W. E. WILSON.

WALL CONSTRUCTION.

APPLICATION FILED MAR. 14, 1912.

**1,234,990.** Patented July 31, 1917.

*Fig. 5.*

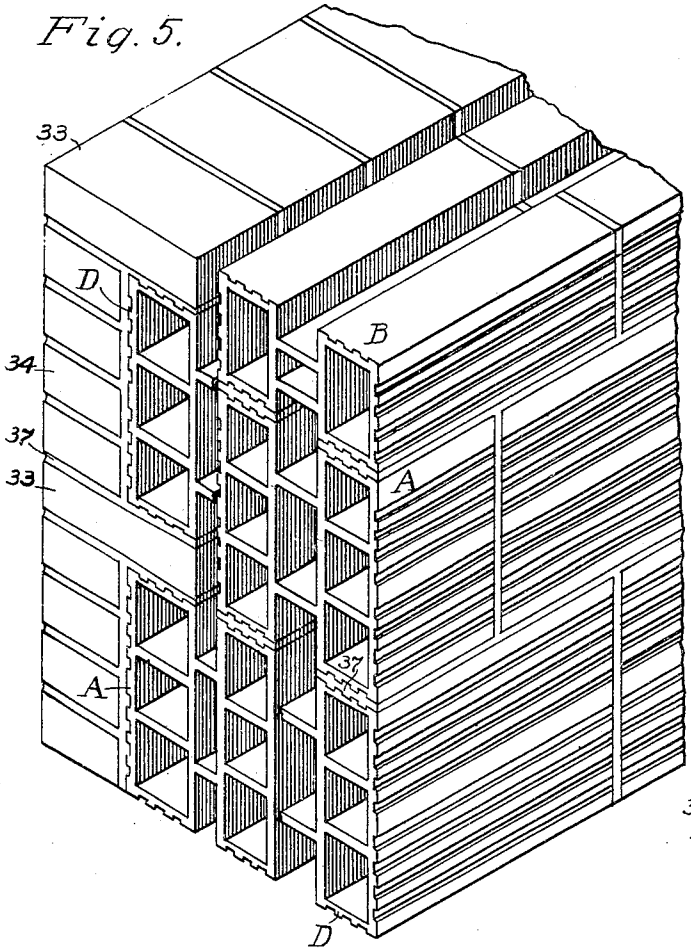



*Fig. 6.*

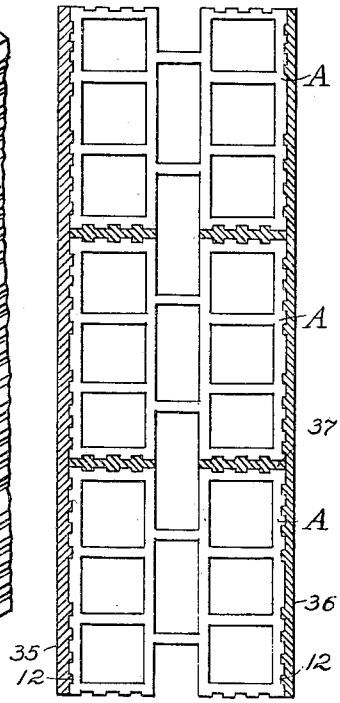



*Fig. 1.*

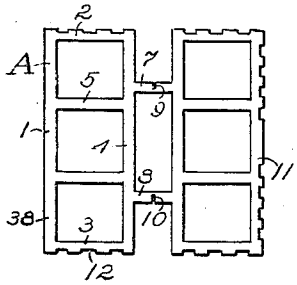



*Fig. 3.*

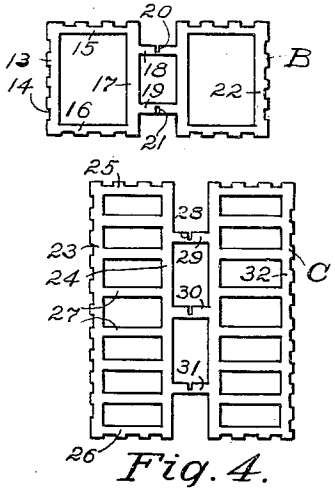
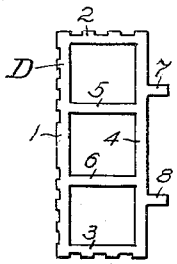



*Fig. 4.*

*Fig. 2.*




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# UNITED STATES PATENT OFFICE.

