

J. S. THORN & C. LEFFLER.

METALLIC ROOFING TILE.

No. 341,967.

Patented May 18, 1886.

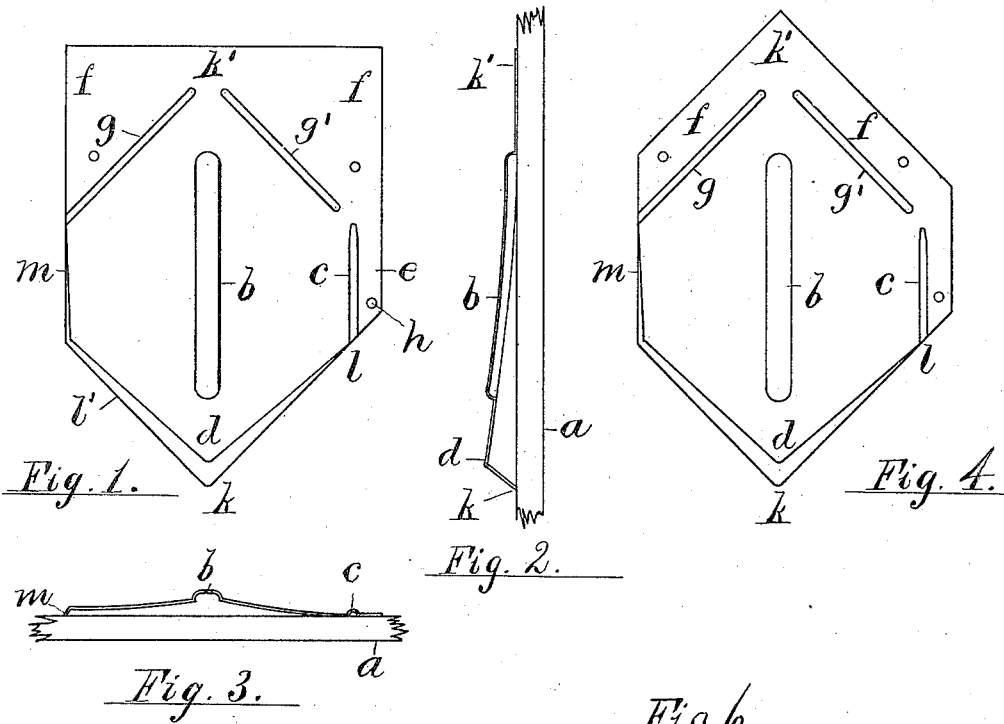


Fig. 3.

Fig. 6.

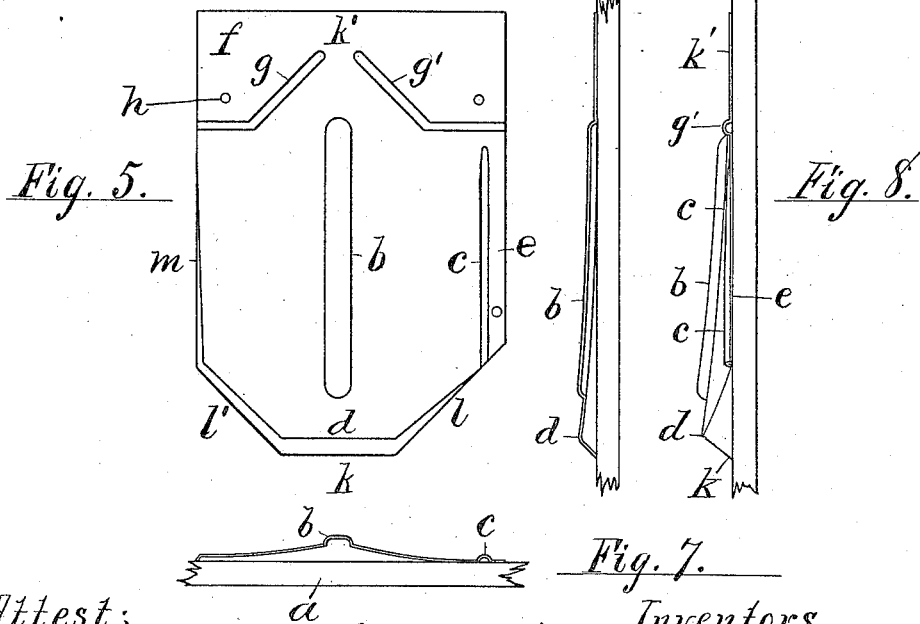


Fig. 5.

Fig. 7.

Attest:

Inventors.

