(No Model.)

J. S. THORN.

COMBINATION METALLIC ROOFING TILE PLATE.

No. 347,843. Patented Aug. 24, 1886.

Fig. 1.

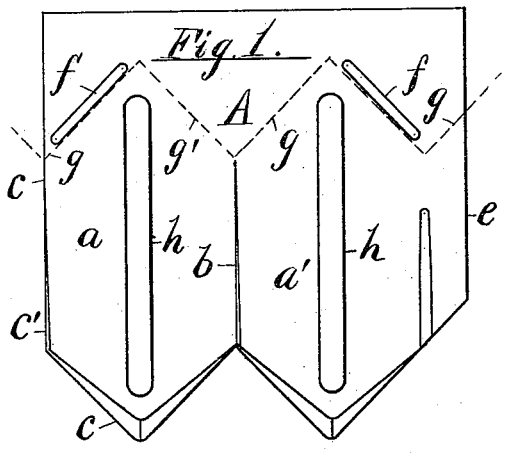


Fig. 3.

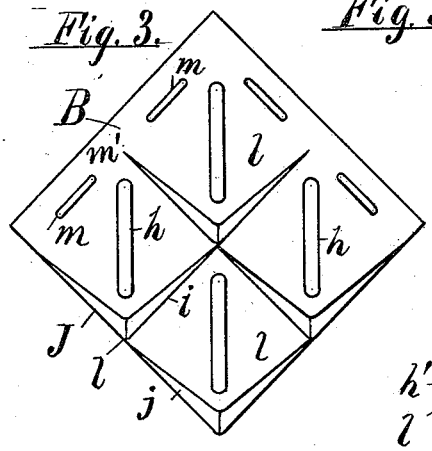


Fig. 5.

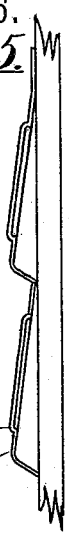


Fig. 4.

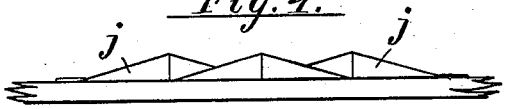


Fig. 2.

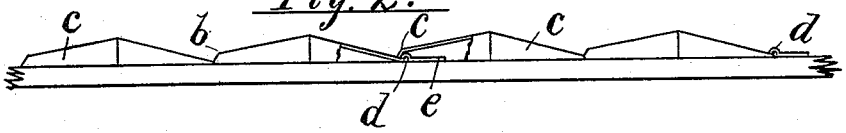
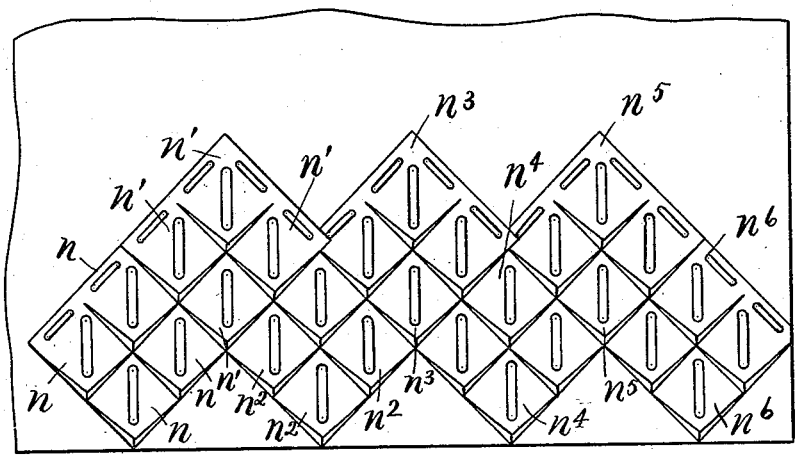


Fig. 6.



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COMBINATION METALLIC ROOFING TILE-PLATE.

SPECIFICATION forming part of Letters Patent No. 347,843, dated August 24, 1886.

Application filed February 23, 1886. Serial No. 192,782. (No model.)

To all whom it may concern:

Be it known that I, JACOB S. THORN, a citizen of the United States, residing in Philadelphia, Philadelphia county, Pennsylvania, have invented certain new and useful Improvements in Combination Metallic Roofing Tile-Plates, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention consists, essentially, in the combination, in a single sheet-metal plate, of two or more tiles, the outlines of the several tiles being defined by similar projections from the surface or level of the plate, and the upper part of the plate being provided, when desired, with projecting ribs arranged parallel with the points of the lower tiles, and the latter being constructed with inwardly-bent flanges adapted to cover said ribs.

It also consists in a modification in which the outlines of the combined tiles are defined by upwardly-tapering flanges, and in a longitudinal rib along the middle of each tile.

The tile-plate referred to herein is a single complete structure, while, for convenience of description and reference thereto, the tiles defined upon the plate are referred to as if they were distinct tiles; and, although it may be applied to tiles of various designs, the invention is only shown in the annexed drawings as applied to diamond-shaped tiles and to shingle-shaped tiles with diamond points.

Figure 1 represents in a single plate two of the latter form of tiles, and Fig. 2 showing the lower end of the plate. Fig. 3 represents in one plate four diamond-shaped tiles; Fig. 4, an end view of the same, and Fig. 5 a longitudinal section at the middle of the plate. Fig. 6 represents the tile-plates shown in Fig. 3, as applied to the lower corner of a roof.