WILLIAM E. WILSON, OF MASON CITY, IOWA.

## WALL CONSTRUCTION.

1,234,990. Specification of Letters Patent. Patented July 31, 1917.

Application filed March 14, 1912. Serial No. 683,810.

*To all whom it may concern:*

Be it known that I, WILLIAM E. WILSON, a citizen of the United States of America, and a resident of Mason City, Cerro Gordo county, Iowa, have invented certain new and useful Improvements in Wall Construction, of which the following is a specification.

My invention relates to improvements in wall construction, and the objects of my improvements are these:

First, to provide hollow building-blocks of such an interiorly webbed construction as to coöperate when in a wall or other structure to afford horizontal air-passages therethrough, the vertical webs or walls of the blocks being so located and superposed with relation to each other as to form vertically continuous supporting means within the wall or structure; second, my improvement lies in so forming the parts of the blocks as to have their horizontal connecting mortar-joints discontinuous, with the component horizontal elements of the blocks also horizontally discontinuous, to prevent seepage of moisture through such parts and through the wall or structure; third, to provide such blocks with such rugations or striations on one or more of their outer walls as will afford engaging-means for a mortar joint or stucco coat thereupon, and lastly, to so modify and subdivide blocks of the above description, as to permit of their coöperation when assembled in a wall or other structure, to properly ligate the parts thereof, and furnish means for bonding the structure to a facing of brick or other material having binding projections or parts adapted to co-engage therewith in desired relations or combinations.

These objects I have accomplished by the means which are hereinafter described and claimed, and which are illustrated in the accompanying drawings, in which:

Figure 1 is an end elevation of one of my improved building-blocks, showing its inner division-means for separating its interhollow into a plurality of parallel air-passages.

Fig. 2 is an end elevation of one half of the block shown in Fig. 1, the block being divided along medial longitudinal lines along the webs connecting its two hollow members.

Fig. 3 is an end elevation of a modified form of the block shown in Fig. 1, of one half the height of the latter.

Fig. 4 is an end elevation of another modified form of the block shown in Fig. 1, but exhibiting the same principles of construction.

Fig. 5 is a perspective view of a portion of a wall structure in which the building-blocks of my invention are assembled and co-engaged into a structural whole with a facing of assembled and connected bodies of another kind.

Fig. 6 is an end elevation of a plurality of superposed building-blocks of the kind shown in Fig. 1, showing sections of facing stucco and plaster as applied to their oppositely-located vertical striated surfaces.

Similar characters and numerals of reference denote corresponding parts throughout the several views.

I have shown the several building-blocks A, B, C and D, of varied forms and dimensions, but employing the same principles of construction.

The block A is formed in similar members or halves of hollow rectangular form, as shown at 1 and 11, being oblong with walls 1, 2, 3 and 4, each member having its longer vertical walls 1 and 4 connected by integral horizontal parallel webs 5 and 6 of a similar thickness, to provide a plurality of similar horizontal air-passages therethrough. Said members are spaced apart but connected integrally together by the horizontal spaced-apart webs 7 and 8, said webs being also spaced apart from the ends of the members to a distance one half the height of the interspace between the webs, so that when another block of the same kind is placed in superposition thereon there will be a plurality of horizontal air-passages between the members of the blocks of the same dimensions. The webs 7 and 8 between the members 1 and 11 are, however, preferably made discontinuous with the inner webs 5 and 6 of said members by offsetting them relative thereto, to thereby prevent seepage of moisture through the block.

