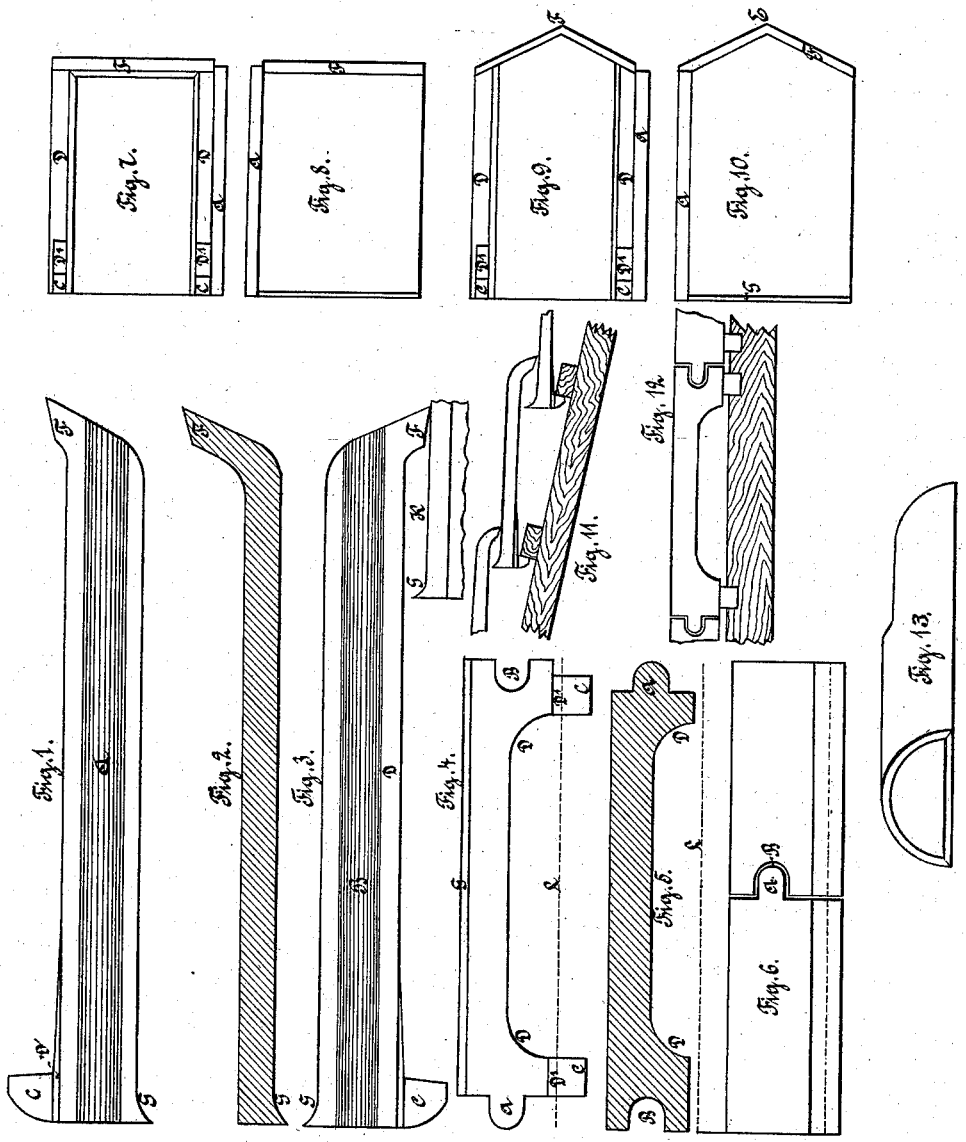
(No Model.)

A. DIEDRICH.

TILE.

No. 385,343. Patented July 3, 1888.



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UNITED STATES PATENT OFFICE.

ALBERT DIEDRICH, OF BERLIN, GERMANY.

TILE.

SPECIFICATION forming part of Letters Patent No. 385,343, dated July 3, 1888.

Application filed November 12, 1886. Serial No. 218,737. (No model.) Patented in Germany February 17, 1886, No. 36,640; in England June 7, 1886, No. 7,647; in Belgium June 15, 1886, No. 73,314; in France October 5, 1886, No. 176,471, and in Norway March 30, 1887, No. 326.

To all whom it may concern:

Be it known that I, ALBERT DIEDRICH, of Berlin, in the Kingdom of Prussia and German Empire, have invented new and useful Improvements in Roofing-Tiles, (heretofore patented to me in Great Britain, No. 7,647, dated June 7, 1886; Germany, No. 36,640, dated February 17, 1886; France, No. 176,471, dated October 5, 1886; Belgium, No. 73,314, dated June 15, 1886, and Norway, No. 326, dated March 30, 1887,) of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in roofing-tiles.

