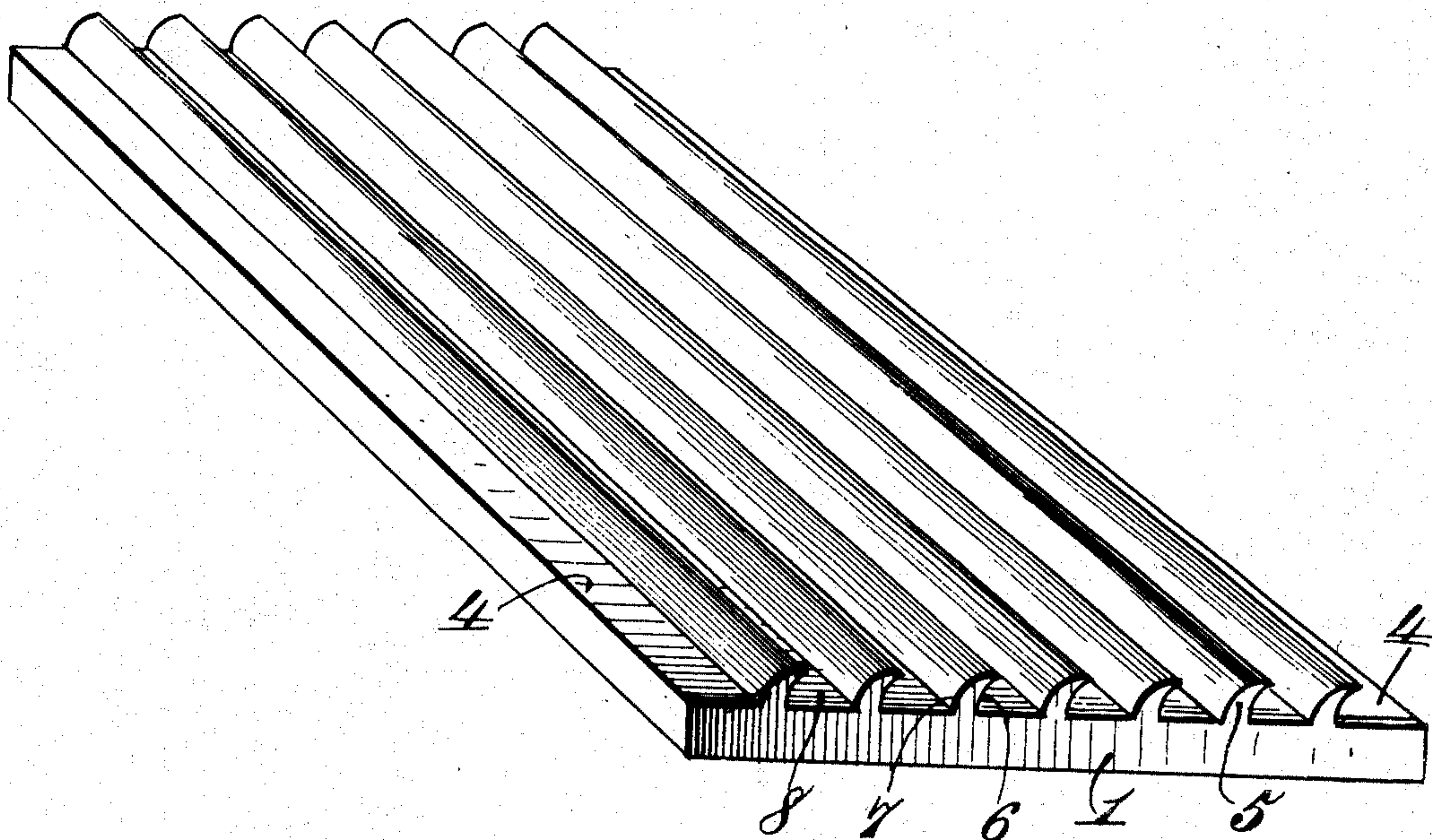


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M. M. MILLER, ADMINISTRATRIX OF J. R. MILLER, DEC'D.
TILE.

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927,869.

Patented July 13, 1909.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOSEPH R. MILLER, OF MORGANTOWN, AND ULYSSES S. HUGGINS, OF WESTON, WEST VIRGINIA; MARGARET M. MILLER ADMINISTRATRIX OF SAID JOSEPH R. MILLER, DECEASED.

TILE.

No. 927,869.

Specification of Letters Patent.

Patented July 13, 1909.

Application filed August 29, 1907. Serial No. 390,673.

To all whom it may concern:

Be it known that we, JOSEPH R. MILLER and ULYSSES S. HUGGINS, both citizens of the United States, residing, respectively, at Morgantown, county of Monongalia, State of West Virginia, and Weston, in the county of Lewis and State of West Virginia, have invented new and useful Improvements in Tiles, of which the following is a specification.

This invention relates to tiles formed of glass or other material, and the object thereof is to provide a tile wherein the body strength is preserved by avoiding a reduction of the predetermined thickness of the said body at any point and wherein fastening means are provided on the back of such contour as to permit a ready application and allow of contraction and expansion of the cement or other holding medium in which the tile is set so as to prevent breaking off or fracturing the fastening means or projections or cracking the body portion of the tile during expansion and contraction of the cement or other holding material and thereby rendering the tile more durable and efficient as well as economical in service.

