P. POINTON.

ROOFING TILES.

No. 192,451. Patented June 26, 1877.

Fig. 1.

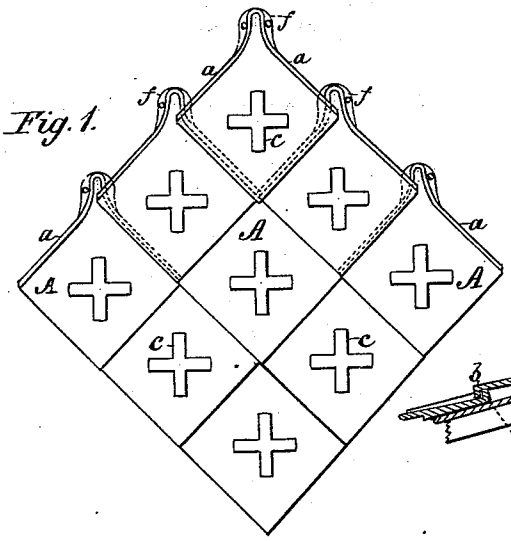


Fig. 2.

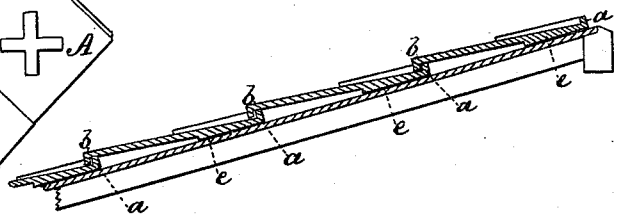


Fig. 3.

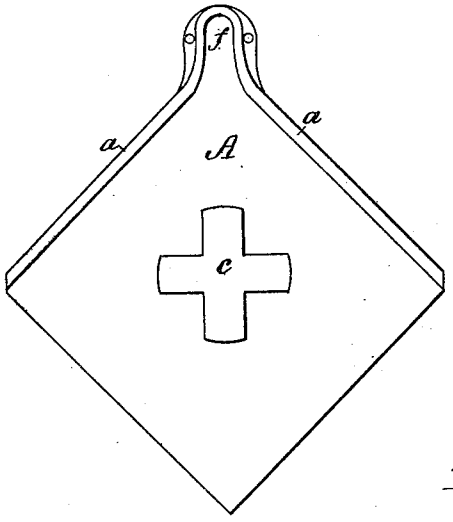


Fig. 4.

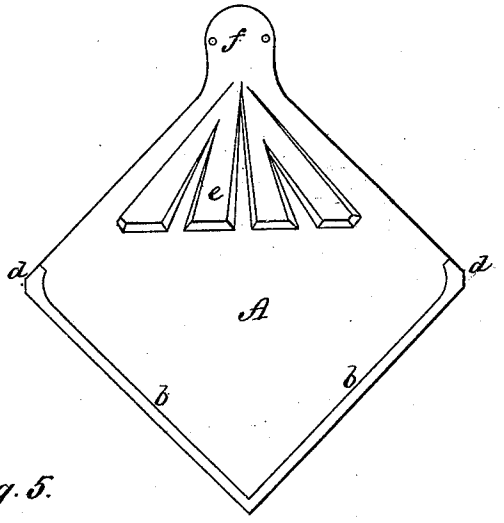
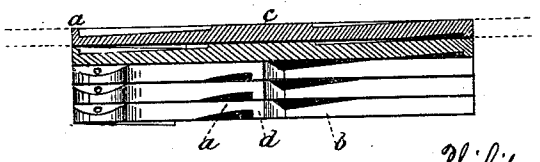


Fig. 5.



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PHILIP POINTON, OF BALTIMORE, MARYLAND, ASSIGNOR TO HIMSELF AND EDWIN BENNETT, OF SAME PLACE.

IMPROVEMENT IN ROOFING-TILES.

Specification forming part of Letters Patent No. **192,451**, dated June 26, 1877; application filed May 4, 1877.

To all whom it may concern:

Be it known that I, PHILIP POINTON, of Baltimore city, State of Maryland, have invented a new and useful Improvement in Roofing-Tiles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had the accompanying drawing, forming part of this specification, in which—

Figure 1 is a face view of the tiles applied to a roof; Fig. 2, a sectional view of the same; Fig. 3, an enlarged face view of a single tile; Fig. 4, a rear side view of the same; Fig. 5, a side view of the tiles arranged in piles, with a part in section.

My invention relates to certain improvements in roofing-tiles of that class which are provided with a marginal raised lip or flange upon their upper and higher edges and a corresponding lip or flange upon their lower and under edges, in which construction the lower and under lip of one tile, when arranged upon the roof, laps over, fits against, and secures the upper and higher lip of the next tile below.

My invention, which is designed mainly to obviate objectionable contingencies in the baking of the tile, consists, first, in forming the tile with the outer surface of the marginal lips upon each side in the same plane with the opposite end of the same face of the tile, whereby the tiles, when resting in vertical piles, are supported all around, and are prevented from warping or curling during the baking operation.

