

No. 626,006.

Patented May 30, 1899.

W. HEIDT.
METALLIC ROOFING.

(Application filed Apr. 18, 1898.)

(No Model.)

Fig. 1.

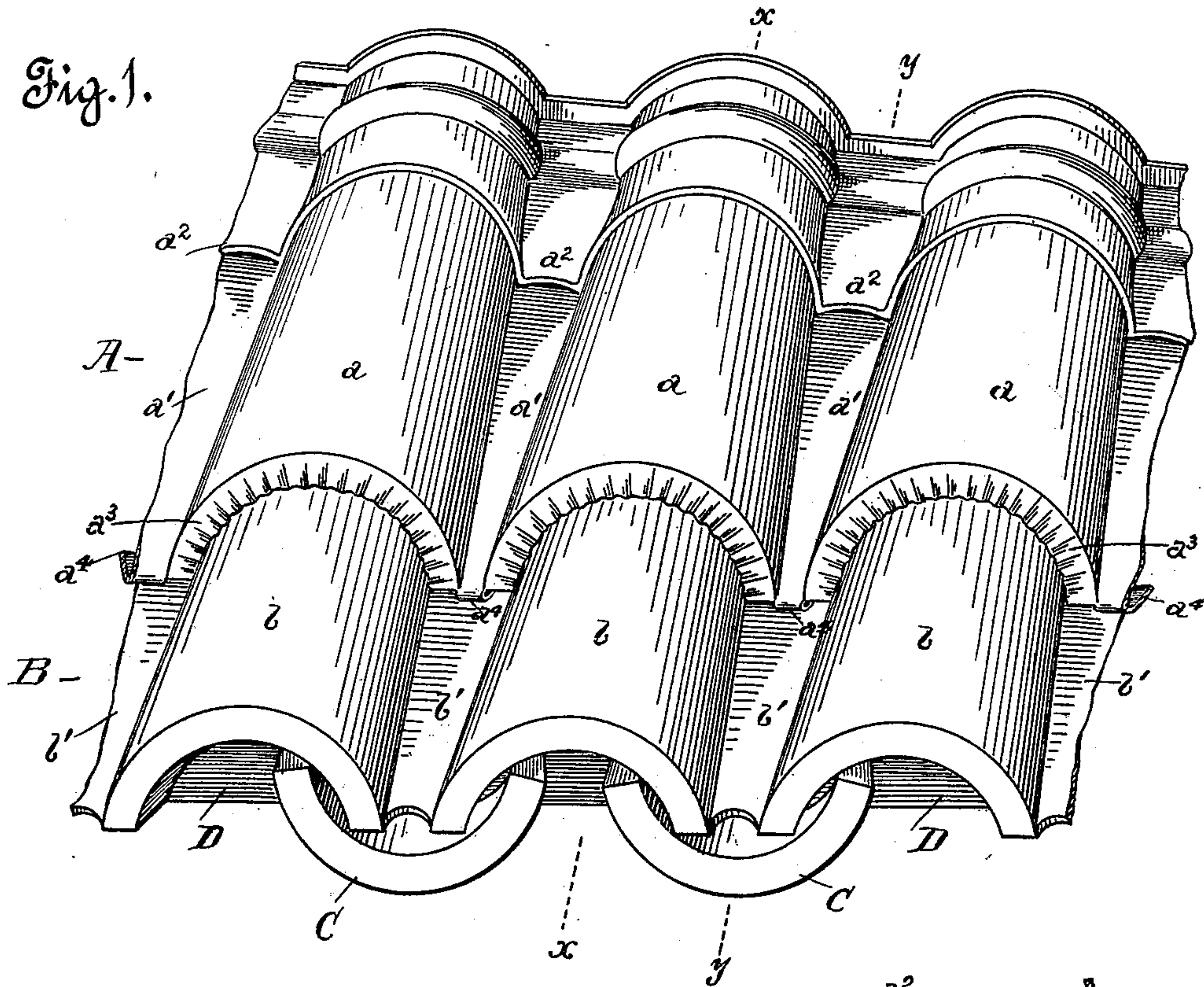


Fig. 2.

