L. K. DAVIS.

BUILDING CONSTRUCTION.

APPLICATION FILED JUNE 7, 1907.

915,664.

Patented Mar. 16, 1909.

FIG. 1

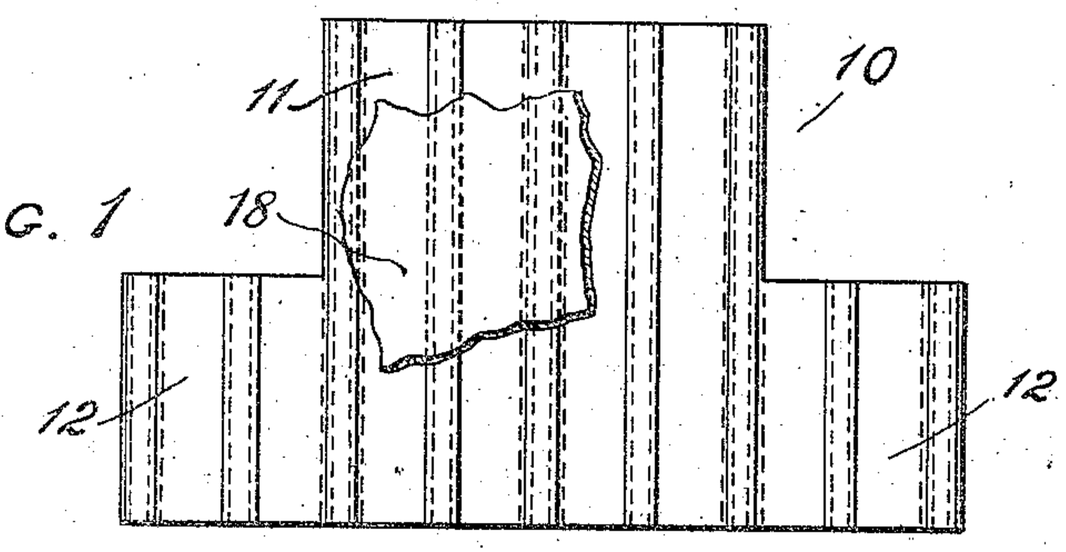
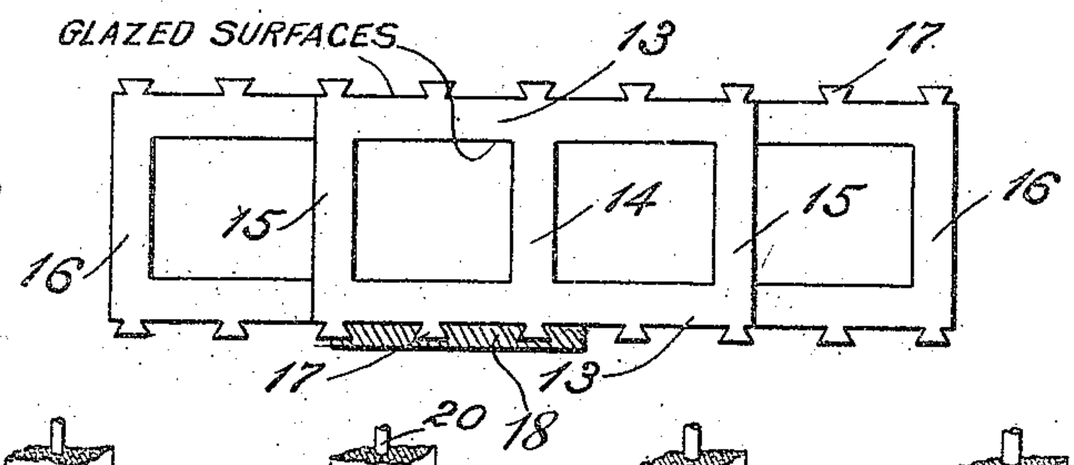


