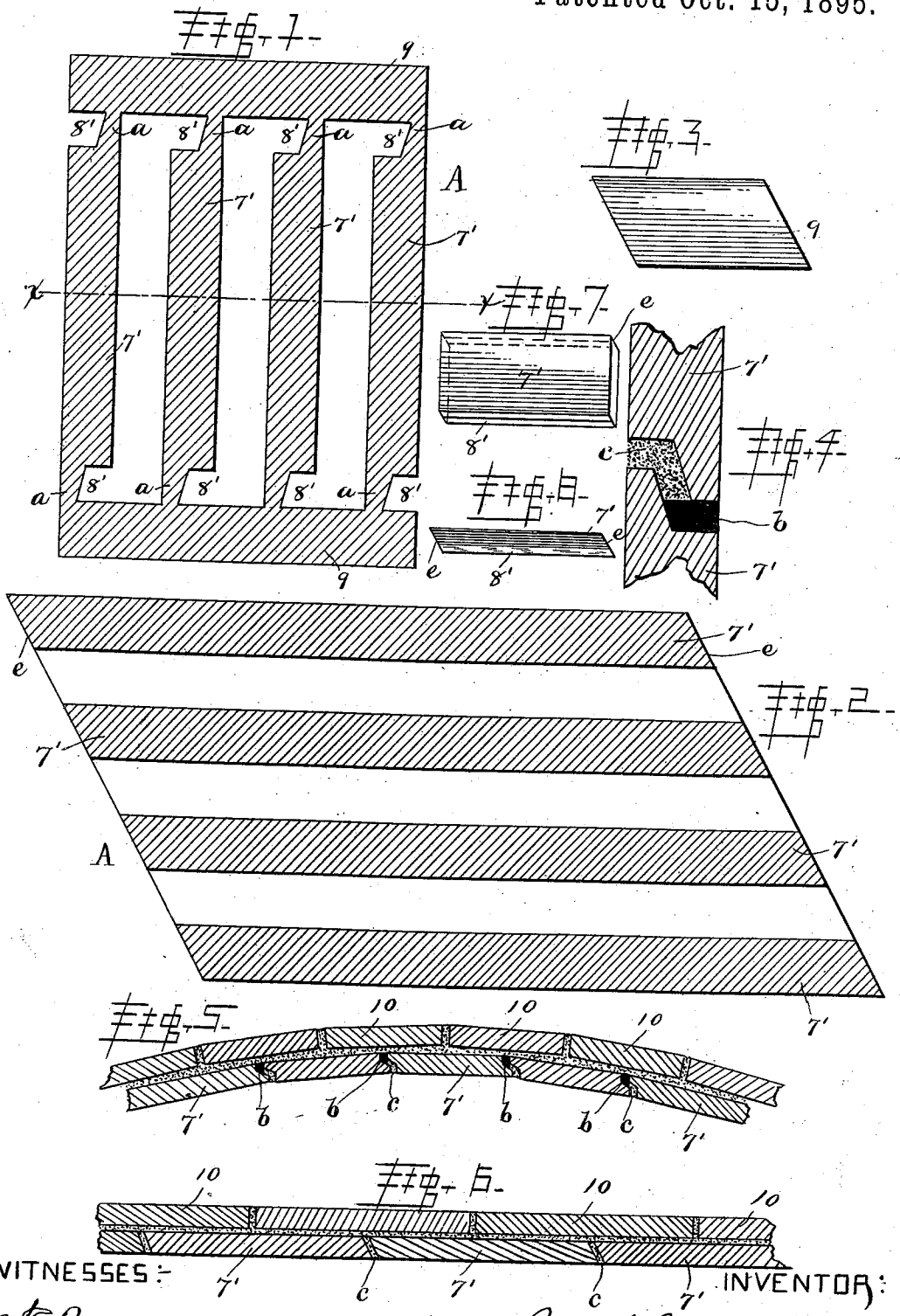
(No Model.)

R. GUASTAVINO.

BUILDING TILE.

No. 548,160. Patented Oct. 15, 1895.



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RAFAEL GUASTAVINO, OF NEW YORK, N. Y., ASSIGNOR TO THE GUASTAVINO FIRE-PROOF CONSTRUCTION COMPANY, OF SAME PLACE.

BUILDING-TILE.

SPECIFICATION forming part of Letters Patent No. 548,160, dated October 15, 1895.

Application filed August 4, 1890. Serial No. 360,888. (No model.)

To all whom it may concern:

Be it known that I, RAFAEL GUASTAVINO, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Building-Tiles, of which the following is a specification.

This invention relates to the manufacture of building-tiles intended particularly for use in the construction of arches for ceilings and stair-cases and for partitions.

The object of the invention is to produce a block of building-tiles by the employment of suitable machinery, which block when completed shall embody a certain number of tiles with flanged longitudinal sides and beveled ends and a certain number without the flanged sides and beveled ends, but with their ends cut diagonally to the edges of their sides, so as to give their faces the forms of rhomboids.

A further object is to devise a building-tile of novel form.

In the erection of the facing-course of the vault or arch of a ceiling, &c., in which the flanged tiles herein shown are embodied, about thirty per cent. of the tiles which have their ends cut diagonally to the edges of their sides is required to fill out and complete the structure. By the construction of the block of tiles herein described the proportion of the diagonally-shaped tiles which the requirements of the work demand is produced at the same time that the flanged tiles with beveled ends are made and by the same operation, thus saving the labor and expense incident to manufacturing each style of tile separately. For the purpose for which the tiles are intended they are made less than one inch in thickness, and the flanges of those which are flanged are from one-fourth to three-eighths of an inch in thickness.

