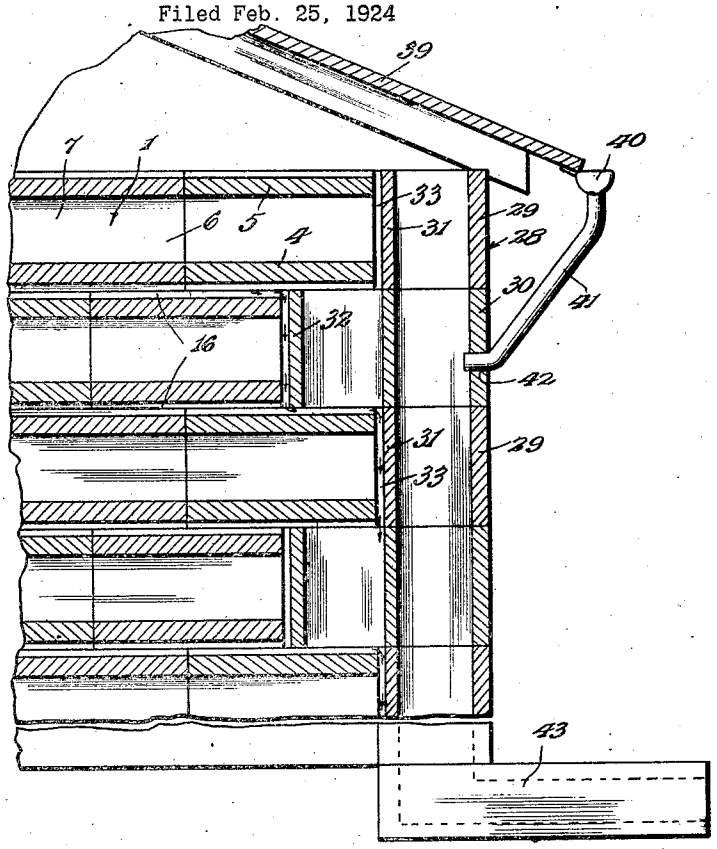
Aug. 24, 1926. 1,597,104

J. A. O'DONNELL

BUILDING TILE AND WALL CONSTRUCTION

Filed Feb. 25, 1924

Fig. 1.



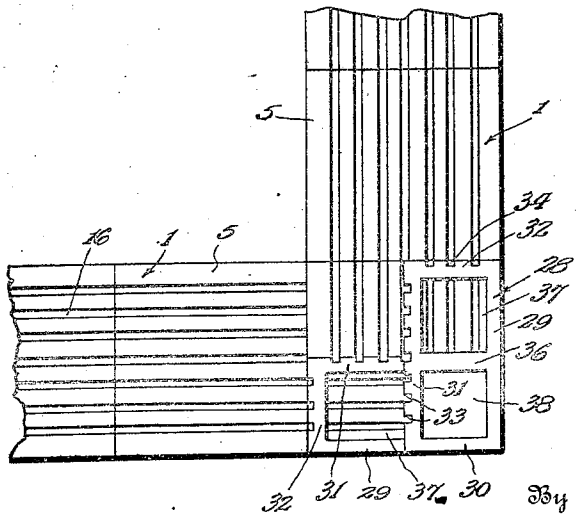


Fig. 2.

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BUILDING TILE AND WALL CONSTRUCTION.

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This invention relates to improvements in hollow building tiles and wall constructions erected by the use thereof.

It is a well-known fact that in the employment of the ordinary types of hollow building tiles, the walls of the structure are liable to accumulate moisture which in a short while permeates the inner sides of the tiles and thus reaches the interior of the structure. This is due in some instances to improperly laid mortar joints, and in other instances to the inability of the builder, with the tiles at hand, to make proper joints in the wall structure. Therefore, it is one of the primary objects of the present invention to provide building tiles of several forms possessing individual features of construction such that a builder employing the same may erect a building wall which will be entirely proof against the accumulation of moisture in the hollow tiles and likewise proof against seepage of water through imperfectly formed mortar joints between the tiles, so that a building wall constructed by the use of the tiles will possess all of the advantages which may be derived from the employment of hollow tiles, and will yet be entirely impervious to water to an extent which would permit of moisture entering the interior of the structure of which the wall forms a part.