L. Lee J. S. Thorn & C. Leffler
Henry J. Theberath per Crane & Miller Atty

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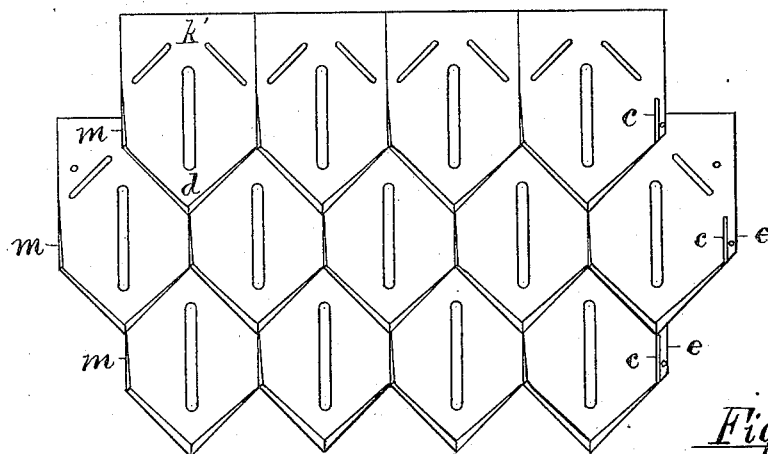


Fig. 9.

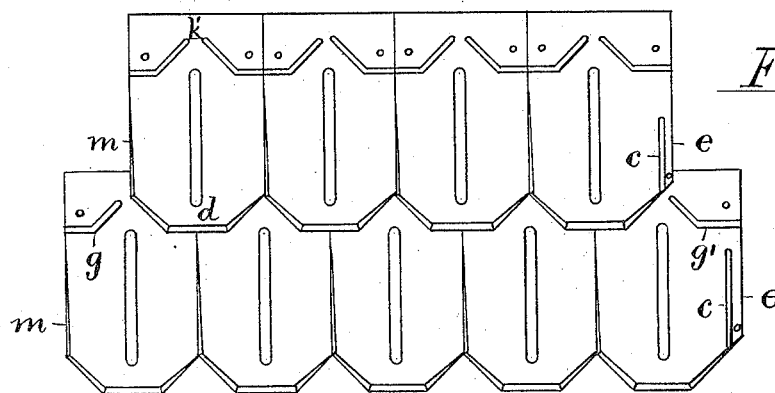


Fig. 10.

Attest;

L. Lee
Henry J. Thebrath.

Inventors.

J. S. Thorn & C. Leffler.
per Cramer & Miller, atty.

UNITED STATES PATENT OFFICE.

JACOB S. THORN, OF PHILADELPHIA, PA., AND CHARLES LEFFLER, OF
BROOKLYN, N. Y.; SAID LEFFLER ASSIGNOR TO SAID THORN.

METALLIC ROOFING-TILE.

SPECIFICATION forming part of Letters Patent No. 341,967, dated May 18, 1886.

Application filed February 18, 1886. Serial No. 192,397. (No model.)

To all whom it may concern:

Be it known that we, JACOB S. THORN and CHARLES LEFFLER, citizens of the United States, residing, respectively, in Philadelphia and Brooklyn, counties of Philadelphia and Kings, States of Pennsylvania and New York, have invented certain new and useful Improvements in Metallic Roofing-Tiles, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to a sheet-metal tile having parallel edges at the middle of its length, and having its point formed with sloping sides adapted to form an ornamental pattern when laid upon the roof. The point of such a tile would be lapped over the joint formed by those previously laid.

The invention consists, partly, in an outward curvature formed in that part of the tile which is uncovered, partly in a stiffening-rib along the middle of such curved portion and partly in the combination, with a tapering flange formed upon the point of the tile, of ribs formed in the head of the tile, and adapted to engage such flange when the tiles are properly joined together and secured upon the roof.

In the drawings are shown three different forms of tile provided with these improvements, Figure 1 showing a tile with diamond-shaped point and square head, Fig. 2 being a longitudinal section of the same, and Fig. 3 a transverse section of the same where the lines *m e* are applied to the heads of the tile. Fig. 4 represents a tile with diamond-shaped point and head. Fig. 5 represents a tile with octagonal point and square head; Fig. 6, a longitudinal section at the middle of the same; Fig. 7, a transverse section similar to Fig. 3. Fig. 8 is an edge view of the tile shown in Fig. 5, with an increased projection for the curved part of the tile, to show the rib *c* and other details of construction more prominently. Fig. 9 shows the arrangement upon the roof of the tiles shown in Figs. 1 and 4, and Fig. 10 shows the arrangement upon the roof of the tile shown in Fig. 5.

d is the point of the tile, and *k'* the head, and the latter is separated from the former by ribs *g g'*, adapted to engage with the points of similar tiles when lapped upon the same.