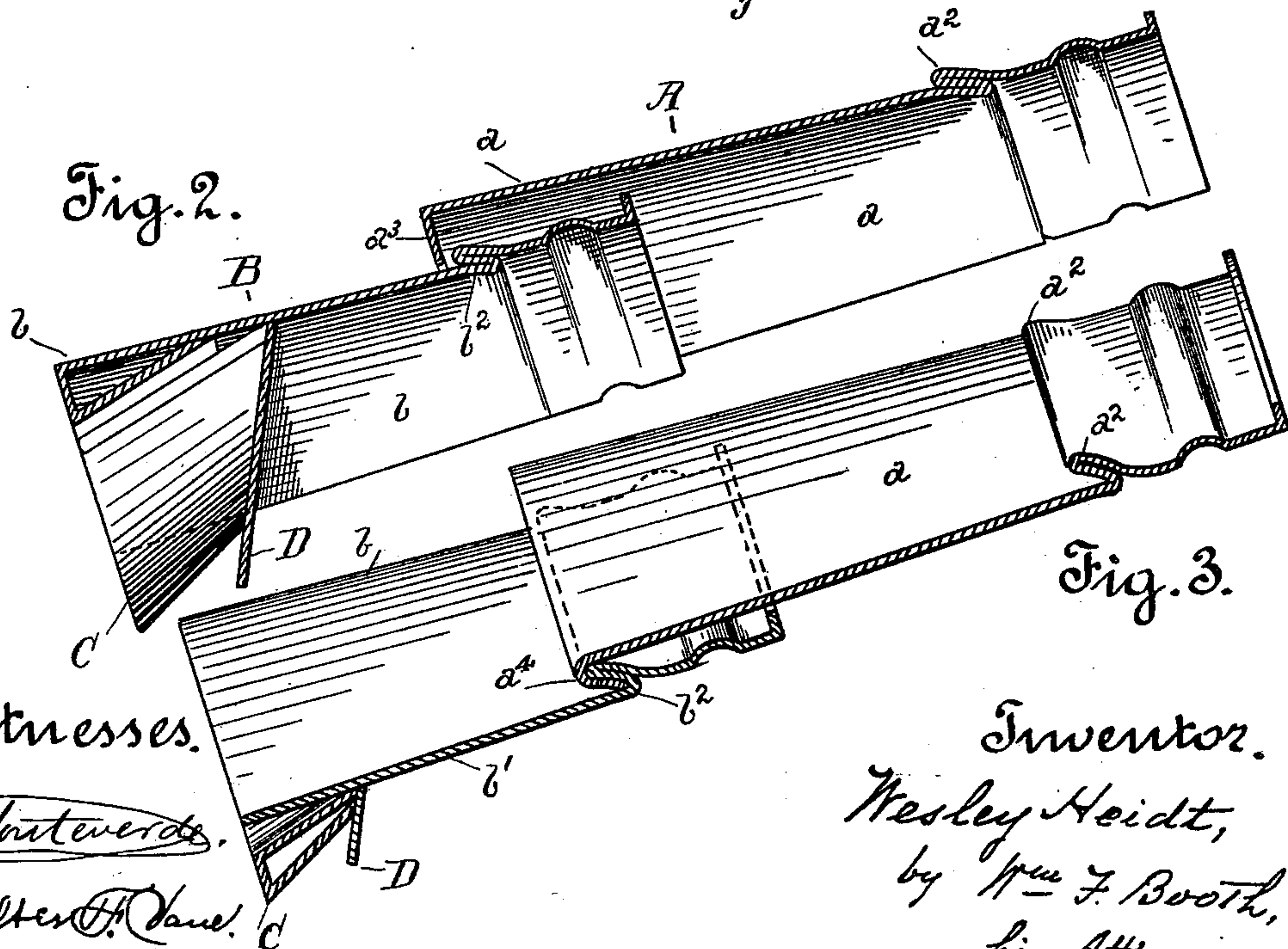


Fig. 3.

Witnesses.

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METALLIC ROOFING.

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Application filed April 18, 1898. Serial No. 677,930. (No model.)

To all whom it may concern:

Be it known that I, WESLEY HEIDT, a citizen of the United States, residing in the city and county of San Francisco, in the State of California, have invented certain new and useful Improvements in Metallic Roofing; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of metallic roofing in which plates or sheets of metal are formed in shape of tiles and are laid up, together with proper joints and fastenings, to form a continuous metallic-tile roof.

As an entire roof cannot practically be made of a single sheet, which theoretically might present the best construction in so far as security from leaks is concerned, and as, therefore, the roof must be made in sections, the necessity for providing suitable water-tight or rather water-excluding joints and connections has been recognized by those seeking to improve this class of manufacture, and with this in view it has been found expedient to limit or restrict the number of these joints by making as few sections or plates as practicable, for which reason the better plans contemplate the forming of a plurality of tile shapes from a single sheet or plate; but as these shapes are made in rows, the joints, in addition to being made between continuations or sections of the same row, are chiefly and with greater difficulty on account of shape made between the plates or sections of different rows. In addition to the necessary constructions at the joints the finish and construction of the "eaves row" have received attention with a view to presenting the necessary appearance at the eaves of the true-tile construction, as well as to guard against the weather and the entrance of birds.