My invention is described hereinafter, and its novel features, for which Letters Patent are desired, are set out in the claims at the end hereof.

In the drawings which form a part of this description, and in which like parts are indicated by like figures of reference in the several views, Figure 1 is a transverse section of a block of tiles made according to my invention. Fig. 2 is a horizontal sectional view of said block of tiles, taken on the line $x\,x$ of Fig. 1. Fig. 3 is a plan view showing the shape of the top and bottom tiles of the block. Fig. 4 is a sectional detail showing the character of the joint formed by the flanged tiles herein described. Fig. 5 is a transverse section of an arch comprising a course of ordinary tiles and a finishing-course of my improved flanged tiles. Fig. 6 is a longitudinal section of the same arch—that is, a section at right angles to Fig. 5. Fig. 7 is a plan view of my improved flanged tile with beveled ends, and Fig. 8 is a side elevation of Fig. 7.

Referring to the drawings, A indicates the tile-block, which is made by suitable machinery, comprising cores which separate the tiles 7′ from one another and mold them of a uniform thickness, and also give the required shape to the flanges 8′ and wires commonly made use of in tile-making, which cut the blocks of the required size and shape. I make no claim in this application for such machinery, and therefore do not illustrate it herein.

The ends of the block A are cut while the block is in a plastic condition to an angle of sixty (60) degrees, as shown at Fig. 2, by suitably adjusting the position of the wires. This gives the tiles 7′ the bevel *e* at their ends, as seen best in Figs. 2 and 8.

The top and bottom portions 9 of block A, to which the tiles 7′ are connected in the finished block by the narrow parts *a*, which form one surface of the flange 8′, are of the shape shown in the plan view, Fig. 3, and are without flanges. The edges of the ends of the two tiles 9 thus produced are not beveled, as is the case with tiles 7′. The diagonally-shaped ends of tile 9 are produced at the same time that the bevel *e* is given to the ends of tiles 7′, this being rendered possible by reason of the tiles 9 forming the top and bottom portions of block A. It will thus be seen that each block A embodies two conditions of tiles, four of one configuration and two of another, just the approximate number of each kind of tiles required in completing a foot of an arch of three courses. This block does not require any knife-cut, and I do not claim that, as my claim lies in the flanged and beveled edges, &c.

The several tiles of block A are detached from one another by a slight blow with a hammer at the points marked *a*. It will be observed that the tiles 7′ have flanges on their sides, but not on their ends, their ends being beveled, as explained. The plaster is required only on the sides of the tiles, and it is for this reason that the flanges are thus placed, so that besides the support which they afford they serve to incase the plaster, so as to protect it from exposure to the disintegrating influence of moisture, water, and the like.

The beveled ends *e* of the tiles 7′ serve as a support, performing the function of flanges, inasmuch as when a series of the tiles is laid in a course with their sides supported by the flanges 8′ and joined by plaster, (placed only on the upper half of the vertical edges of the joint, as shown in Figs. 4 and 5,) their several beveled ends abutting against one another produce a species of lock which effectually avoids all tendency of the tiles to move sidewise. This peculiarity of the tile, due to its shape, adds much to the solidity and security of the vault.

In Fig. 4 the joint formed by two coacting flanged tiles 7′ is shown supplied at its upper or inclosed vertical portion with plaster *b*, while its lower exposed portion is supplied with cement *c*. The arch of Fig. 5 also illustrates this disposition of the plaster and cement. The beveled joints formed by the ends of the tiles 7′ when laid in a course are preferably supplied with cement *c*, as shown in Fig. 6, which is a sectional view at right angles to Fig. 5. The second course of the arch (shown in Figs. 5 and 6) is laid with common tiles 10.

The tile-block herein described, while it embodies two conditions of tiles, as explained, which are intended to be used separately in the building of arches, it is also the purpose to employ in the form in which it leaves the hands of the manufacturer in the erection of the walls of buildings, and it has been thus employed by me.

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

1. As a new article of manufacture, a tile-block comprising a series of rectangular tiles having sloping or beveled ends and two rhomboidal tiles united to the rectangular tiles, substantially as set forth.

2. As a new article of manufacture, a tile-block comprising a series of rectangular tiles flanged on their sides, and sloping or beveled on their ends, and two rhomboidal flangeless tiles united to the flanges of the rectangular tiles, substantially as set forth.

3. As a new article of manufacture, a tile-block comprising a series of rectangular tiles having flanged sides and beveled or sloping at their ends, the bevels at the respective ends being parallel to each other, and top and bottom tiles of rhomboidal form united to the flanges of the rectangular tiles, substantially as set forth.

4. As a new article of manufacture, a tile-block comprising a series of rectangular tiles and a series of rhomboidal tiles, two surfaces of said block beveled or sloping in parallel planes, and two surfaces of rhomboidal forms, the two series of tiles united together, substantially as set forth.

5. As a new article of manufacture, a tile-block comprising rectangular tiles with sloping ends, and rhomboidal tiles having their ends in the same planes in which such sloping ends are located, said rectangular tiles and rhomboidal tiles being united with each other, substantially as set forth.

6. A building tile provided with flanges on its longitudinal edges, and with beveled ends, such bevels being parallel to each other, substantially as set forth.

7. A building tile provided with beveled ends and with flanges on its longitudinal edges, the outer surface of one flange being the continuation of one face of such tile and the outer surface of the other flange the continuation of the other face of such tile, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 17th day of July, A. D. 1890.

RAFAEL GUASTAVINO.

Witnesses:
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