Above the ribs *g g'*, and at one of the parallel edges of the tile, the plate is made flat, as is shown at the head of the tile *k'* in Fig. 2, and in the edge view of the flange *e* in Fig. 8, but is curved outwardly from the ribs down to the point *d*, to present an ornamental appearance when laid upon the roof, and a rib, *b*, is shown extended along the middle of such curved portion, partly to ornament the same, and partly to stiffen the point of the tile. The tile-plate is made wider upon one side of the rib *b* than upon the other, and is provided with a raised rib, *c*, parallel with the edge of such side, leaving a nailing-flange, *e*, which serves as a weather-guard outside the said rib. A flange, *k*, is bent toward the roof at the point of the tile and along the sloping side of the point, and is also extended along one parallel side of the tile, as at *m*, to the outer end of the rib *g*. At the opposite side of the point the flange is terminated at the lower end of the rib *c*, and is tapered in depth equally from the point in each direction, as is shown at the opposite sides, *l m*, in Figs. 1, 4, and 5. Such taper is necessitated by the outward curvature of the tile where it is exposed, and for the purpose of closing the joint between such curved part of the tile and the flat surfaces to which the flange is fitted when lapped upon the tiles previously laid upon the roof. Such flat surfaces exist along the lines of the ribs *g, g'*, and *c*, and the parts of the tapering flange which correspond therewith are indicated, respectively, by the letters *l, l'*, and *m*, the flange at the latter point lapping over the rib *c*, the upper end of which is tapered gradually away to make it fit underneath the tapering flange.

The arrangement of the tiles upon the roof is shown in Figs. 9 and 10, the former figure representing the arrangement of the tiles shown in Figs. 1 and 4, and the latter of the tiles shown in Fig. 5.

The designs shown in Figs. 1 and 4 are the same in all their constructive features, except the sloping of upper corners parallel with the flanges *g g'*, to form a point at the head *k*, and the method of laying the tiles is the same for all the forms illustrated.

The different shapes shown in Figs. 1 and 4 are adapted to use sheet-tin of different shapes in the manufacture of the tiles. Thus tin may

be used of an oblong shape—as ten inches by fourteen inches in the former figure, and of square shape, as twelve inches by twelve inches (with the lateral corners cut off) in the latter figure. The lower tier of tiles is laid by lapping the tapering flange at the side *m* over the tapering rib *c*, and then laying the second tier with the points *d* over the vertical joints of the preceding tiles with the tapering flange *k l l'* over the ribs *g g'*. The tiles shown in Fig. 5 are also guided when laying them side by side by placing the horizontal end of the rib *g* over the similar end of the rib *g'*, the two ribs then corresponding exactly in form with the truncated point of the tile. The nailing-flanges *e* are shown herein provided with holes *h* for the application of nails; but these holes may be omitted at pleasure, or indentations substituted therefor. The effect of the curved form when re-enforced by the tapering flange *k l m* and of the nailing-flange *e* and ribs *c* at one side of such curved part is to press the point *d* firmly down upon the roof over the tiles previously laid, and to secure a tight joint where the point *k* of the flange is applied over the ribs *g g'*. The application of the curved longitudinal rib *b* serves also to stiffen the point of the tile, so that it may be made of thinner metal than otherwise, while its appearance as the only prominence upon the exposed part of the tile produces a highly ornamental effect upon the roof.

We have not claimed herein the combination of a tapering flange upon the point of the tile with the particular construction of the ribs *g g'* upon the head of the tile, as we have claimed the same generically in a patent application copending herewith, but have restricted our present application partly to a tile having parallel edges at its opposite vertical sides and a tapering bent flange upon a point formed with sloping sides and partly to a tile having flat head and outwardly concave form upon its exposed portion.

What we claim herein is—
1. The combination, in a tile, of parallel

edges at opposite sides of the tile, a point having sloping sides, a tapering bent flange upon both the sloping sides *l l'* of the point and upon one of the parallel edges at *m*, and a tapering rib, *c*, near the opposite parallel edge of the tile, and adapted to fit beneath the tapering flange at *m*, substantially as shown and described.

2. A tile-plate having at its head a flat portion adapted to rest upon the roof and a portion extending therefrom to the point in an outwardly-concave curve, the point being thus elevated from the roof and the point and side of such curved portion being provided with an inwardly-bent flange having its greatest depth at the point of the tile and tapered upwardly along the sides of the curved portion, and a longitudinal rib of the same curvature as the concave plate being formed longitudinally along the middle of the same to stiffen the middle part of such curved portion and to hold the point of the tile close to the roof when laid, substantially as herein set forth.

3. The combination, in a tile having parallel edges and point with sloping sides, of the ribs *g g'*, formed in the head of the tile of contour similar to the opposed edges of the point, the rib *c*, tapered upward and formed near the side of the tile parallel with its edge, the flange projected inward from the point *k* and tapered upward upon one side of the tile along its edge at *m* to the end of the rib *g*, and in the opposite direction along the sloping side *l* to the lower end of the rib *c*, and the tile being provided with a nailing-flange, *e*, outside the rib *c*, and the nailing-flange *f* above the ribs *g g'*, and the parts being constructed and arranged substantially as shown and described.

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

JACOB S. THORN.
CHARLES LEFFLER.

Witnesses:

CHAS. L. HART,
THOS. S. CRANE.