

No. 640,511.

Patented Jan. 2, 1900.

J. WHITE.
JOINT FOR OGEE TILES.
(Application filed Mar. 22, 1899.)

(No Model.)

Fig. 1.

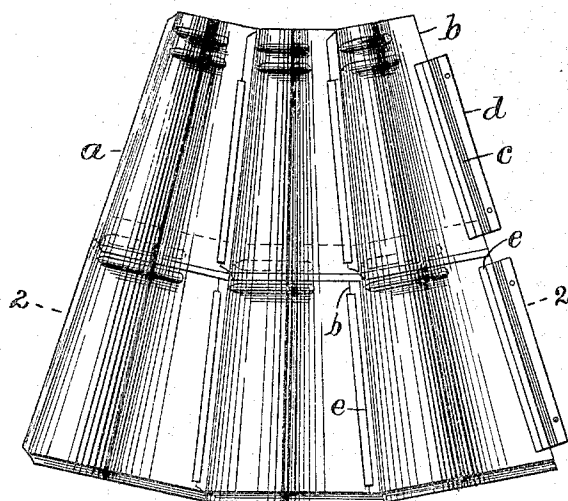


Fig. 10.

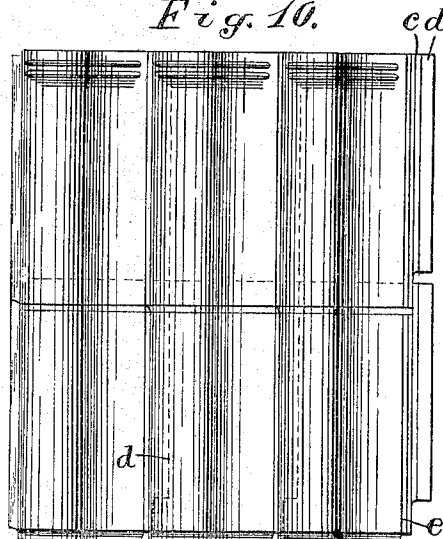


Fig. 2.

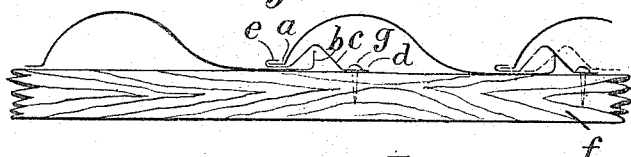


Fig. 9.

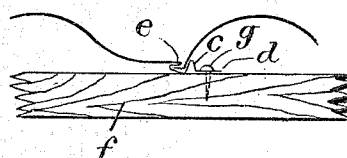


Fig. 3.

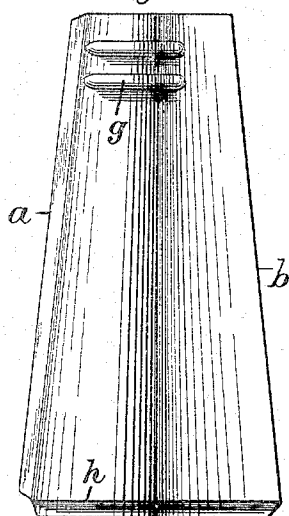


Fig. 4.

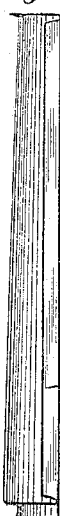


Fig. 7.

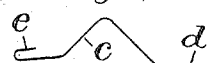


Fig. 5.



Fig. 8.

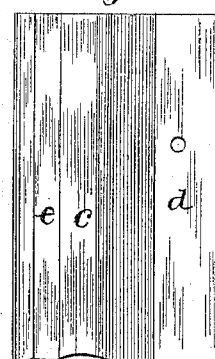


Fig. 6.



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UNITED STATES PATENT OFFICE.

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JOINT FOR OGEE TILES.

