No. 763,064. PATENTED JUNE 21, 1904.

H. C. MERCER.

PROCESS OF MAKING MOSAIC TILES.

APPLICATION FILED DEC. 3, 1903.

NO MODEL.

FIG. 3.

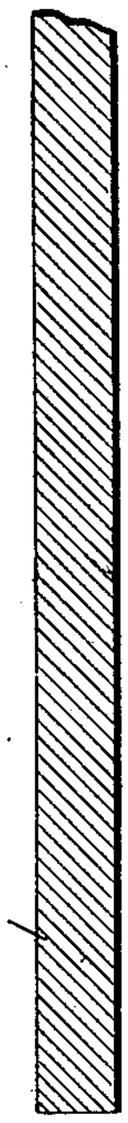

FIG. 4.

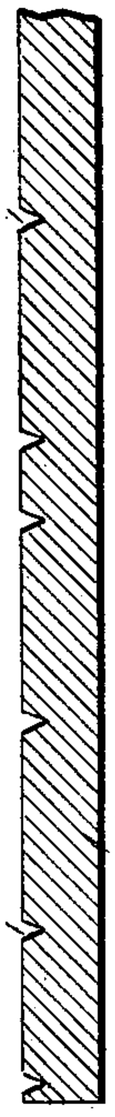

FIG. 5.

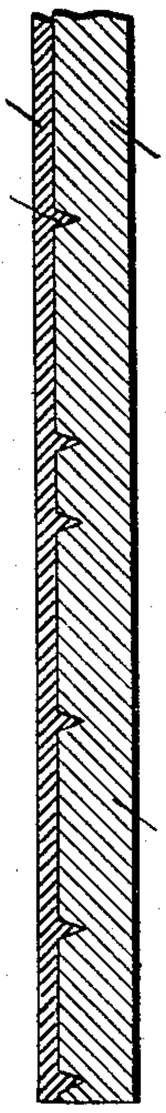

FIG. 6.

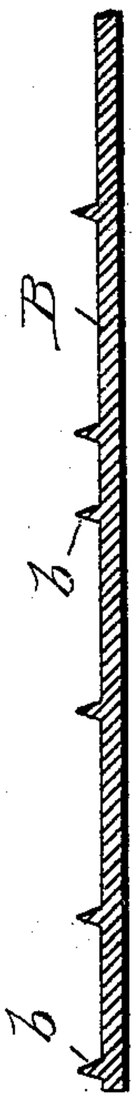

FIG. 7.

FIG. 8.

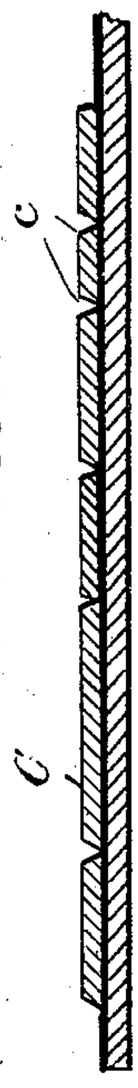

FIG. 9.

FIG. 1.

FIG. 2.

WITNESSES:

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No. 763,064. Patented June 21, 1904.

UNITED STATES PATENT OFFICE.

HENRY C. MERCER, OF DOYLESTOWN, PENNSYLVANIA.

PROCESS OF MAKING MOSAIC TILES.

SPECIFICATION forming part of Letters Patent No. 763,064, dated June 21, 1904.

Application filed December 3, 1903. Serial No. 183,654. (No specimens.)

To all whom it may concern:

Be it known that I, HENRY C. MERCER, a citizen of the United States, residing at Doylestown, in the county of Bucks and State of Pennsylvania, have invented new and useful Improvements in Processes of Making Mosaic Tiles, of which the following is a specification.

My invention pertains to mosaic tiles for pavement, mural, and other decoration; and it consists in the process hereinafter described, and particularly defined in the claims appended.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a tile produced in accordance with my invention; Fig. 2, a transverse section of the same; Fig. 3, a transverse section of a slab of clay which is used in several steps of my novel process; Fig. 4, a similar view of said slab as it appears subsequent to the second step of the process; Fig. 5, a transverse section illustrative of the third step of the process; Fig. 6, a section of the matrix produced by the third step; Fig. 7, a similar view showing the fourth step; Fig. 8, a transverse section taken through a plurality of mosaics produced by the practice of the process, and Fig. 9 a view of a modification.

Similar letters designate corresponding parts in all of the views of the drawings.

