L. B. GREEN.

HOLLOW BUILDING TILE.

APPLICATION FILED NOV. 22, 1919.

1,365,825.

Patented Jan. 18, 1921.

2 SHEETS—SHEET 1.

Fig. 1

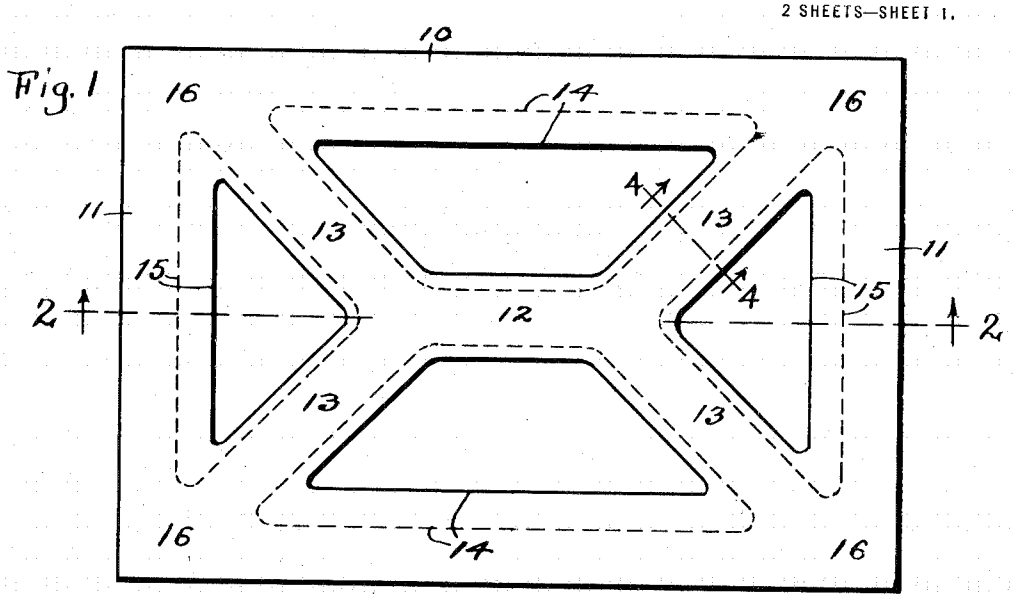


Fig. 2

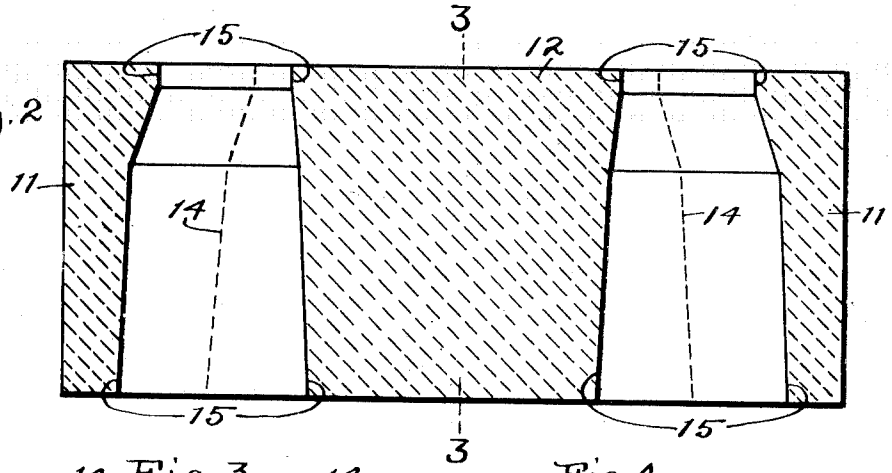


Fig. 3

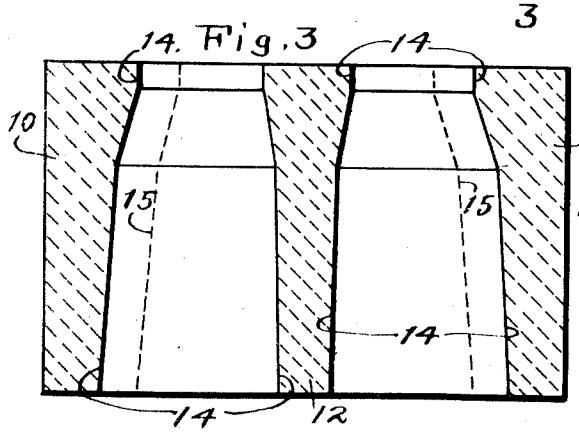
