No. 789,730. PATENTED MAY 16, 1905.

H. L. HINTON.

TILE BUILDING BLOCK AND METHOD OF FORMING SAME.

APPLICATION FILED JAN. 30, 1903. RENEWED DEC. 6, 1904.

Fig. 2.

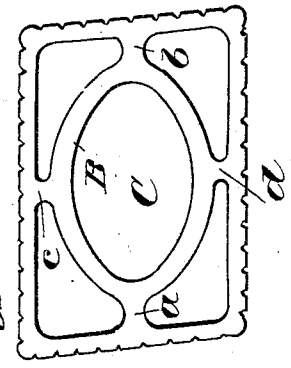


Fig. 3.

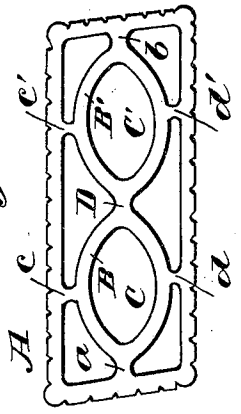
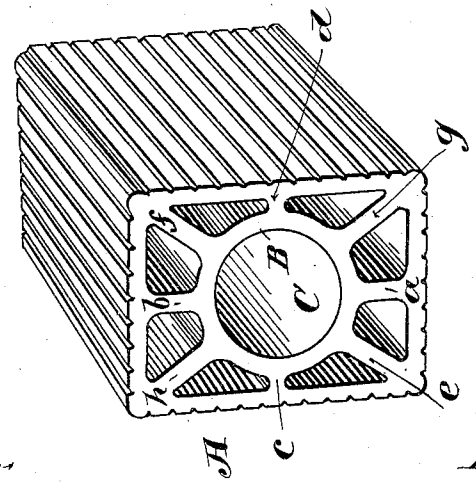


Fig. 1.



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No. 789,730. Patented May 16, 1905.

UNITED STATES PATENT OFFICE.

HENRY L. HINTON, OF NEW YORK, N. Y.

TILE BUILDING-BLOCK AND METHOD OF FORMING SAME.

SPECIFICATION forming part of Letters Patent No. 789,730, dated May 16, 1905.

Application filed January 30, 1903. Renewed December 6, 1904. Serial No. 235,745.

To all whom it may concern:

Be it known that I, HENRY L. HINTON, a citizen of the United States, residing in the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Tile Building-Blocks and Methods of Forming the Same, of which the following is a specification.

My invention relates to that class of tiles employed in making the floors and other parts of steel-frame buildings. These tiles are made by forcing the soft wet clay of which they are composed by means of an auger or plunger through a form or mold, whereby they are shaped, and are afterward dried and then burned in a kiln or furnace. As heretofore constructed they have usually consisted of an outer wall and a series of inner partitions by which the interior of the tile is divided into a number of voids substantially uniform in size and of quite small dimensions. In making such tiles the outer part of the mass of clay as it is forced along to the mold becomes compressed, while the inner portion is soft and spongy. The result of this is that the partitions in the inner part of the tile, which are made of the soft spongy portion of the mass of clay, are spongy and weak and are further weakened by cracking in burning, owing to their lack of density, so that while they add to the weight of the tile they do not materially contribute to its strength.

The object of my improvements is to obviate this difficulty and to provide a tile the inner partitions of which shall be equally dense with the outer wall and which shall offer greater resistance to a crushing strain than those heretofore employed. To this end instead of dividing the central part of the mass of clay forming the tile into a number of partitions dividing the interior of the tile into small voids I force it outward from the center by means of a large central core in the mold or form, whereby it is condensed and formed into an inner wall or partition around a large central void. This inner wall or partition is preferably circular or oval in shape, as offering the greatest resistance to a crushing strain, and is connected with the outer wall by bracing walls or partitions or meets the outer wall at points of contact so located in either case as to afford the greatest amount of support to the outer wall.

In case of tiles having one axis considerably greater than the other I may provide two or more of these inner walls inclosing voids lying on the longer axis of the tiles and connected by walls or braces formed by forcing the spongy mass of clay inward to the center of the tile, so as to condense it, a large void being thereby left between such partition and the outer wall of the tile.

Whatever may be the shape given to the inner wall or partition, it is made dense and rigid by forcing together and compacting the interior of the mass of clay forming the tile, thereby leaving correspondingly large voids in the interior of the tile. Such a wall or partition will not crack or chip in the baking of the tile, and when properly connected with the outer wall it adds largely to the power of the tile to resist the strain or pressure put upon it in use.

My invention will be best understood by reference to the accompanying drawings, which show sections of various forms of tiles constructed in accordance therewith.

Figure 1 shows a perspective of a tile having a cylindrical interior partition; Fig. 2, a section of a tile having an oval interior partition, and Fig. 3 a section of a tile having two interior oval partitions connected by a short straight web or partition.

Referring to the drawings, in which the same letters of reference indicate corresponding parts throughout, A indicates the outer wall of the tile. B is the inner wall or partition, inclosing the central void C, and *a b c d*, &c., are webs or braces connecting the inner wall and the outer wall.

In forming the tile the clay is delivered to the mold in any usual or suitable manner. As the clay enters the mold the spongy central part of the mass is forced outward from the center, and thereby condensed to form the wall or partition B, leaving the large central void C. The partition B is formed between the central core and cores, which at the same time form the webs or braces *a b c*, &c., and leave the voids between. Since the

clay near the surface of the mass is normally dense as it is delivered to the mold, it is not essential that it should be condensed to such an extent to form the braces *a b c*, &c., as in forming the partition B, and these may be made as numerous as may be desirable to give the outer wall A of the tile support against the inner wall B. Ordinarily I prefer in large tiles to locate such a web or brace at the center of each side and at each corner of the tile, as shown in Fig. 1. In the case of tiles in which one axis is much larger than the other I may make two or more inner partitions lying on the longer axis of the tile, as shown at B and B′ in Fig. 3, and these may be either in contact or connected by a short central partition D, formed by forcing the clay inward to the center, thus making a dense central partition or wall. Whichever form of construction is adopted it will be evident that the outer wall is thoroughly braced by means of the dense inner wall or partition and the points of connection between the outer wall and such inner wall, thus giving the tile great strength and resisting power.

What I claim as new, and desire to secure by Letters Patent, is—

1. The hereinbefore-described method of forming tile building-blocks, which consists in forcing the central part of the mass of clay outward from the center, by means of a central core, thereby forming a dense wall surrounding a relatively large central void, and connecting such wall with the outer wall of the tile at a plurality of points.

2. The hereinbefore-described method of forming tile building-blocks, which consists in compressing the inner part of the mass of clay forming the tile, into a dense wall or partition, and connecting such wall with the outer wall of the tile at a plurality of points.

3. A tile building-block comprising a dense outer wall, an inner wall of a density substantially equal to the outer wall, and inclosing a large central void and supports extending between said inner and outer walls, substantially as described.

4. A tile building-block comprising an outer wall, an inner wall having curved or arch portions adjacent to each face of the outer wall and inclosing a void space or spaces within the same, and supports extending radially from the inner to the outer wall, substantially as described.

5. A tile building-block comprising a dense outer wall, an inner wall of a density substantially equal to the density of the outer wall, and having curved or arch portions adjacent to each face of the outer wall, and supports extending from the curved or arch portions of the inner wall radially to the outer wall, substantially as described.

In testimony whereof I have hereunto subscribed my name this 28th day of January, A. D. 1903.

HENRY L. HINTON.

Witnesses:
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