It will be observed that each inner web 7 and 8 may be formed with a narrow relatively deep medial longitudinal groove such as is shown at 9 and 10 in the block A, at 20 and 21 in the inner webs 18 and 19 of the block B, and at 28 in the inner webs 29, 30 and 31 of the block C, like a saw kerf, for the following purpose if desired. When it becomes necessary to assemble in a structure a half block D, in order to cause it to co-

engage and become bonded between inwardly projected bonding bricks or blocks 33 of a facing layer 33—34, as is shown in Fig. 5, such a half block D may be quickly and conveniently supplied, by simply dividing a block A along lines of fracture indicated by the kerfs or grooves in the inner webs between the members 1 and 11 above described. These kerfs 9 and 10 guide the fracture and insure an exact division of the block on the medial lines desired.

The block C is similar to the block A externally, but may be of greater height, since it is supplied with a larger number of webs 27 between its walls 23, 24, 25 and 26 of its spaced-apart like members 23 and 32, while it has a larger plurality of inner webs 29, 30 and 31 integrally connecting its said members, the latter webs being discontinuous with the other said webs for a like purpose as above described.

The block B is furnished in one-half the height of the block A and is of similar external form, but has no webs connecting the walls 13, 15, 16 and 17 of its members 13 and 22, but has spaced-apart webs 18 and 19 between its members, also spaced apart from the ends of the members. The block B is used in a structure, as shown in Fig. 5, to complete a pile of blocks A in superposition to a desired height or level relative to the other parts of the structure. A corner jamb or bonding block of any desired or usual form or structure may be used in assemblage with the other said blocks as suitable and desired, and which will effectually bond therewith in place.

In the structure shown in Fig. 5, it will be observed, that an outer facing of brick 33—34 or like bodies of other material is used, in which the bonding-bricks 33 are separated by spaces each equal to the height of a block A plus the mortar-joints 37. When a different number of blocks 34 are to be superposed between the blocks 33, such as six of them instead of the four shown, the interspace between the inwardly-projecting ends of the blocks 33 may be filled up by placing a half-block D upon the block B, said half-block D being secured by simply dividing the block A along the medial longitudinal kerfs 9 and 10 of its inner webs 18 and 19, the projecting halves of the webs then acting as spacing and supporting members against the adjacent face of the tier of blocks A—B.

When such blocks are thus built into a wall or other structure, the air-passages of the blocks register to form a plurality of communicating openings or channels, interrupted vertically by the walls and inner webs of the blocks. Since the blocks are laid with their interspaces horizontal, their upper and lower sides form discontinuous joints for mortar connections 37, and moisture may not therefore follow the mortar joints through the structure, while a maximum amount of flat horizontal surface for the application of the plaster is attained, and the plaster may be spread as the blocks are lifted and superposed, with a minimum of labor and expenditure of time. When the blocks are so superposed and in vertical registration in a structure, the vertical walls of the blocks register in vertical alinement, thus producing a body of the maximum rigidity and strength.

In Fig. 6 is shown a plurality of the blocks A superposed and connected by mortar joints. The outer faces of the blocks have each a plurality of longitudinal furrows or striations 12. A stucco coat 35 may be applied to said structure and enters and engages the striations 12, as also does a plaster coat 36 on the opposite side of the structure. The striations thus lock the mortar coat, or a mortar-joint such as that shown at 37 in Fig. 5 firmly to the coacting blocks, to prevent horizontal or other displacement thereof. Such striations may be placed on one or more of the faces of a block as desired for the purposes used.

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

1. A structure formed of blocks of burnt clay tile or the like, in which certain of the blocks are alike and superposed in a vertical alinement in registration, each block being formed in spaced apart parts connected by spaced apart horizontal webs which are spaced apart from the ends of the block, said parts having side and end walls with the side walls connected by spaced apart webs discontinuous with the webs between said parts, and a supplemental block or blocks adapted to be ranged alongside the other superposed blocks and spaced apart from each other to admit a binding-block or blocks from a facing layer between them, each of said supplemental blocks being a half block of the first-mentioned type, divided along the medial longitudinal lines of the horizontal webs between the parts thereof, the half-webs remaining on said supplemental blocks being adapted to space the latter apart from said alined tier of whole blocks.