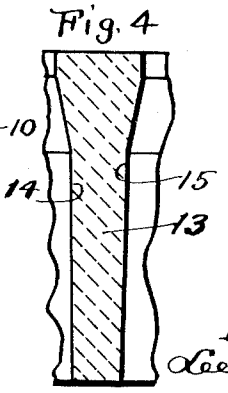


Fig. 4



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2 SHEETS—SHEET 2.

Fig. 5.

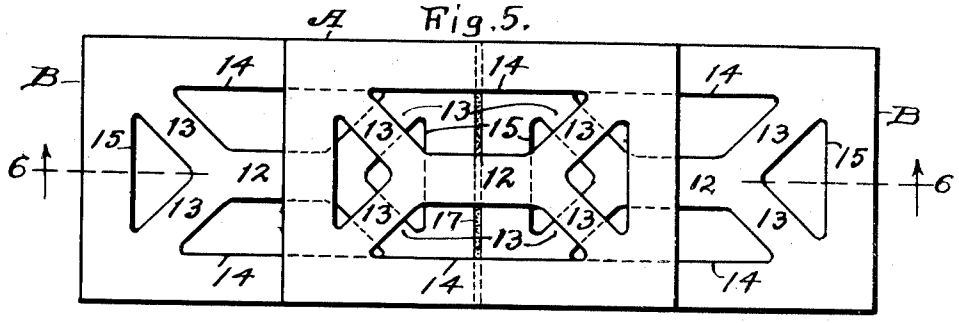


Fig. 6.

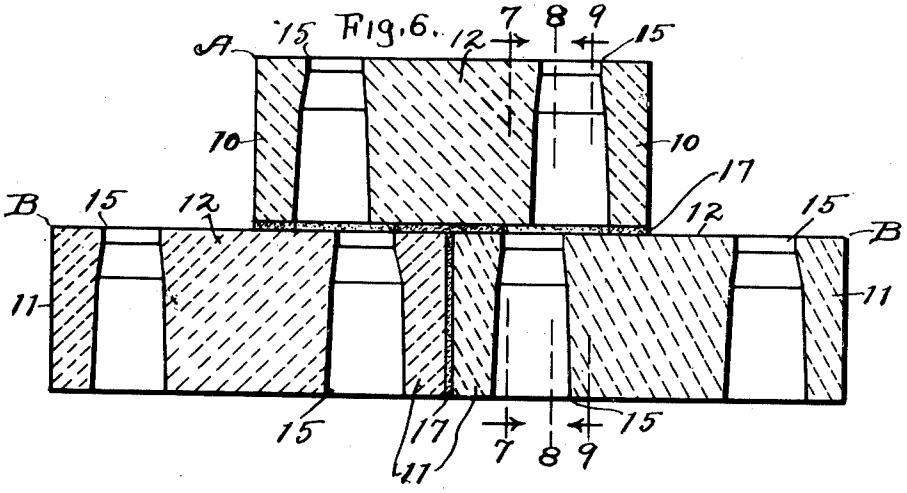


Fig. 7.

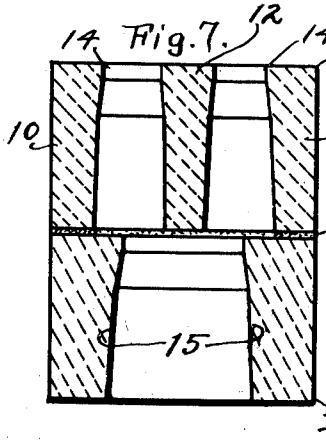


Fig. 8.

