the same being uniform in thickness. The shank consists of two parallel webs the thickness of each being equal to that of the other webs. The length of the head 11 is twice that of the foot 12, the latter being positioned substantially centrally with respect to the head, *i. e.* the medial line of the head is a straight line extended centrally through the hollow shank and the hollow foot. The head and the shank are positioned contiguous to each other and are integral with a short shank, the webs of which are much shorter than the head or foot and said webs of the shank being positioned quite closely together, *i. e.* the two webs comprising the shank 13 are in planes between the side webs of the head and the foot so that the shank is the narrowest part of the tile and two grooves or recesses 13^a are produced between the foot and the head, one recess in each side of the tile.

It is apparent that the dimensions of the tile may be varied as desired, but it is preferred to construct the tile in such size that a number of tiles may be assembled to produce either an eight inch (8″) wall as in Fig. 2 or a twelve inch (12″) wall as in Fig. 3.

The tiles of Fig. 2 are assembled in reversed order for the head 11 of one tile to overlap the foot 12 of tiles adjacent thereto. This manner of assembling provides spaces 23 within the wall, said spaces being exterior to the tiles and independent of the hollow chambers within the tiles themselves. In laying the tiles, mortar is applied to the webs 16, 17 of the head and to the webs 20, 21 of

the foot, and thus broad surfaces are provided for the reception of mortar, whereby the tiles are efficiently bonded. A peculiarity of the wall is that the mortar bonds 24, 25 are discontinuous or interrupted, *i. e.* each bond does not extend in a straight line continuously through the wall; but aside from the fact that the mortar bond 24 is out of line with the mortar bond 25, said bonds are interrupted by the chambers 23, whereby moisture cannot penetrate the wall nor can water be driven by wind pressure through the mortar joints, thus resulting in a dry wall on the interior without resorting to the expedient of furring the inside of the wall.

To produce a twelve inch (12″) wall as in Fig. 3, the tiles are not only assembled in reversed order but they are positioned for the foot 12 of one tile to overlap corresponding feet 12 of other tiles adjacent thereto. This results in a plurality of chambers 23, 26 interiorly of the wall, which chambers are independent of the hollow chambers of the tiles themselves and are exteriorly of the tiles, and, furthermore, mortar bonds 24, 25 and 27 are employed to unite the tiles solidly together, the continuity of the bonds being interrupted by said chambers 23, 26. According to this mode of assembling the tiles, all the heads of said tiles are exposed at the outer surface and the inner surface of the wall, thus imparting thereto that uniformity of appearance characteristic of a brick wall.

It is apparent that any desired finish may be applied to the surfaces of the wall, thus, a stucco finish may be applied to the exterior surface, or a plaster finish on the interior surface. Fig. 4, however, illustrates a brick veneer 28 at the exterior surface of the wall, certain courses of header brick 29 being interposed between the feet 12 of adjacent tiles so as to bond the brick veneer to the body of the wall composed of hollow tiles.

The hollow tile is characterized by a distinctly novel feature of construction, *i. e.* the presence of pockets or grooves 13^a between the two members, herein referred to as the head 11 and the foot 12, the existence of said pockets or grooves being due to the fact that the shank 13 is the narrowest part of the tile. The grooves or pockets are so related to the members 11, 12, that the webs forming the bottoms of the grooves are in different planes from the top and bottom webs of the member 12, and thus the surfaces of the two webs forming the shank 13 are respectively below the top surface of the member 12 and above the bottom surface of said member 12.

When the tiles are laid to form a wall of the character shown in either Figs. 2, 3 or 4, mortar beds are applied to the top surfaces of the members 11, 12; but in this connection attention is called, first, to the discontinuous character of the mortar bond on the top surfaces of the members 11, 12, the same being interrupted by the chambers provided interiorly of the wall, and, second, to the grooves or pockets 13^a positioned in planes out of register with the mortar bonds in contact with the top and bottom surfaces of the members 11, 12 respectively.

It is well known to those skilled in the art that there is a tendency of moisture to penetrate to the interior of a wall by passing through the mortar used for bonding the burned clay tiles, hence it is necessary ordinarily to employ furring on the interior of the wall for precluding dampness.

According to my invention, the penetration of moisture is overcome by interrupting the continuity of the mortar bonds uniting the members 11, 12 of one tile to other tiles in the adjacent courses by so assembling the tiles as to produce the chambers interiorly of the wall, which chambers are independent of the spaces within the tiles themselves; but such exclusion of moisture is, in this invention, secured to a positive degree by the presence of the pockets 13^a between the two members 11, 12 of the individual tiles, which pockets are positioned, as described, out of line, or of register, with the mortar bonds. Thus in case of a hard driving rain, moisture may, and frequently does, pass through the mortar between those members of the tiles at the face of the wall, but when using my tiles, the moisture must accumulate within the pockets 13^a and rise up to the level of the inside mortar bond before it can penetrate to the interior of the wall, a condition which never obtains in practice. Accordingly, a wall composed of my tiles excludes moisture under all conditions of service, and the wall is thus free from dampness on the interior surfaces thereof.

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

1. A reversible wall tile comprising two hollow load-bearing members the height of one member being about one-half that of the other member and each member being provided with walls which are positioned to bound the chamber on all sides thereof, the adjacent walls of said two hollow members being parallel to produce a space intervening said hollow members, and a plurality of short imperforate webs distinct from and positioned intermediate the parallel adjacent walls of said two hollow members and unitary therewith, said webs being parallel to each other and lying in planes between the top and bottom surfaces of the smaller of said two hollow members and producing a plurality of moisture-receiving pockets which lie between the adjacent parallel walls of said hollow members, each of said pockets being bounded on two sides by the

adjacent parallel walls and on a third side by one of said short webs whereas the pocket is open on its remaining or fourth side, whereby each tile may be laid in a wall either side uppermost and the assemblage of said tiles to form a wall produces within the wall chambers which are separate from the chambers of said hollow members of the tiles.

2. A hollow wall composed of superposed chambered tiles each comprising two hollow load-bearing members the height of one member being about one-half the height of the other member and each member provided with walls which bound the chamber on all sides thereof, the adjacent walls of said two hollow members being parallel to produce a space intervening said two hollow members, and each tile being provided with short imperforate webs distinct from and positioned between the parallel walls of said two hollow members and unitary therewith, said short webs being parallel to each other and lying in planes between the top and bottom surfaces of the smaller of said two hollow members and producing a plurality of moisture-receiving pockets each of which is bounded on two sides by the adjacent parallel walls of the hollow members and on a third side by one of the short webs, and said tiles being assembled in reversed order and to produce interiorly of the wall a number of air chambers which are independent of the chambers formed by the members of said tiles and the width of which independent air chambers is equal substantially to the width of said moisture-receiving pockets.

In testimony whereof I have hereunto subscribed my name.

WILLIAM J. BURKE.