

W. H. BURK.
HOLLOW TILE.
APPLICATION FILED JAN. 25, 1911.

1,062,077.

Patented May 20, 1913.

2 SHEETS-SHEET 1.

Fig. 1.

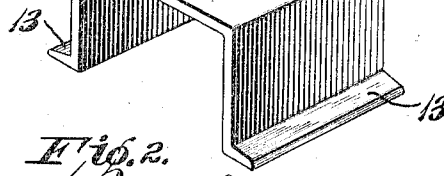
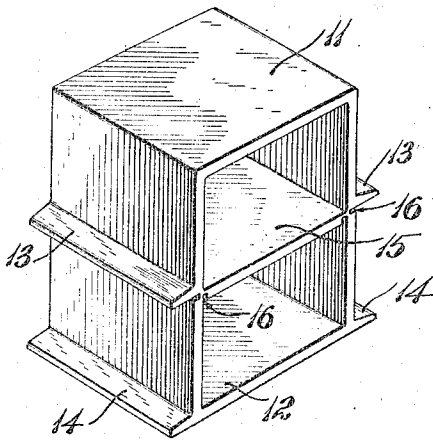


Fig. 2.

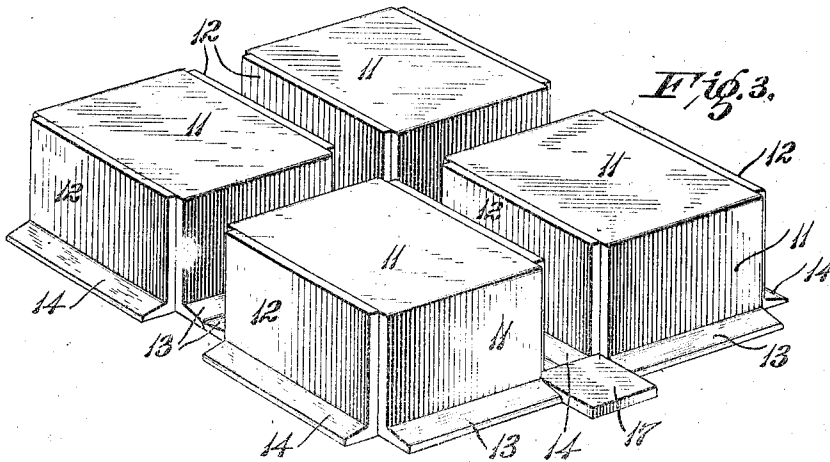
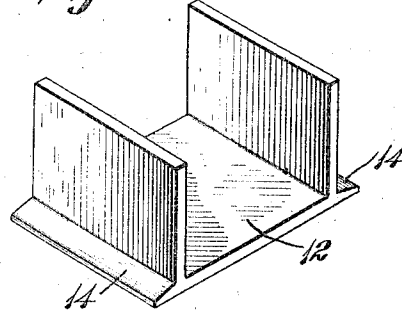


Fig. 3.

Witnesses:

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Inventor:

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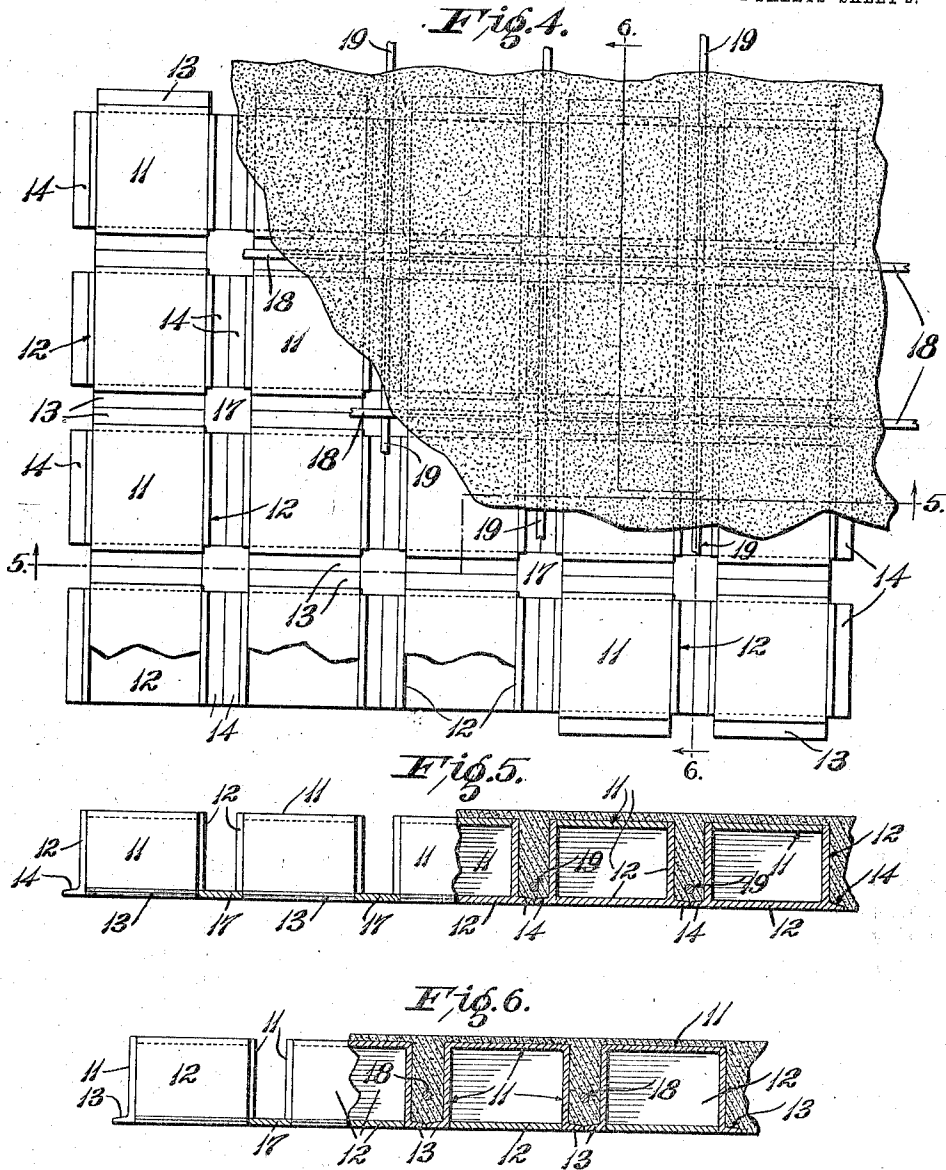
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2 SHEETS—SHEET 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM H. BURK, OF ST. LOUIS, MISSOURI.