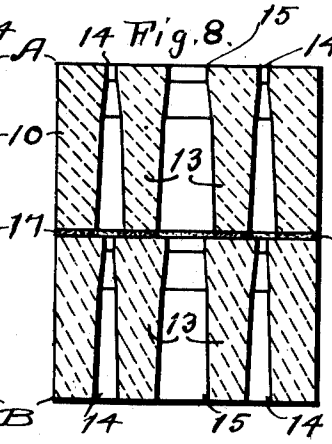
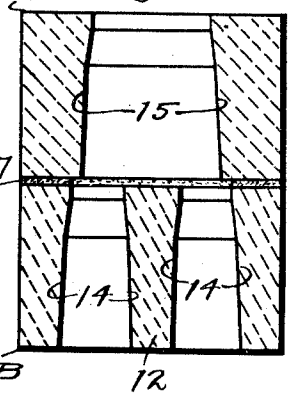


Fig. 9.



Inventor.
Lee B. Green

By [signature] N. Dorer
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UNITED STATES PATENT OFFICE.

LEE B. GREEN, OF CLEVELAND, OHIO, ASSIGNOR TO THE FEDERAL MACHINE PRODUCTS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

HOLLOW BUILDING-TILE.

1,365,825. Specification of Letters Patent. Patented Jan. 18, 1921.

Application filed November 22, 1919. Serial No. 339,803.

To all whom it may concern:

Be it known that I, LEE B. GREEN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Hollow Building-Tile, of which the following is a specification.

This invention relates to improvements in hollow building tiles adapted for use in the construction of walls and foundations of buildings, tunnels and other structures, and pertains more especially to an improved building element which is rectangular in plan and made of concrete, terra cotta, clay or other plastic or cementitious material, in a mold.

One object of this invention is to produce a hollow tile which is remarkable for its great load-carrying capacity for any given amount of material used in making the tile.

Another object is to produce a hollow tile which not only has a solid central portion but has the corner portions of the tile efficiently braced from said central portion and has said central portion correspondingly braced from said corner portions.

Another object is to have said tile not only formed with air spaces between said central portion and the exterior upright surfaces of the tile, but to have said air spaces so relatively arranged that moisture is uniformly distributed to said central portion from the different corner portions of the tile.

Another object is to enhance the efficiency of said air spaces and to have every portion of the tile adequately benefited by said air spaces.

Another object is to produce a hollow tile of the character indicated which has improved top and bottom bearing surfaces materially contributing to the desired load-carrying capacity of the tile.

With these objects in view, and to attain any other object hereinafter appearing, this invention consists in a hollow building tile having the peculiarities hereinafter described in this specification, pointed out in the claims, and illustrated in the accompanying drawings.

In said drawings, Figure 1 is a top plan of a hollow building tile embodying my invention. Fig. 2 is a central longitudinal section taken along the line 2—2, Fig. 1. Fig. 3 is a central transverse section taken along the line 3—3, Fig. 2. Fig. 4 is a vertical section taken along the line 4—4, Fig. 1, looking in the direction indicated by the arrow. Fig. 5 is a top plan showing the tile illustrated in Fig. 1, as lying on the adjacent portions of two alined tiles which correspond with the superposed tile. Fig. 6 is a vertical section taken along the line 6—6, Fig. 5. Figs. 7, 8 and 9 are transverse vertical sections taken along the line 7—7, line 8—8 and line 9—9, respectively, Fig. 6. Figs. 5, 6, 7, 8 and 9 are drawn on a smaller scale than Figs. 1, 2, 3 and 4.

Referring to Figs. 1 and 3 of said drawings, 10 indicates the two substantially vertical and substantially parallel spaced side walls of a hollow building tile which embodies my invention and is rectangular in plan, and 11 (see Figs. 1 and 2) indicates the two substantially vertical and substantially parallel spaced end walls of said tile, and said end walls are arranged at a right angle to the aforesaid side walls. Said tile comprises a substantially vertical longitudinal partition 12 arranged centrally between and spaced from the side walls 10 and arranged centrally between and spaced from the end walls 11, and said partition is arranged substantially at a right angle to said end walls and consequently substantially parallel with said side walls.