In Figs. 1 and 2, A is the tile-plate; *a a'* the two tiles formed thereon by a projection of one tile above the other at their junction on the vertical line *b*, and by separate bent flanges, *c*, formed around their diamond-shaped points. The outline of the tile *a* is bordered by the extension of the flange *c* along the vertical edge *c'*, as far as the tile is intended to show when laid upon the roof. The outline of the tile *a'* is completed upon its outer margin by the lapping of such flange over it when laid, and a rib, *d*, and nailing-flange *e* are provided at such margin to make a weather-joint when covered by such flange. The head of the tile is provided with two ribs, *f f*, formed parallel with the outer edges of the point, and not only guide in laying the points of the tiles upon those beneath them, but form the required weather-joint. Longitudinal ribs *h* are also shown along the middle of each tile to stiffen the same. Such tiles are laid over a preceding tier, with the points of the flanges *c* upon the dotted lines *g* on the head of the plate, thus breaking joints with the tier below, and the plate can be readily divided on the line *b* to make the same fit the vertical line, at the roof ends.

In the design shown in Fig. 3 four diamond-shaped tiles are shown combined in one plate.

In Figs. 3 to 5, B is the plate, and *l l l l* are the four tiles formed or outlined thereon by imitations *i* of the flanges shown at *c* in Fig. 1, and the lower edges of the plate being provided with similar flanges, *j*, to match the same, when the plates are overlaid upon a roof.

To secure an apparent projection of each tile and a close fit of the overlapping flanges *j*, it is necessary that each of the flanges *i* and *j* should be tapered upward and die away at the point of the tile above. Such tapering is clearly indicated in Figs. 3 and 4, and in the sloping surface of the plate shown at *l* in Fig. 5. The head of the tile is formed with flat nailing-flanges *k* and with separate ribs *m*, parallel with the flanges *j*, and adapted to fit beneath the same, and to make a weather-joint therewith when laid upon a roof. They are also shown with longitudinal ribs *h'*. Their arrangement, when thus laid, is shown in Fig. 6, where *n* represents one of the four-in-one tile-plates, and *n' n² n³*, &c., are similar tile-plates fitted to them by laying the flanges *j* over the ribs *m*, and nailing the flanges *k* to the roof. The spaces between the corners of the plates at the eaves and edges of the roof should be covered with flat sheets of tin before the tiles are applied.

My invention secures the following advantages over other constructions: first, that it combines in a single plate the architectural effect of several tiles with fewer joints exposed to the weather; secondly, that it is cheaper to manufacture, as the handling of the plates and the number of operations required to form a

given number of tiles is materially reduced; and, thirdly, that the time required to cover a roof with tiles of a given size and pattern is correspondingly decreased.

I do not claim it as new to form a weather-joint by the use of a rib upon the head of the tile and an inwardly-bent flange upon the point; neither do I claim herein the tapering of the bent flange to the surface of the tile-plate; but it will be noticed, by reference to Figs. 3 and 4, that the series of tapering flanges formed at the edge of a compound tile-plate where they die away or run into the level of the plate, as at *l'* in Fig. 3, interfere with the use of a continuous rib upon the head of the plate, and the ribs *m* are therefore made separate with a space, *m'*, between them to permit the points of the lateral tiles to come in contact with the plate in such space, and thus form a close joint when the tiles are laid together.

Although the tile plate, when made with projections to form a series of tiles upon the surface, would not lie flat upon the roof-sheathing except at the head of the plate, it is evident that various points of the projections may originate at the level of the plate, and would therefore support the tile by contact with the roof. Such contact is effected with the designs shown in the drawings, along the lines of the bent flanges *c* and *j*, and the projections *i*, which imitate the latter.

It will be noticed that the semblance of distinct tiles at different parts of the plate in Fig. 3 is chiefly produced by the formation of the projections *i* in imitation of the bent flanges *j*, which form the points of the tiles along the exposed borders of the plate.

Having thus set forth my invention, what I claim herein is—

1. A metallic tile-plate comprising in a single metallic plate two or more imitation tiles, the lower edge of each tile being distinguished by projection from the level of the plate.

2. A metallic tile plate comprising in a single metallic plate two or more imitation tiles, the lower edge of each tile being distinguished by a projection from the level of the plate inclined upwardly to the surface of the plate at the point of the tile above.

3. A metallic tile-plate comprising in a single metallic plate two or more imitation tiles, the lower edge of each tile being distinguished by projections from the level of the plate, and the lower edge of the plate being provided with flanges bent inward, and the head or upper part of the plate being provided with ribs parallel with such flanges, as and for the purpose set forth.

4. A metallic tile-plate comprising in a single metallic plate two or more imitation tiles, the lower edge of each tile being distinguished by a projection from the surface of the plate, the projection being inclined upwardly to the surface of the plate, as described, and the middle of each tile being provided with a longitudinal rib to stiffen and ornament the same, substantially as herein set forth.

5. A metallic tile plate comprising in a single metallic plate two or more imitation tiles, the lower edge of the plate being formed with flanges bent inwardly, and the plate being provided above such lower edge with projections imitating such bent flanges, the construction being adapted to produce the semblance of distinct tiles at different parts of the plate, substantially as shown and described.

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

JACOB S. THORN.

Witnesses:
CHAS. RUPP,
W. B. GODDARD.