HOLLOW TILE.

1,062,077.

Specification of Letters Patent.

Patented May 20, 1913.

Application filed January 25, 1911. Serial No. 604,687.

To all whom it may concern:

Be it known that I, WILLIAM H. BURK, a citizen of the United States, and a resident of the city of St. Louis and State of Missouri, have invented a new and useful Improvement in Hollow Tiles, of which the following is a specification.

My invention relates to hollow tiling for use in floors, walls and other parts of structures, and consists in a new and improved form of tile unit adapted to be used with plastic material to form an improved structure.

The objects of my invention are, to lighten the structure without sacrificing strength, to lessen the cost of construction by eliminating much expensive false work or centering and by enabling the work to be done by unskilled labor, and to make the structure damp and cold-proof.

My invention comprises a hollow tile unit formed in two sections so as to be completely inclosed on all sides, and provided with lateral flanges. Such a unit is practically impervious to moisture, and is an excellent non-conductor of heat, and may be used for floors, walls, ceilings, furring, fireproofing and analogous uses in buildings, for paving, for cisterns, wells, bulkheads, chimneys and similar masonry structures.

My invention further consists in the herein described novel arrangement of hollow tile units to form improved heat-insulating and moisture-proof building or masonry structures.

My invention also comprises other improvements as more fully hereinafter set forth in connection with the accompanying drawings, in which like numerals are used to designate like parts throughout the several views, and in which—

Figure 1 is an isometric view of one form of my improved tile in the form in which it is baked; Fig. 2 is an isometric view of the sections of same tile after being broken apart; and Fig. 3 is an isometric view of part of a structure embodying the form of my improved tile illustrated in Figs. 1 and 2. Fig. 4 is a partial plan view of a floor panel embodying my improved tile units with reinforced concrete placed in the spaces between adjacent units; Fig. 5 is a section on line 5—5 of Fig. 4, and Fig. 6 is a section on the line 6—6 of Fig. 4.

The tile sections illustrated in Figs. 2 and 3 of the drawings are molded and baked in the form shown in Fig. 1, consisting of an upper section 11, a lower section 12, and a stiffening member 15, held together by thin webs at 16. The stiffening member may be omitted, and is not necessary with small tiles. Such shape lends itself readily to manufacture in a pug mill or tile forming machine of ordinary type. The webs are thin enough that the baked tile may be cracked in pieces, the piece 15 being discarded. The pieces 11 and 12, when arranged at right angles to each other as shown in Fig. 2 and the part 11 brought down to embrace the part 12, form a hollow tile unit completely closed on all six sides. The sections 11 and 12 are provided with lateral flanges 13 and 14, adapted to form a flange extending substantially all the way around the lower edge of the assembled hollow tile unit as shown in Fig. 3. The form and arrangement of the tiles are such that in assembled relation the side walls of each tile making up a unit snugly embrace the web of the other tile of the same unit, thereby interlocking and securing each other in assembled position.