FIG. 2



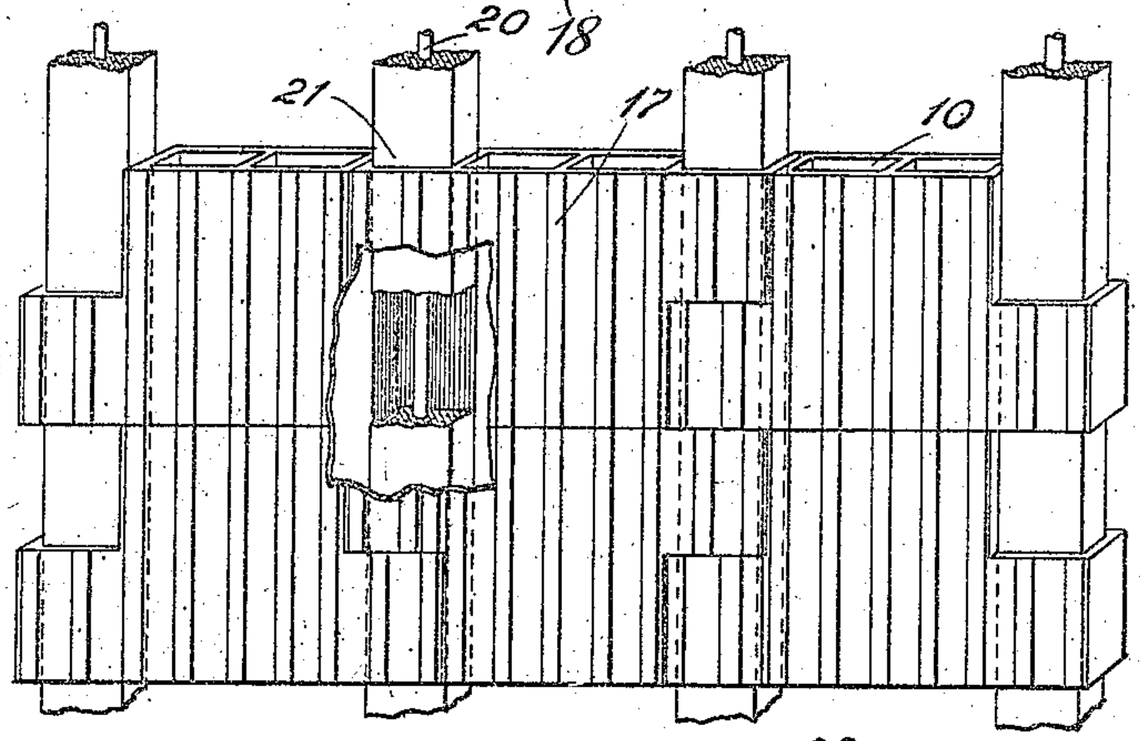


FIG. 3

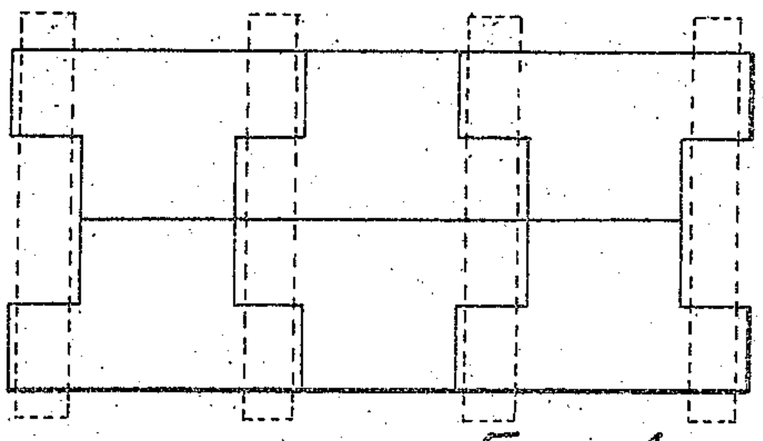


FIG 4

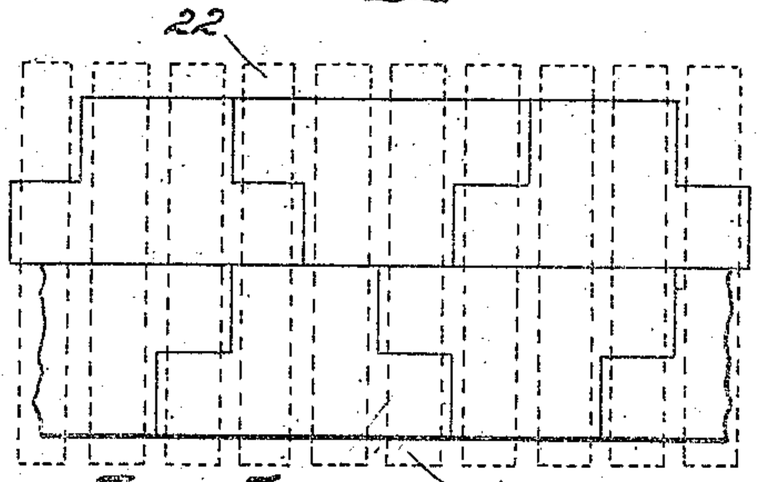


FIG. 5

WITNESSES:

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BUILDING CONSTRUCTION.