The invention has as a further object to provide a wall structure made up of course tiles and corner tiles so relatively arranged and laid that the corner tiles will have spaces matching throughout the entire height of the wall, thus permitting of water from the roof gutters being conveyed to a sewer connection at the bottom of the wall without the employment of any down spout as is at present necessary. In this connection the invention contemplates so constructing the tiles which are to be employed in building up the corners of the structure and to so lay these tiles with relation to one another as to preclude any possibility of the water from the roof gutters seeping through the corner tiles to the interior of the structure.

As stated, one of the disadvantages which has heretofore attended the employment of building tiles of ordinary form is that due to imperfectly made joints between the tiles, there is liable to be a seepage of water through the wall to the interior of the structure, and this is true even where the joints are properly made if the wall is subjected for any considerable period of time to moisture, inasmuch as even the best grade of cement will to a greater or less degree absorb moisture. It is to be expected, therefore, that, even while the tiles of the present invention are so formed that a substantially perfect mortar joint must of necessity be produced even by a careless workman, in laying the several courses of the wall, and water therefore enter the wall structure where the more imperfect joints are located, this water is disposed of in such manner as to preclude any likelihood of its reaching the interior of the structure.

In the accompanying drawings:

Figure 1 is a vertical sectional view through a building wall constructed in accordance with the invention, a part being shown in elevation.

Figure 2 is a plan view illustrating the manner in which the course and corner tiles are laid.

In its simplest form, the invention embodies course tiles and corner tiles; that is to say, the building wall is constructed of tiles which constitute the wall proper, and which are laid in courses and are therefore referred to as course tiles, and at the meeting corners of the walls of the structure, other tiles of a different character are employed and are referred to herein as corner tiles. The course tiles are indicated in general by the numeral 1, and formed from the usual material and each comprises front and rear walls, a bottom wall 4, and a top wall 5, and a longitudinal partition or web wall 6, providing longitudinal dead air spaces 7 within the body of the tile.

In order to provide for a mortar bond between superposed ones of the tiles 1, the upper and under faces of the top and bottom walls of the tiles are formed with grooves 16 which are preferably of rectangular form and which extend longitudinally from end to end of the said faces of the said walls, corresponding ones of the grooves in the two walls being in the same vertical plane so that when the tiles 1 are superimposed, corresponding grooves will match or register, thereby providing substantially rectangular channels, certain of which are to receive mortar.

The corner tiles are indicated in general by the numeral 28 and each of these tiles comprise walls 29 and 30 which are to be

presented outwardly at the face of the building structure when the tiles are properly laid, and walls 31 and 32 which are to abut other tiles as will presently be explained. The outer face of the wall 31 of each corner tile is formed with a number of vertical grooves indicated by the numeral 33, and in a like manner the outer face of the wall 32 of each corner tile is formed with vertical grooves, indicated by the numeral 34. Each tile 28 is furthermore provided with a partition or web wall 36 which is vertically disposed and which occupies a plane parallel to the planes of the walls 30 and 32 and is located substantially midway between the said walls, the provision of this partition wall resulting in vertical passages or spaces 37 and 38 in the said tile.

In erecting a wall such as illustrated in the drawings, the course tiles 1 are laid in courses in the usual manner, breaking joint, and with their dead air spaces 7 alined throughout the entire width of the wall, or, in other words, throughout the entire length of each course. By so laying the tiles that they will break joint, at the corners of the structure, alternate course tiles will project endwise beyond the intervening tiles. It will be observed by reference to Figure 2 of the drawings that the corner tiles 28 are substantially one-half the width of the course tiles so that, due to the projection of alternate ones of the course tiles beyond intermediate tiles, the corner tiles may be alternately laid at right angles to each other. As a consequence the space or passage 38 of one corner tile will be in vertical alinement and registration with the space or passage 38 of the tile next above or below it, so that at the extreme corner of the structure there is provided a continuous vertical passage best shown in Figure 2 of the drawings. The structure will, of course, be provided with a roof, indicated by the numeral 39, and leading from the eave trough or gutter 40 of the roof is a gutter spout 41, the lower end of which is deflected or may be continued straight and in any event is led through an opening 42 formed in the outer wall 29 or 30, as the case may be, in one of the corner tiles so as to be in communication with the said vertical passageway which is provided by the previously described arrangement of the corner tiles. By reason of this peculiar arrangement of the corner tiles, water from the eave trough 40 is conducted through the relatively short spout 41 to the vertical passageway at the extreme corner of the structure and may be carried off to a sewer conduit 43 placed in communication with the lower end of the said passageway. In this manner the employment of a separate and distinct down spout as is ordinarily provided, is dispensed with and the cost of the material and labor incident to installation of such a spout is saved.