When the tiles are arranged in rows on a flat surface adjacent one another with flanges in juxtaposition, square spaces at the corners of the tiles between the flanges are left unfilled, and small flat tiles 17 are placed therein in order to completely cover the surface on which the tiles rest. Plastic material may then be placed between the tiles, and such material will neither penetrate to the interior of the tiles, as would be the case if the sides were perforated, nor will it pass through between the tiles onto the supporting surface. Such tiles may be used in floor panels, for example, supported only on skeleton centering, and concrete or other plastic or binding material placed in the spaces between the tiles over the flanges thereof, these flanges and the small square tiles 17, serving to support the plastic material until such time as it shall harden sufficiently to give it strength enough to carry the floor load, after which time the centering may be removed. As the extremities of the side walls of each tile snugly embrace the web of the mating tile and are prevented thereby from being thrust inward, the hol-

low units may be safely exposed to heavy pressure on their exterior, such as is incidental to the placing and tamping of plastic concrete, for example, without danger of cracking off their side walls. Much less lumber for centering need be used with my improved tile units than with tiles not provided with means for supporting the plastic material, but where the centering itself is relied on for this purpose.

Reinforcing rods may be inserted in the spaces between the units before the concrete is placed, and arranged to extend crosswise in both directions through the panel from the margins thereof, thus providing a two-way reinforcement. Such an arrangement is shown in Figs. 4, 5 and 6, in which the hollow tiles formed by assembling the parts 11 and 12 to embrace each other are arranged with the flanges 13 in juxtaposition throughout the panel in one direction and the flanges 14 in juxtaposition in a direction at right angles thereto. Reinforcing rods 18 and 19 are positioned near the bottoms of the spaces or channels thus formed between the tiles, and above the lateral flanges thereof, and these spaces are then filled with concrete. These operations can all be performed by unskilled labor as there is no necessity for pointing the tile with mortar or cement as is necessary with the ordinary tile having openings therethrough, for there being no openings in the side walls of the tiles, the concrete can be poured into the intervening spaces without danger of filling up the hollow spaces within the tiles. The lateral flanges 13 and 14 and filling tiles 17 provide an unbroken surface upon which the concrete is supported without the use of the usual water tight forms.

The hollow tile being lighter than the ordinary forms of tile, a lighter centering can be used to support it. The centering used with my improved tile concrete construction may be made of strips of rough or knotty lumber, the only requisite being that it shall present a substantially uniform surface upon which the tile may be positioned. The continuous smooth surface necessary when concrete is to be used with tile not having the lateral flanges is unnecessary with my tile.

It is evident that my improved hollow tile unit can be used in other ways than those above shown and described, for example, in hollow walls or for furring, and I do not wish to limit myself to the precise forms of tile herein shown nor to the arrangement above described.

What I claim and desire to secure by Letters Patent is:

1. A hollow tile unit composed of two tile sections comprising side portions and a connecting web portion, the distance between

the opposite sides of each section being as great as the length of the sides and web of the other section, said sections being arranged with the sides of each embracing the web of the other, whereby one section constitutes the bottom and two sides of the unit and the other section constitutes the top and the two remaining sides of said unit.

2. A hollow tile unit composed of two tile channel sections of equal height, one of said sections being arranged to constitute the bottom and two sides of the unit and the other being arranged to constitute the top and two remaining sides of the unit, both the length and the distance between the opposite sides of the top section being equal to each other and also being equal to the length and the distance between the opposite sides of the bottom section, said sections interlocking with their sides straddling the top and bottom of the unit.

3. An open end box tile having its side walls scored midway between its top and bottom, the clear distance between said side walls being as great as the length of the tile, and a bridge wall connecting said side walls at points adjacent to said scores.

4. An open end box tile having its side walls scored midway between its top and bottom, the clear distance between said side walls being as great as the length of the tile, a bridge wall connecting said side walls at points adjacent to said scores, and laterally extending flanges on said sides along the lower edges thereof and immediately above said scores.

5. A hollow unit composed of two tiles of equal height arranged with their axes transverse to each other, each tile comprising a web and two oppositely arranged side walls, the side walls of each tile being spaced apart a distance equal to the length of the other tile and arranged to embrace the web of the other tile.

6. A hollow unit for composite structures, said unit being composed of two U-shaped tiles, one of which is inverted and placed at right angles to the other between the upper edges of the side walls thereof, and the side walls of said inverted tile embracing the bottom of the other and terminating flush with the bottom surface of the unit.

7. A hollow unit composed of two tiles arranged with their axes transverse to each other, each tile comprising a web and two oppositely arranged side walls, the side walls of each tile being spaced apart to embrace the web of the other tile, and the side walls of each tile terminating beyond the inside face of the web of the other tile.

8. A hollow unit composed of two channel tiles arranged one upright and one inverted with their axes transverse to each other, each tile comprising a web and two oppositely

arranged side walls, the side walls of each
tile being spaced apart to embrace the web
of the other tile, the side walls of the upright
one of said tiles being provided with later-
5 ally extending flanges, and the side walls of
the inverted one of said tiles terminating in
laterally extending flanges.

Signed at St. Louis, Missouri, this 23rd
day of January, 1911.

WILLIAM H. BURK.

Witnesses:

A. M. HOLCOMBE,
M. A. SHELTON.