No. 915,664. Specification of Letters Patent. Patented March 16, 1909.

Application filed June 7, 1907. Serial No. 377,749.

To all whom it may concern:

Be it known that I, LEWIS K. DAVIS, a citizen of the United States, and a resident of the city of New York, in the county of New York and State of New York, United States of America, have invented certain new and useful Improvements in Building Construction, of which the following is a specification.

My invention relates to an improvement in systems of building construction and its object is to provide a simple and inexpensive fireproof construction for walls or other structures.

I will describe my invention in the following specification and point out the novel features thereof in claims.

Referring to the drawings, Figure 1 is a side elevation of a new form of building block which I have invented. Fig. 2 is a plan view of the same. Fig. 3 is a perspective view of a portion of a wall made according to my invention with one part broken away to more clearly illustrate the manner in which it is constructed. Figs. 4 and 5 illustrate diagrammatically two other methods by which walls may be built up of these blocks.

Like characters of reference designate corresponding parts in all of the figures.

10 designates a tile having a rectangular body portion 11 extending vertically throughout its height, and two portions 12, 12 projecting horizontally from the same end but from opposite sides of this body portion and extending vertically through substantially one half of the height of the block. 13, 13 designate the sides of the block. Both the bodies and projecting portions of these blocks are made hollow and are constructed to have openings running through them vertically. A vertically disposed rib 14 may be placed transversely across the center of the block thus dividing the body portion into two separate chambers which are inclosed by the sides 13, 13 of the block and by the ends 15, 15 of its body portion. These ends 15, 15 of the body portion of the block and the ends 16, 16 of the projecting portions, together with the sides 13, 13 of the block, inclose the vertical openings through the projecting portions.

The blocks may be constructed of ceramic material such as vitrified clay. After the blocks have been constructed in the desired form and baked in the usual manner, they may be subjected to some treatment to render their outer surfaces impervious to moisture. I prefer to salt-glaze them for this purpose. As glazing makes a surface to which plaster and similar material will not adhere, I prefer to make both of their sides 13, 13 with binding surfaces. This may be done in many ways; for example, by providing upon these surfaces a plurality of parallel flaring ribs 17, 17. The blocks thus made are light in weight, as the material of which they are constructed is more or less porous. Glazing their surfaces not only renders them impervious to moisture, but also greatly increases their strength.

The usual manner of using these blocks is illustrated in Fig. 3. From this figure it may be seen that in any given horizontal layer the adjacent blocks are inverted to each other, and that their projecting portions overlap either above or below the similar projecting portions of its adjacent blocks. The other horizontal rows are similarly built up with the projecting portions of the blocks overlapping one another and in vertical alinement with the projecting portions of the blocks in the other rows.

Rods or pipes 20 are placed within the openings in the projecting portions of the blocks, and these openings are filled with cement or concrete 21. This is done when the concrete is in a semi-liquid condition so that it may be poured into the desired chambers within the blocks. The cement or concrete will harden within these chambers, thus forming vertical columns which are entirely surrounded by the vitrified material of the blocks and thus become portions of the wall itself. These vertical concrete columns securely lock the blocks together both horizontally and vertically. A wall thus constructed may have its inner and outer surfaces covered with stucco or plaster or similar material, and the projecting ribs 17 will enable such material to firmly cling to the surface of the blocks. In Figs. 1 and 2 such material is shown applied to one of the blocks at 18. Such a wall is easily and quickly set up. It is constructed to be honeycombed with a plurality of vertical hollow chambers, and as only one out of every three of these chambers is filled by the concrete columns, the others form air spaces within the walls.

In Fig. 4 I have shown another manner in which the blocks may be set up, and in Fig. 5 a still further modification of wall construction is illustrated. In this latter figure the blocks are staggered and all of the internal chambers within the blocks are filled by concrete columns which run through the wall in the positions indicated at 22 by dotted lines.