SPECIFICATION forming part of Letters Patent No. 640,511, dated January 2, 1900.

Application filed March 22, 1899. Serial No. 710,117. (No model.)

To all whom it may concern:

Be it known that I, JAMES WHITE, a citizen of the United States, residing at New York, (Brooklyn,) county of Kings, State of New York, have invented certain new and useful Improvements in Joints for Ogee Tiles, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The present improvement relates to sheet-metal tiles of ogee cross-section; and the object of the invention is partly to furnish such tiles with an effective weather-joint upon their longitudinal edges and partly to furnish an adjustable joint by which the position of the tiles may be slightly varied upon the roof. Such variation is very desirable where tapering tiles are fitted to a conical or polygonal turret, as such tiles cannot without very great expense and care be made in advance to accurately encompass the periphery of the turret, while the adjustable joint permits the workman to crowd or separate the tiles as may be required to exactly encircle the roof. The weather-joint upon the tiles is formed by extending an erect rib or flange along the concave edge of the tile and combining the same with a nailing-flange and with an open fold attached to such nailing-flange for engaging a flat flange upon the convex edge of the tile. Where the nailing-flange and open fold are made integral with the concave edge of the tile a non-adjustable joint is formed. Upon the contrary, where the nailing-flange and open fold are made upon a joint-strip separate from the tile the joint-strip may be formed with a hollow rib fitted loosely over the erect flange of the tile and may be moved more or less over such flange when applying it to the roof, so as to vary the connection of the next tile thereto.

The invention will be understood by reference to the annexed drawings, in which—

Figure 1 is a diagram showing six tapering tiles secured together and to the roof by such loose joint-strips. Fig. 2 is a cross-section of three of the tiles on line 2 2 in Fig. 1. Fig. 3 is a plan, and Fig. 4 an edge, view of one of the tapering tiles. Fig. 5 shows the upper end of such tile, and Fig. 6 the lower end of the tile. Fig. 7 is an end view of one of the joint-strips, and Fig. 8 a top view of a por-

tion of such strip. Fig. 9 is a cross-section of the joint of two tiles having the joint-flange integral with the concave edge of the tile; and Fig. 10 is a plan view of six such tiles.

The joint-strip in Figs. 7 and 8 is drawn of the natural size, and Figs. 2 to 6, inclusive, and Fig. 9 are drawn upon a small scale, but larger than Figs. 1 and 10.

With tiles of ogee or concave or convex cross-section the convex portions of the tiles are laid coincident, and the concave portions form continuous gutters, extending from the top to the bottom of the roof, between the convex portions.

In the tiles shown herein the weather-joint across the tiles is provided by a transverse offset *g* near the upper end of the tile and a lip *h*, turned inwardly upon the lower end of the tile, as is common in such constructions. I will first describe the preferred form of construction, in which the joint is adjustable. In such case the convex edge of the tile is formed with the flat flange *a* and the projection to make a waterproof joint upon the concave edge of the tile is formed by an erect flange *b*. The adjustable joint-strip (shown separately in Figs. 7 and 8) is formed with a central hollow rib *c*, having oblique sides and a little greater in height than the erect flange *b*. The outer edge of the rib is formed with the nailing-flange *d* and the inner edge with a flange which is reflexed upon its upperside to form the open fold *e*, which opens toward the rib *c*. Fig. 2 shows the application of such joint-strips to connect the tiles by fitting the strip longitudinally over the erect flange *b*, so that the folded edge *e* presses upon the concave surface of the tile and holds it down upon the roofing-boards *f* when the flange *d* is nailed thereto, as by nails *g*. The flat flange *a* of the succeeding tile is fitted within the open fold *e*, so that the convex portion of the tile entirely covers the erect flange *b* and every portion of the joint-strip except the upper side of the fold *e*. The flange *a* is made of such width that when fitted in the fold *e* the convex edge of the tile is crowded against the side of the hollow rib *c*, and the tiles are thus locked firmly together by the subsequent securing of the concave edge upon the roof. The disposition of the fold *e* upon the concave portion of the preceding tile determines