The invention consists, secondly, in forming the tile with a central raised figure of a preferably ornamental character upon its outside face, whose outer face is upon a level with the outer surface of the lip, and forms a support, when the piles are piled on the kiln, to the next superposed tile, to prevent it from warping in the middle.

The third feature of the invention consists in extending the under lip past the upper lip at the points where the same approach, so as to cause the corners to be supported when the tiles are piled up in the kiln, to prevent them from bending at such points.

My invention consists, fourthly, in re-enforcing the upper end of the tile upon its under side with a thickened beveled face at a point where the tile rests upon the roof, to enable the tile to successfully resist the increased strain at this point.

In the drawing, A represents one of my improved tiles, which is made of clay or other suitable material. This tile is made of a nearly-square shape, and is formed with a lip, *a a*, upon its upper outside edges, and with a similar marginal lip, *b b*, upon its lower under-side edges. In arranging these tiles upon a roof the lip *b* of one tile laps over and rests against the lip *a* of the next lower tile, and thus secures the same in place in a manner which will permit no leakage.

In constructing these tiles the lips *a* and *b*, instead of being allowed to project from a true plane, are formed with the main body portion of the plate inclined, and with the outer edges of the lips upon a level with the opposite plain edges of the body portion, as indicated by the dotted lines in Fig. 5, so that the points of contact of each tile with the other, when in a pile, are in two parallel planes. The object of the arrangement is to permit the tile to be arranged in vertical piles in the kiln, and to be maintained in such relation as to have their angles supported and held all around against the tendency of the plates to warp or bend during the baking operation, and yet to leave a slight space between the tiles for the circulation of the hot air and uniform baking of the tile.

To prevent the tile from warping in the center there is formed upon its outer face a raised figure, *c*, which, while it is raised with respect to the inclined face, does not project beyond the general level of the tile, or the line drawn from the top of the lip *a* to the opposite plain edge. This raised figure affords a central support to the adjacent superposed tile, and prevents the latter from bending or sagging in the center. This projection *c* is preferably made in the form of an ornamental figure, to enhance the beauty of the roof. If lips *a* and *b*, in approaching each other at the corners, did not pass each other, as shown at *d*, Fig. 5, the corners of the plate, it will be seen, would be unsupported, and would be liable to be bent. To remedy this I extend

the under lip *b* past the upper lip *a* at such point, as at *d*, so that the said extension *d* rests upon the end of the upper lip *a* of the next lower tile when the latter are in piles.

In applving the tiles to a roof the lower end of the tile rests upon the upper end of the subjacent tile, while the upper end of the same tile rests upon the roof, and supports the lower end of the next higher tile. The upper end of each tile, therefore, rests upon the roof at a slight angle and a single point, and as the weight comes upon this part of the tile the greatest breaking strain exists at the point. To strengthen the tile here I re-enforce the same with a thickened projection, *e*, upon its under surface, which projection is inclined to cause its face to rest flush upon the roof, and thus correct the tilt of the tile. This inclined projection does not extend to the margin of the tile, but is far enough away from the same to rest between the upper lips *a* of the tile when the latter are arranged in piles, so that it does not interfere with the proper arrangement of the tiles in piles during the baking.

The tiles, as thus described, are provided with ears or rounded projections *f* at their upper ends, which are flattened upon the sides, and provided with holes for pins or screws to attach them to the roof. This projection *f* gives sufficient lap at this point of connection to prevent leakage, and, in order to adapt the lip *b* to the same, its extension *d* is curved upon the inside to correspond to the curved flange of the projection *f*.

In relation to the advantages of my invention I would state that, in the use of tiles for roofing, experience has taught that the tiles must be vitrified in order to be durable and prevent the absorption of water, and in subjecting them in the kiln to the necessary heat to effect this vitrification the tile exhibits a tendency to warp and bend, which renders the tile useless for purposes of roofing. With my invention it will be seen that during the baking operation the tiles are supported and held at such points and in such relation as to insure a perfectly-true and properly-fitting tile, while the re-enforcing projection adapts it in its application to the roof to rougher usage, and renders the same more durable.

In making use of the several features of my invention I do not confine myself to any particular shape of tile, as it is obvious that the contour may be varied without departure from the principles of the invention.

Having thus described my invention, what I claim as new is—

1. A roofing-tile having lips *a* and *b* upon the opposite ends and opposite sides of the same, adapted to couple the adjacent tiles, the outer surface of which lips are upon a level with the plain body portion of the tile, substantially as and for the purpose described.

2. An earthenware tile having the lips *a* and *b*, and provided with an inclined upper face, with a central projecting face or figure raised to the level of the upper lip *a*, substantially as and for the purpose described.

3. The tile having lips *a* and *b* upon opposite sides and ends in the same plane with the opposite plain faces, as described, with the lip *b* extended past the end of the lip *a*, for the purpose described.

4. A roofing-tile provided with a re-enforcing inclined projecting face, *e*, as and for the purpose set forth.

The above specification of my invention signed by me this 27th day of April, 1877.

PHILIP POINTON.

Witnesses:

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