I am aware that hollow building tiles have been used for the purpose of building walls. Those heretofore used, however, have been capable of absorbing moisture to such an extent that they will transmit it horizontally through the walls so that it has been necessary to provide furring with an air-space between the inner surface of the tiles and the plaster to prevent discoloration of the interior decorations. Such structures are damp and unhealthful.

This construction provides in a simple and efficient manner a structure which is light and strong, impervious to moisture and absolutely fireproof.

The present invention is a modification of a construction which I have invented and for which I have made application for Letters Patent of the United States, which application was filed by me May 19th, 1906, and bears the Serial Number 317,729.

What I claim is.—

1. A wall comprising a plurality of blocks having hollow bodies, hollow portions projecting from opposite sides of one end of said bodies and overlapping similar portions of adjacent blocks of the same row, and binding surfaces upon the sides of said blocks; and a plurality of continuous columns of concrete, said concrete columns passing through the overlapping portions of the blocks and being surrounded thereby.

2. A wall comprising a plurality of blocks having hollow bodies, hollow portions projecting from opposite sides of one end of said bodies and overlapping similar projecting portions of adjacent blocks in the same layer, and binding surfaces on either side; a plurality of continuous vertical columns of concrete, metallic reinforcement within said columns, said columns being arranged to fill the hollow overlapping portions of all of the blocks and to be surrounded thereby, and to thereby bind the blocks horizontally and vertically together.

3. A wall comprising a plurality of hollow blocks, each of said blocks having a body in the form of a hollow shell open at the top and bottom, hollow portions projecting horizontally from opposite sides of one end of said body, said projecting portions extending through one half of the vertical height of the body, said projecting portions being also open at the top and bottom; and a plurality of continuous vertical columns of concrete, metallic reinforcement within said columns, said columns being arranged to fill the hollow projecting portions of all of the blocks and to be surrounded by said projecting portions and to thereby bind the blocks horizontally and vertically together.

4. A wall comprising a plurality of blocks having hollow bodies of absorbent material having salt-glazed non-absorbent surfaces, binding surfaces upon the sides of said blocks, and a finishing plastic upon the binding surfaces; and a plurality of continuous columns of concrete passing through the blocks and surrounded thereby.

5. A wall comprising a plurality of blocks of absorbent ceramic material with salt-glazed non-absorbent surfaces having hollow bodies and binding surfaces on either side, a finishing plastic upon said surfaces, a plurality of continuous vertical columns of concrete, metallic reinforcement within the columns, said columns being arranged to fill portions of the hollow bodies of all of the blocks and to be surrounded thereby to bind the blocks horizontally and vertically together.

6. A wall comprising a plurality of hollow blocks of absorbent ceramic material with non-absorbent glazed surfaces, projecting portions upon said surfaces forming binding surfaces thereon, and a finishing plastic upon said binding surfaces.

7. A wall comprising a plurality of blocks, each having a pair of oppositely projecting vertically hollow portions overlapping similar portions of abutting blocks and having an internal surface impermeable to water and provided with means for receiving and retaining a finishing plastic, a finishing plastic, and a plurality of columns of concrete formed in the vertical chambers of the overlapping portions of the blocks after said blocks have been assembled.

8. A wall comprising a plurality of hollow blocks of absorbent ceramic material with non-absorbent surfaces, each of said blocks having a body in the form of a hollow shell open at the top and bottom, a pair of oppositely projecting vertically hollow portions of abutting blocks, said projecting portions being also open at the top and bottom, binding surfaces on the sides of the body and of the projecting portions thereof; a plurality of continuous vertical columns of concrete, metallic reinforcement within said columns, said columns being arranged to fill the hollow projecting portions of all of the blocks, and to be surrounded by said projecting portions and to thereby bind the blocks horizontally and vertically together.

9. A wall comprising a plurality of hollow blocks of absorbent ceramic material having a non-absorbent glazed surface, a projecting portion or portions upon said block forming

a binding surface thereon, and a finishing plastic upon said surface.

10. A building block of absorbent ceramic material having a non-absorbent glazed surface and having projecting means forming a binding surface upon said glazed surface of the block adapted to hold a plastic thereon.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LEWIS K. DAVIS.

Witnesses:

ERNEST W. MARSHALL,

ELLA TUCH.