In laying the corner tiles it will be observed, by reference to Figures 2 and 4 of the drawings, that the grooves 33 and 34 in the corner tiles are positioned confronting the open ends of the course tiles against which the said corner tiles are laid so that any moisture which might enter the dead air spaces of the course tiles will be permitted to flow through these dead air spaces and downwardly through the grooves 33 and 34 as indicated by the arrows in Figure 2.

Having thus described the invention, what is claimed as new is:

1. In a building structure, course tiles laid in courses, and corner tiles of exterior contour corresponding to the course tiles laid alternately at angles at the corners of the structure and having vertical spaces, the spaces of the overlapping ends of the corner tiles being in alinement whereby to provide a vertical passage throughout the height of the structure, and a drain at the lower end of the passage.

2. In a building structure, course tiles laid in courses, corner tiles of exterior contour corresponding to the course tiles laid alternately at right angles at the corners of the structure with their ends overlapping and having vertical spaces, the spaces of the overlapping ends of the corner tiles being in alinement whereby to provide a vertical passage throughout the height of the structure, a conduit leading from the lower end of the passage, and a rain gutter having a spout opening into the vertical space of one of said corner tiles.

3. In a building structure, horizontally laid hollow tiles comprising the walls of the structure, certain of the horizontally laid tiles at the corner of the structure having their ends which meet at the angle between the walls overlapping and provided with spaces, the spaces of the said corner tiles providing a vertical passage extending throughout the height of the structure, a rain gutter, and a spout leading from the gutter through the wall of one of the said corner tiles and into the said passage.

4. In a building structure, hollow course tiles laid in courses and having horizontal air spaces registering at their ends in adjacent tiles, and corner tiles laid with certain of their faces abutting the ends of the said course tiles, the said faces of the corner tiles being provided with vertical grooves whereby any moisture accumulating within the spaces of the course tiles may flow therefrom and through the grooves in a downward direction.

5. In a building structure, a plurality of courses of hollow course tiles having horizontal passages extending in alinement through-

out the length of each course, and other tiles laid at the corners of the structure, each of the said corner tiles having vertical grooves formed in one of its end faces and the tiles being laid with their said end faces abutting against the ends of adjacent ones of the course tiles whereby any accumulated moisture in the course tiles may flow therefrom by way of the said grooves and be conducted downwardly to the foundation of the structure.

6. In a building structure, a plurality of courses of hollow course tiles having longitudinal spaces extending horizontally therein and in alinement throughout the length of each course, and other tiles laid at the corners of the structure, each of the corner tiles having one end face and one side face provided with vertical grooves, the said corner tiles being alternately arranged at right angles to each other and having vertical passages therein, the overlapping ends of the tiles having their passages in vertical alinement, the grooved side faces of alternate tiles abutting the ends of respective ones of the course tiles and the grooved end faces of the other corner tiles abutting the ends of the respective course tiles.

7. In a building structure, a plurality of courses of hollow course tiles forming the adjacent walls of the structure and having horizontal passages extending in alinement throughout the length of each course, and other tiles laid at the corner between the walls and each having vertical passages formed therein, the corner tiles being arranged with their ends, next to the corner, overlapped whereby to provide a vertical passage extending the height of the structure, and a rain gutter having a down branch opening through one wall of one of the said corner tiles and communicating with the said vertical passage, the course tiles being formed in their upper and under sides with water-conducting grooves, which grooves of certain of the tiles are in communication with the other passages of adjacent corner tiles.

In testimony whereof I affix my signature.

JOHN ALVIN O'DONNELL. [L. S.]