My invention consists in an improved and novel joint between the plates or sections of the several tile rows which is not only effective in connecting the parts and in excluding rain, but also serves the further and important purpose, growing out of the peculiarity of its construction, of materially stiffening the tiles.

My invention also consists in an improved and novel construction of the eaves row by which are secured in simple and effective manner the necessary results of proper ap-

pearance and protection, as I have above indicated.

Referring to the accompanying drawings, 55 Figure 1 is a perspective view of my metallic roofing. Fig. 2 is a section on line xx of Fig. 1. Fig. 3 is a section on line yy of Fig. 1.

A is one row of tiles made from a single metallic sheet or plate. This plate has the 60 usual width to form tiles of ordinary length, and it has any proper length in which may be formed a plurality of tile shapes a , with intervening flat valleys a' , and all from the single sheet. I have not deemed it necessary 65 herein to illustrate more than three of the tile shapes in this sheet, though it will be understood that as far as my improvements are concerned there may be in each sheet any number of such shapes. It will also be un- 70 derstood that the continuation of tile row A to be formed from another sheet will be properly secured to said row. Near the upper end of the tile row A the sheet is so bent upon itself throughout its entire length as to form 75 a fold or plait a^2 . This fold or plait thus traverses the tile shapes a and the valleys a' . On the former it is pressed down close; but in the latter it is left open enough to receive the tongues of the next row, as I shall pres- 80 ently explain. The lower edge of the plate of tile row A is bent or crimped inwardly on the tile shape, as shown at a^3 , and in the valleys said lower edge is formed into the tongue a^4 . B is another tile row, which for conven- 85 ience I show as the eaves row. This row has tile shapes b and valleys b' , like those of row A. It is also formed near its upper end with the fold or plait b^2 , which like that of row A is pressed down closely on the tiles 90 and left open in the valleys. The row A is placed on row B, the crimped or flanged lower ends a^3 of the tile shapes of row A fitting over the tile shapes of row B just over the fold or plait b^2 . The tongues a^4 of the val- 95 leys or flat portions of row A enter the open folds or plaits b^2 of the valleys or flat portions of row B and are locked therein and so form a joint or connection between the two rows. In like manner a row above row A 100 would fit over the tiles of the latter, and its tongues would then engage the folds or plaits a^2 of said row A, and so on throughout the roof. Now it will be seen that the folds or

plaits a^2 and b^2 of the several tile rows form means for readily connecting the rows by receiving the tongues of adjacent rows, and said folds or plaits will prevent rain from beating up past them, thus effectually excluding it from between the rows. In addition to this by extending the fold or plait over the tile shapes as well a barrier is presented, in connection with the flanges a^3 , to exclude the rain even on said shapes, though its tendency to beat upon the convex surfaces of the tile shapes is very slight; but the decided improvement in thus extending the fold or plait over the tile shapes lies in the fact that they materially stiffen them, a very beneficial result considering the comparatively thin sheets of which the tiles are formed.

As the easiest and most practicable way to form the folds or plaits a^2 and b^2 , which have their chief function in the valleys or flat portions, is to extend them throughout the length of the metallic sheet, thus causing them to traverse the tile shapes as well, and as on said shapes they serve an additional and useful purpose, it will be seen that such folds or plaits unite the best and most economical plan of manufacture with the attainment of the desired results, as above mentioned.

The required appearance of the eaves row to imitate true tiles is one in which the exposed ends of the tile shapes of said row are made to assume an appreciable thickness and are united with inverted tile shapes having a similar appreciable thickness, said inverted tile shapes receiving in their concavities the adjacent sides of the other tile shapes. These inverted tile shapes I have designated by C. In my construction they are independent of each other instead of being formed of a continuous sheet, as in some constructions. When formed of a continuous sheet, they consist of the inverted tile shapes united by flat ties, the latter lying just under and stretching across the upper portion of the dome of the eaves-row tiles. The objection to this is twofold. First, it destroys the imitative appearance of the inverted tiles to the true terra-cotta or pottery tiles, for the true tiles are never so connected, and, second, these flat tiles conceal from view the dome of the overlying tiles, which should be seen as in the true-tile eaves row; but by making the inverted shapes separate, as in my invention, these objections are avoided and a true and perfect appearance is given to the eaves row. By my construction I am enabled, further, to give to both the tiles b and C that appearance of thickness in the portions exposed to view which is desirable and to better fit the inverted shapes to the filling-in strip D, against which their inner ends abut. The required thickness of the lower end of tile shapes b is gained by doubling the walls and closing the ends, the inner wall inclining upwardly and backwardly to the under side of the tile shape. The inverted