the location of the succeeding tile, and thus permits the tiles to be crowded or separated within a small limit, as the height of the joint-strip permits it to be moved laterally over the
 5 erect flange to the right or to the left, as indicated, respectively, by dotted and full lines at the right-hand side of Fig. 2. Such an adjustable joint is of great service upon tapering roofs; but in tiles for use upon flat roofs
 10 the hollow rib, nailing-flange, and open fold can be formed integral with the concave edge of the tile, as shown in Fig. 9, by which construction the flat flange *a* of each tile is fitted into the open fold of the tile previously laid
 15 and which is secured to the roof by nails *g* through the flanges *d*. In this construction, as in the last, the concave edge of the tile is furnished with an integral upward projection, (the integral rib *c*,) which forms one
 20 side of the gutter to lead the water downward upon the roof, and the relation of such rib to the bottom of the fold *e* is the same as with the movable joint-strip, so that the flange *a*
 25 fold by the contact of the convex edge of the tile with the hollow rib.

It will be seen that the essential feature of the joint is the hollow rib having a nailing-flange upon its outer side and the open fold
 30 upon its inner edge to receive the flat flange of the tile, while the hollow rib contacts with the convex edge of the tile to lock the flange in the fold, and the joint-strip which combines these features may obviously be made
 35 detachable from the tile, as in Fig. 2, or integral with the tile, as shown in Fig. 9.

Having thus set forth the nature of the invention, what is claimed herein is—

1. The combination, with a series of sheet-metal tiles of ogee cross-section having each
 40 a flat flange *a* upon its convex edge, of the joint-strips having each the hollow rib *c* with nailing-flange upon the outer edge and open flat fold upon the inner edge to receive the
 45 flat flange of the tile, the said rib lying within and being spanned by the convex part of said tile, substantially as herein set forth.

2. The combination, with a series of sheet-metal tiles of ogee cross-section having each
 50 a flat flange *a* upon its convex edge, of the

joint-strips having each the hollow rib *c* with nailing-flange upon the outer edge and open flat fold upon the inner edge, the flat flanges *a* being fitted to such open flat folds, and the rib upon the joint-strip lying within and being
 55 spanned by the convex part of the tile, and the fold making a weather-joint with the concave part of the adjacent tile, substantially as herein set forth.

3. A series of sheet-metal tiles of ogee cross-section having each the flange *a* at the convex edge of the tile and the erect flange *b* at the concave edge of the tile, in combination with the movable joint-strips having each the
 65 hollow rib *c* with nailing-flange *d* upon its outer edge and the open fold *e* upon its inner edge, and the hollow rib covering the erect flange *b* of each tile, and the open fold receiving the flat flange *a* of each tile, whereby opposite edges of the two tiles are secured to the
 70 roof by a single joint-strip, substantially as herein set forth.

4. A series of tapering sheet-metal tiles of ogee cross-section having each the flat flange *a* at the convex edge of the tile and the erect
 75 flange *b* at the concave edge of the tile, and joint-strips fitted movably over the erect flanges and provided each with a nailing-flange for securing it to the roof and with an open fold to engage the flange upon the convex
 80 edge of the tile, substantially as herein set forth.

5. As a new article of manufacture, the joint-strip for ogee sheet-metal tiles having each a flat flange at its convex edge and an
 85 erect flange at its concave edge, such joint-strip comprising the hollow rib *c* having upon one edge the nailing-flange *d*, and upon the opposite edge the open fold *e* projected toward the rib, the hollow rib being adapted to fit
 90 over the erect flange of the tile and to be inclosed within the convex part of the adjacent tile, substantially as herein set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing
 95 witnesses.

JAMES WHITE.

Witnesses:

L. LEE,

THOMAS S. CRANE.