The present invention leads to a new way of covering roofs by means of a tile specially constructed for this purpose and made of any suitable material, such as clay, artificial stone, glass, &c. The purpose is to avoid the necessity of repairing by preventing the damage caused by wet, storms, and atmospheric influence in general, and, further, to prevent breakage when the roof is trodden on. The tiles are joined together in their sides by means of grooves and corresponding ridges, and are made up with bituminous cement or asphaltum mortar without being closed inside, so that they form a roof of simple smooth stone and offer the storm no point of attack. Dirt and moisture are thus prevented from collecting in the joints, and moisture arising from heat and issuing from the pores has a free escape. Owing to this and to the free circulation of air, the rafters and laths are kept dry and the roof can be trodden on without any danger of its breaking in.

Figure 1 shows the tile in full form and in side profile when seen against ridge A. Fig. 2 shows the middle part in profile, and Fig. 3 illustrates the same in side profile when seen against groove B. This groove is made rather wider than the ridge, to allow for unevennesses and to take up the cement.

Fig. 4 is a profile of the tile on its upper end, which latter, with its two noses, catches behind the main lath and lays on firmly. The noses *c* are formed onto the two longitudinal ribs D, which have on their upper ends an elevation, D′, by means of which alone the tile touches the roof-lath. These elevations taper off gradually. By means of this arrangement a free passage is made for the moisture and the water from the pores to escape along the lower side of the tile without their coming in contact with the laths and rafters.

Fig. 5 shows a cross-cut of the middle part of the tile. Fig. 6 is a view against the perpendicular closing side of a layer. Figs. 7 and 8 represent the tile on a smaller scale, showing an upper and a lower view of it. Figs. 9 and 10 are similar views of a tile with the dripping-point E, which leads the water to the middle of the stone. Fig. 11 shows a part of a roof constructed with the new tiles, side view. Fig. 12 shows the same, rear view.

Fig. 13 shows a ridge or hollow tile adapted for covering the ridge of a roof composed of the tiles just described. These ridge-tiles are semi-cylindrical and fit into each other by means of a gradual lessening, and are then cemented with bituminous mortar. The longitudinal edges slant inward and form closely-fitting surfaces for laying on. The excellent effect of these tiles is attained on the one hand by the extremely durable closing of the ridge and groove by means of bituminous cement or asphaltum mortar, and on the other hand by means of the free circulation of air in the hollow space between the ribs D; thirdly, by means of the free escape allowed the sweat and water, which, owing to the distance left between the tile and the lath by means of elevations D′, can run out unimpeded; and, fourthly, by means of the gutter-edge F, which, formed on the lower end of the tile and cut off sharp on the outside, prevents dust, snow, and rain from penetrating. This gutter-edge reaches over the upper edge, G, of the next row of tiles, Fig. 11, and the water from the pores and other impurities which get into the space K are prevented by the projecting edge G from coming in contact with the laths. The moisture comes forth under the point of the edge F and runs off over the lower tile. In this manner all moisture is most effectively prevented from reaching the wooden part of the roof.

The purpose is to construct a roof newly in-

vented by me and made of clay, cement, glass, artificial stone, iron, and all other suitable materials, after the shape of the flat tile roofing in the annexed designs, and in asphaltum, mastic mortar, &c., in grooves on lathing or planking with a suitable incline, as a simple roof. In the shape of the roofing material (or, rather, of the flat tile roofing) are contained several innovations of material advantage: First, the roof consists of simple, light, imperishable, smooth layers, which, in consequence of their interlocking sides and the elevations under the two noses *c*, rest free above the lathing, and thus prevent all moisture—such as sweat-water out of the pores, &c.—from getting at the wood fastenings and the lathing. The under edges of the flat tile roofing, which rest sharp upon the following under row, protect against storms, and offer on the one hand no point of attack for the wind, and allow on the other hand the sweat and water from the pores to run off from under the under edge of the tile onto the main surface of the roof, and thus prevent its doing any damage. The ridge-tile offers the advantage that as the longitudinal edges are sharp the mortar can bind lastingly.

All of these tiles should be made at least of good clay and glazed.

Similar letters refer to similar parts throughout the several views.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. A series of tiles interlocking at their meeting edges by means of grooves B and ridges A, and provided with bearing-ribs D, sloping elevations D′, gutter edges F, and noses *c*, all substantially as set forth.

2. A series of tiles, each having a groove, B, in one edge and a ridge, A, in the other, for interlocking with neighboring tiles, and being provided with a downwardly-inclined gutter-edge, F, at its lowest point, and with a raised edge, *g*, at its highest point, the gutter-edge of each higher row of tiles resting on the edge *g* of the next lower row, for the purposes set forth.

3. In combination with roof-tiles interlocking laterally and provided with the parts F *c* *g*, arranged and operating as set forth, a curved tapering ridge, substantially as shown.

ALBERT DIEDRICH.

Witnesses:
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