tile shapes C are made as hollow casings with closed outer ends, presenting an appearance of solidity wherever exposed to view. They extend upwardly under the tile shapes b , and their inner ends are beveled to the inclination of the filling-in strip D, against which they abut. This strip is cut out on its upper edge to conform to the contour of the under side of the tile row B, thus fully filling in the tiles with a view to protection against the weather and the entrance of birds. Thus the portions exposed to view of both shapes b and C have the necessary appearance of thickness and conform with accuracy to the appearance and style of true tiles.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In metallic roofing formed of rows of tile shapes and intervening valleys, a fold or plait formed transversely in the valleys of one row, near but removed from the upper edge thereof and a transverse tongue formed on the lower edge of the valleys of an overlapping row, adapted to enter and engage under said fold or plait.

2. In metallic roofing formed of rows of tile shapes and intervening valleys, a fold or plait formed in one row and extending transversely throughout the tile shapes and valleys, and a transverse tongue formed on the lower edge of the valleys only, of an overlapping row, adapted to enter and engage under the fold or plait in the valleys of the underlying row.

3. In metallic roofing formed of rows of tile shapes and intervening valleys, a fold or plait formed in one row and extending transversely throughout the tile shapes and valleys, and a downturned flange on the lower edge of the tile shapes of an overlapping row and a tongue on the lower edge of the valleys thereof, said flange fitting down over the fold or plait on the tile shapes of the underlying row and said tongue entering and engaging under the fold or plait in the valleys thereof.

4. In metallic roofing formed of rows of tile shapes and intervening valleys, a fold or plait formed in one row and extending transversely throughout the tile shapes and valleys, said fold or plait being left raised or open in the valleys and pressed down close on the tile shapes, and a transverse tongue formed on the lower edge of the valleys only, of an overlapping row, adapted to enter and engage under the raised or open fold or plait in the valleys of the underlying row.

5. In metallic roofing formed of rows of tile shapes and intervening valleys, a fold or plait formed in one row and extending transversely throughout the tile shapes and valleys, said fold or plait being left raised or open in the valleys and pressed down close on the tile shapes, and a downturned flange on the lower edge of the tile shapes of an overlapping row and a tongue on the lower edge of the valleys thereof, said flange fitting down over the pressed-down fold or plait on the tile shapes

of the underlying row, and said tongue entering and engaging under the raised or open fold or plait in the valleys thereof.

5 6. In metallic roofing the eaves row thereof, comprising a series of tile shapes, and a series of inverted tile shapes receiving the sides of the first-named tile shapes, both shapes having such of their portions as are exposed to view formed with double walls and
10 closed outer ends.

7. In metallic roofing the eaves row thereof, comprising a series of tile shapes and a series of independent, separate inverted tile shapes, receiving the sides of the first-named
15 tile shapes, both shapes having such of their portions as are exposed to view formed with double walls and closed outer ends.

8. In metallic roofing the eaves row thereof, comprising a series of tile shapes, a series of
20 inverted tile shapes, receiving adjacent sides of the first-named tile shapes and a filling-in strip back of the inverted tile shapes and conforming to the contour of the under surface of the first-named series of tile shapes.

25 9. In metallic roofing the eaves row thereof, comprising a series of tile shapes, a series

of independent, separate inverted tile shapes, receiving adjacent sides of the first-named tile shapes and a filling-in strip back of the inverted tile shapes and conforming to the
30 contour of the under surface of the first-named series of tile shapes, the inverted tile shapes having their inner ends abutting against said filling-in strip.

10. In metallic roofing the eaves row thereof, comprising a series of tile shapes having
35 their lower ends, where exposed to view, formed with double walls and closed ends, a series of independent, separate, inverted tile shapes formed with double walls and closed
40 ends, said inverted tile shapes receiving adjacent sides of the first-named tile shapes, and a filling-in strip abutting against the inner ends of the inverted tile shapes and conforming to the contour of the under surface
45 of the first-named series of tile shapes.

In witness whereof I have hereunto set my hand.

WESLEY HEIDT.

Witnesses:

D. B. RICHARDS,
WALTER F. VANE.