In the preferred practice of my novel process I first take a slab A, of clay or other material suitable to the purpose, Fig. 3, and provide on the surface thereof a design—such, for instance, as that shown in Fig. 1. The design may be placed on the slab-surface by drawing directly on the surface, by retracing the outlines of a drawing on paper or other material, so that they appear on the surface, or by any other means without involving a departure from the scope of my invention. After the provision of the design on the surface of the slab A, I go over the lines with a chisel having an edge of **V** shape in cross-section and wedge down the lines in the slab—*i. e.*, form depressions *a* of **V** shape in cross-section in the slab—so that the slab presents the appearance shown in Fig. 4. This mode of producing line depressions of **V** shape in cross-section in the slab is advantageous because of the latitude it affords an artist and the facility with which it may be effected. I desire it understood, however, that the said line depressions may be molded, made through the medium of a knife or cutting-wheel, or otherwise formed in the slab without involving departure from the scope of my invention. After the slab is provided with the **V**-shaped line depressions I pour plaster-of-paris or any other medium adapted to be cast—such as gelatin, wax, caster's sand, clay, or metal—on the slab and when the medium is set remove the clay of the slab, and thereby produce the matrix B, (shown in Fig. 6,) which, as will be readily observed, is the reverse of the design and has high **V**-shaped line projections *b*. Into the depressed portions of the matrix—*i. e.*, the areas between the line projections *b* thereof—cement or other suitable material is poured or otherwise placed to form mosaics C, as shown in Fig. 7. When desired, pieces D, of clay, stone, glass, or other material, cut to approximately fit the depressions between the line projections *b* of the matrix, may be placed in said depressions, together with the cement or other material used, as shown in Fig. 9, without departure from my invention. I also desire it understood that the cement or other material placed in the depressions of the matrix to form the mosaics may be of the same color or of different colors, as desired. For instance, in the production of the mosaics to form the tile shown in Fig. 1 I prefer to place green cement in the matrix depressions for the leaves, gray cement in the depressions for the opossum, black cement in the depressions for its tail, brown cement in the depressions for the limb upon which the opossum rests, and various shades of red in the depressions for the subdivisions of the background of the picture. Upon the cement or other material used to form the mosaics in the matrix I pour a backing C′, of common cement or other material suitable to the purpose, over the backs of the mosaics, as shown in Fig. 7, and permit the whole to harden. With this done, the mosaics and backing are together removed from the matrix. The

foregoing is the most expeditious mode of backing the mosaics and is preferred for such reason. I desire it understood, however, that after the mosaics harden in the matrix they might be removed one by one therefrom and reassembled right side up on a backing of cement or other material, as shown in Fig. 8, without departure from the scope of my invention.

The tile shown in Fig. 1 is produced in the manner described, the mosaics C being backed up with common cement E, as shown in Fig. 2, or held together by any other suitable means. The thickness of the mosaic tile corresponds to the depth of the V-shaped line depressions *c* between the mosaics, and below that depth mosaics can obviously be backed up with any suitable backing, such as cement.

When the tile is designed for use in a pavement, I prefer to fill the line depressions between the mosaics with white or colored cement or other suitable plastic material, this in order to render the tile smooth throughout its area. When, however, the tile is to be used for mural decoration, I prefer to leave the line depressions between the mosaics unfilled.

An important characteristic peculiar to the mosaic tile is that the mosaics or the areas of color or design which they define are not in immediate contact, as in other inlaid work, but are outlined and separated by broad lines. When the V-shaped line depressions are unfilled with cement or other material, they penetrate deep into the tile, and consequently intensify the strength of the lines by their shadows and also retain their value as the tile is worn away. Also when the line depressions are filled with cement of a special color they will hold their own as divisional markings of great decorative value as long as the tile lasts.

In some cases I may pour liquid clays in lieu of cement into the depressions of the matrix and back the whole up with a sheet of coarser clay. This, however, entails burning of the tile after it is removed from the matrix.

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

1. The process of making mosaics for use in tiles and the like, which consists in providing the surface of a slab with a design, forming depressions in the slab along the lines of the design, molding a matrix on the slab whereby the matrix is provided with line projections, and molding mosaics in the areas or depressions between the line projections of the matrix.

2. The process of making mosaics for use in tiles and the like, which consists in providing the surface of a slab with a design, forming depressions of V shape in cross-section in the slab along the lines of the design, molding a matrix on the slab whereby the matrix is provided with line projections of V shape in cross-section, and molding mosaics in the areas or depressions between the line projections of the matrix.

In testimony whereof I have hereunto set my hand in presence of two subcribing witnesses.

HENRY C. MERCER.

Witnesses:
WILLIAM STUCKERT,
J. F. HENDRICKS.