Between each end of each side wall 10 and the adjacent end of the central partition 12 is a substantially vertical diagonally arranged partition 13. The diagonal partitions 13 (see Fig. 1) are therefore four in number, and preferably two of said diagonal partitions extend from opposite ends respectively of the central partition 12 and diverge toward and connect with opposite ends respectively of one of the side walls of the tile, and the remaining two diagonal partitions diverge toward and extend to opposite ends respectively of the other of said side walls from opposite ends respectively of said central partition.

It will be observed that a tile having a central partition 12 and diagonal partitions 13 relatively arranged, as hereinbefore described, (see Figs. 1, 2 and 3) has two air spaces 14 formed at the inner side of opposite side walls 10 respectively of the tile and two air spaces 15 formed at the inner side of opposite end walls 11 respectively of the tile, and that the diagonal partitions 13 form walls of said air spaces. Preferably

each diagonal partition 13 forms a wall of one of the air spaces 14 and a wall of one of the air spaces 15. (See also Fig. 4.) The walls 10 and 11, the partitions 12 and 13, and the air spaces 14 and 15 extend from top to bottom of the tile, and 16 (see Fig. 1) indicates the four corner portions of the tile.

I would have it understood that my invention embraces broadly any hollow building tile or building element which is quadrangular in plan and has four diagonal partitions extending from the different corner portions 16 respectively of the tile toward the central portion of the tile, and it will be observed that the diagonal partitions 13 brace the central partition 12 from the corner portions 16 and brace said corner portions from said central partition. Generally my improved tile is rectangular in plan as shown in Fig. 1 in which the two air spaces 14, formed at opposite sides respectively of the central partition 12, are larger than the two air spaces 15 formed opposite the ends of said central partition.

In constructing a wall of a building the tile illustrated in Figs. 1, 2, 3 and 4 is placed over the adjacent end portions of two longitudinally alined tiles, and in Figs. 5, 6, 7, 8 and 9 A indicates the superposed tile, and B indicates the underlying tiles which of course correspond with the superposed tile A and have their central partitions 12 in line endwise. Preferably the larger air spaces 14 of my improved tile extend into the end portions of the tile, and the two smaller air spaces 15 of the tile are formed wholly in opposite end portions respectively of the tile, and each of said smaller air spaces extends between the adjacent ends of the aforesaid larger air spaces, so that the tile, when placed (see Figs. 5, 6, 7, 8 and 9) in the position of the superposed tile A in relation to the underlying tiles B, not only has its central partition 12 arranged to rest (see Figs. 5 and 6) on adjacent end portions of said alined underlying tiles and has its diagonal partitions 13 (see Figs. 5 and 8) arranged to extend transversely of and rest on the diagonal partitions 13 of adjacent portions of said underlying tiles, but has each larger air space 14 thereof (see Figs. 5 and 7) communicating with the air spaces 15 in said portions of said underlying tiles and in communication (see Figs. 5 and 8) with the adjacent air spaces 14 of said underlying tiles, and has each of its smaller air spaces 15 (see Figs. 5, 6, and 8) communicating with the air space 15 in the adjacent end portion of the adjacent underlying tile and (see Figs. 5 and 9) with both air spaces 14 of the last-mentioned tile. In Figs. 5, 6, 7, 8 and 9 mortar 17 is shown forming the joints between adjacent tiles.

By the tile herinbefore described and illustrated in the accompanying drawings the hereinbefore stated objects of my invention are successfully attained, and obviously a wall constructed of tiles embodying my invention is well ventilated and has great strength and durability.

I would also remark that not unimportant, to facilitate the manufacture of my improved tile, is the extension of the four diagonal partitions of the tile inwardly from the different corner portions respectively of the tile, and of vast importance, to the production of said tile of maximum strength, is the arrangement of the two diagonal partitions of each end portion of the tile substantially at right angles to each other, so that, when the tile is placed, as shown in Fig. 5, in the position of the superposed tile A in relation to the underlying tiles B, each diagonal partition of each end portion of said superposed tile and the adjacent diagonal partition of the adjacent end portion of the underlying tile extending under said end portion of said superposed tile lie across each other substantially at right angles.

What I claim is—

1. In a hollow building tile which is substantially rectangular in plan, a longitudinal partition arranged centrally between the sides and centrally between the ends of the tile and substantially parallel with said sides, and diagonal partitions extending from said central partition to the different corner portions respectively of the tile, the diagonal partitions of each end portion of the tile extending from top to bottom of the tile and being substantially at right angles to each other.