The invention consists in the construction and arrangement of the several parts which will be more fully hereinafter specified.

The drawing illustrates a perspective view of a tile embodying the features of the invention.

The numeral 1 designates the body of the tile which is solid or is unbroken at any point by indentations, depressions or reduction of a predetermined thickness, or, in other words, the body of the tile is preserved in solid form as to length, breadth and thickness uniformly throughout its complete structure. The outer or front face of the tile is preferably flat, though it may be embellished with designs without detracting from its normal thickness after the manner of tile formation well known in the art. The rear or inner face of the tile is formed at each side throughout the full length thereof with flat edges 4. Extending completely from end to end of the rear or inner face of the tile is a series of longitudinal clencher or key projections 5 having a particular form to arrive at certain advantageous results in application and service and which will now be fully explained.

The clencher or key projections 5 are

equal distances apart between the inner terminals of the flat edges 4 and all taper in curved lines from their bases to their free edges, and the latter edges are uniformly the same distance from the adjacent face of the tile. Each clencher or key projection 5 has a concave face 6 and a longer convex face 7, giving to each clencher an approximately semi-crescent contour in cross-section. Between the concave short face 6 of the one clencher and the longer convex face 7 of the adjacent clencher throughout the whole series of the latter, pockets 8 are formed for the cement or other plastic material in which the tile is set. The free reduced edges of the clencher or key projections 5 overhang the pockets and the concave face of each clencher practically provides for each pocket a longitudinally grooved or undercut wall to facilitate the secure application of the tile and also to remove any tendency to fracture or breakage of the several clencher or projections by the expansion and contraction of the cement or other plastic holding material, injury to the clencher or projections from expansion or contraction of the cement or analogous material being avoided by the ease-off provided by the differentiation in the curve of the walls of the several pockets in contradistinction to a resistance that would be set up were the walls straight or of uniform length. The free edges of the clencher or key projections by reason of their overhanging disposition prevent said edges from becoming broken or chipped in view of the fact that they are not prominently exposed for contact with adjacent objects, but on the contrary are shielded and owing to the long convex wall and the uniformity of extent of the several projections from the body of the tile a smooth maximum projecting surface is produced by the combined series of the said clencher or projections. A further advantage of the form of clencher or key projection as just explained is that in applying the tile to the cement or other holding material, the latter will be more uniformly drawn or dragged into the pockets 8 and fully occupy the latter by the concave walls or faces 6 of the said clencher or projections when a slight downward pressure is applied to the upper edge of the tile after the latter has been placed in position for application in relation to the cement or

other securing material, the several concave walls acting as hangers and acting also similar to hooks which will obstruct loosening of the tile in view of the fact that portions
5 of the cement or plastic material in which the tile is set will fill in under the overhanging or beak-like free edges of the clenchers or projections 5.

The pockets 8, overhung by the free edges
10 or beaks of the clenchers or projections 5, are materially advantageous as compared to tiles having projections with straight walls usually of a converging contour in the direction of the body of the tile, in view of the
15 fact that in the said pockets 8 the cement or other holding material used will fill in to such extent as to produce a reliable retention of the tile in place, no matter to what maximum extent the cement or holding material
20 may contract and which would not be the case if the walls of the pockets were inclined in straight planes converging toward the body of the tile, as under the latter structural conditions the cement or holding material
25 would draw away from the contracted space between the walls and there would be no resistance to loose movement or loosening of the tile. The sharp free edge of each
30 clencher or key projection 5 is also of importance in the effective application of the tile as compared to tiles having projections with blunt edges, because the sharp edges of the clenchers or projections 5 will penetrate
35 and press apart the cement or other plastic holding material and insure a filling in of the pockets 8, whereas tiles having projections or clenchers with blunt edges will press the cement or plastic material away from the
40 pockets rather than into the latter.

What is claimed is:

1. A tile comprising a rectangular body

of equal thickness throughout its entire area and having its inner face provided with a plurality of key projections extending longitudinally thereof fully from end to end, each
45 of the key projections having opposing concave and convex faces, the convex faces being longer than the concave faces and all of the projections being reduced gradually from a maximum base formation to the free ends to
50 form sharp edges or beaks which overhang the several pockets provided between the projections, the portions of the free ends of the key projections immediately in advance
55 of the sharp edges presenting convex surfaces which in the aggregate produce a smooth back portion for the tile and prevent catching and breaking of the reduced edges.

2. A tile comprising a body having a uniform thickness throughout its entire area
60 and provided at the back with a plurality of key projections extending fully throughout the length thereof from end to end and between flat side flanges, the key projections having pockets formed between them and
65 each key projection converging from a maximum base portion in curved lines to a sharp free edge which overhangs and extends inwardly to the adjacent pocket and serves to draw the plastic holding material into and
70 fully fill the pocket and to act as a hook-like securing means to prevent loosening of the tile when the plastic holding material hardens and contracts.

In testimony whereof we have hereunto set
75 our hands in presence of two subscribing witnesses.

JOSEPH R. MILLER.
ULYSSES S. HUGGINS.

Witnesses:

C. B. MAGEE,
STEPHEN JONES.