2. A structure formed of blocks of burnt clay tile or the like, in which certain of the blocks are alike and superposed in a vertical alinement in registration, each block being formed in spaced apart parts connected by spaced apart horizontal webs which are spaced apart from the ends of the block, said parts having side and end walls with the side walls connected by spaced apart webs discontinuous with the webs between said parts, a supplemental block superposed upon said tier of blocks being of the same

horizontal dimensions but being one-half the height of the first-described block, and formed in two spaced apart parts connected by horizontal spaced apart webs spaced apart from the ends of the block, the vertical walls of all said blocks being in vertical alinement with each other respectively with their mortar joints discontinuous, and a supplemental block or blocks adapted to be ranged alongside the other superposed blocks and spaced apart from each other to admit a binding-block or blocks from a facing-layer between them, each of said supplemental blocks being a half-block of the first-mentioned type, divided along the medial longitudinal lines of the horizontal webs between the parts thereof, the half-webs remaining on said supplemental blocks being adapted to space the latter apart from said alined tier of blocks, but being discontinuous with the webs of the said tier of blocks.

3. A structure formed of blocks of burnt clay tile or the like, in which certain of the blocks are alike and superposed in a vertical alinement in registration, each block being formed in spaced apart parts connected by spaced apart horizontal webs which are spaced apart from the ends of the block to provide horizontal channels between the webs of the same dimensions, said parts having side and end walls connected by spaced apart webs discontinuous with the webs between the parts and having horizontal channels of the same dimensions between the webs, and a supplemental block or blocks adapted to be ranged alongside the other superposed blocks, each of said supplemental blocks being a half block of the first-mentioned type, divided along the horizontal webs between the parts thereof.

4. A structure formed of blocks of burnt clay tile or the like, in which certain of the blocks are alike and superposed in a vertical alinement in registration, each block being formed in spaced apart parts connected by spaced apart horizontal webs which are spaced apart from the ends of the block, said parts having side and end walls connected by spaced apart webs discontinuous with the other said webs, and a supplemental block or blocks adapted to be ranged alongside the other superposed blocks, each of said supplemental blocks being a half block of the first-mentioned type, divided vertically, with the webs and motar-joints thereof discontinuous horizontally with the webs and mortar-joints of the first-mentioned blocks.

5. A building tile designed to be placed in a wall with its air space extending horizontally comprising two rectangular lobes each having a vertical web at its outer and inner edges, the tops and bottoms of said lobes being parallel, horizontal webs connecting said lobes extending the length thereof and spaced apart more than half the height of the tile whereby a broad bearing is afforded between the lobes to resist shear strains and an air space is provided intermediate the lobes.

6. A building tile designed to be placed in a wall with its air space extending horizontally, comprising two rectangular lobes of the same size, each having a vertical web at its inner and outer edges, and a mortar bed at its top and bottom, whereby either lobe of a tile may be superposed upon a lobe of the tile below in such a fashion that the vertical webs of said lobes will be in alinement, and horizontal webs spaced apart more than half the height of said tile to connect said lobes.

7. A building tile designed to be laid into a wall with its air spaces extending horizontally and comprising two rectangular lobes of the same size and spaced apart to afford two spaced mortar beds of equal size at their tops and bottoms, said lobes having vertical webs at their inner and outer edges respectively, and spaced horizontal webs connecting said lobes to afford a broad bearing to resist shear strains, whereby a superposed tile may be used to bridge two subjacent lobes with all vertical webs in alinement.

8. A building tile comprising two hollow lobes of substantially the same thickness, spaced apart by webs forming a continuous central horizontal air passage and providing two continuous horizontal mortar beds in the same plane, and adapted to bridge two subjacent like tile with vertical webs in alinement.

Signed at Waterloo, Iowa, this 26th day of Feb., 1912.

WILLIAM E. WILSON.

Witnesses:
W. H. BRUNN,
GEO. C. KENNEDY.