2. In a hollow building tile which is rectangular in plan, a portion centrally of the tile and four diagonal partitions extending from the different corner portions respectively of the tile toward the central portion and from top to bottom of the tile, said tile having said partitions, upon laying the tile on adjacent portions of two longitudinally alined tiles which correspond with the superposed tile, arranged to extend transversely of and rest on diagonal partitions of said alined tiles.

3. In a hollow building tile which is substantially rectangular in plan, four diagonal partitions extending inwardly from the different corner portions respectively of the tile and from top to bottom of the tile, adjacent diagonal partitions being arranged substantially at right angles to each other, and said tile, upon laying it upon adjacent end portions of two longitudinally alined tiles which correspond with the superposed tile, having its diagonal partitions arranged to lie across the diagonal partitions of adjacent portions of said alined tiles substantially at right angles.

4. In a hollow building tile which is quadrangular in plan, a substantially vertical

partition arranged centrally of the tile and substantially parallel with two opposite upright walls of the tile, and four substantially vertical partitions extending from said central partition toward the different corner portions respectively of the tile, said tile, upon laying it on adjacent portions of two alined tiles which correspond with the superposed tile and are arranged with their central partitions in line endwise, having its diagonal partitions arranged to extend transversely of and rest on the diagonal partitions of adjacent portions of said alined tiles and having its central partition arranged to rest on adjacent portions of said alined tiles.

5. In a hollow building tile which is substantially rectangular in plan, a longitudinal partition arranged centrally between the sides and centrally between the ends of the tile, and diagonal partitions extending from the ends of said central partition to the corner portions of the tile, there being two air spaces formed at opposite sides respectively of the central partition and extending into the end portions of the tile, there being formed wholly in each end portion of the tile a smaller air space arranged between the adjacent ends of the first-mentioned and larger air spaces, said air spaces extending from top to bottom of the tile, and each end portion of the tile having the air space which is formed wholly in said end portion in communication, upon laying the tile on adjacent end portions of two longitudinally alined tiles which correspond with the superposed tile, with the larger air spaces in the tile which underlies said end portion of the superposed tile and also in communication with the adjacent air space formed wholly in the adjacent end portion of said underlying tile.

6. In a hollow building tile which is substantially rectangular in plan, a longitudinal partition arranged centrally between the sides and centrally between the ends of the tile, and partitions extending from the ends of said central partition to the corner portions of the tile, there being two air spaces formed at opposite sides respectively of the central partition and extending into the end portions of the tile, there being formed wholly in each end portion of the tile a smaller air space arranged between the adjacent ends of the first-mentioned and larger air spaces, said air spaces extending from top to bottom of the tile, said tile having each larger air space therein, upon laying the tile over adjacent end portions of two longitudinally alined tiles which correspond with the superposed tile, communicating with the air spaces formed wholly in said end portions of said underlying tiles and in communication with the larger air spaces of said underlying tiles.

7. In a hollow building tile which is substantially rectangular in plan, a longitudinal partition arranged centrally between the sides and centrally between the ends of the tile, and diagonal partitions extending from said central partition to the corner portions of the tile, there being two air spaces formed at opposite sides respectively of the central partition and extending into the end portions of the tile, there being formed wholly in each end portion of the tile a smaller air space arranged between the adjacent ends of the first-mentioned and larger air spaces, said air spaces extending from top to bottom of the tile, said tile having each larger air space, upon laying the tile over adjacent end portions of two longitudinally alined tiles which correspond with the superposed tile, communicating with the air spaces formed wholly in said end portions of said underlying tiles and in communication with the larger air spaces of said underlying tiles, and having the smaller air space in each end portion of the tile adapted to communicate with the larger air spaces in the tile which underlies said end portion of the superposed tile and with the air space formed wholly in the adjacent end portion of said underlying tile.

In testimony whereof, I sign the foregoing specification, in the presence of two witnesses.

LEE B. GREEN.

Witnesses:
BASIL F. JOHNSON,
HELEN M. DORER.