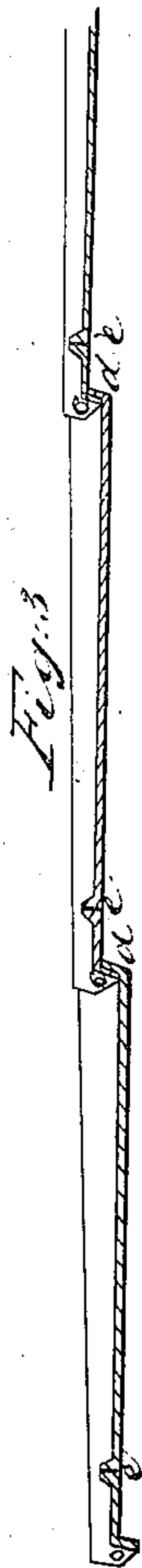
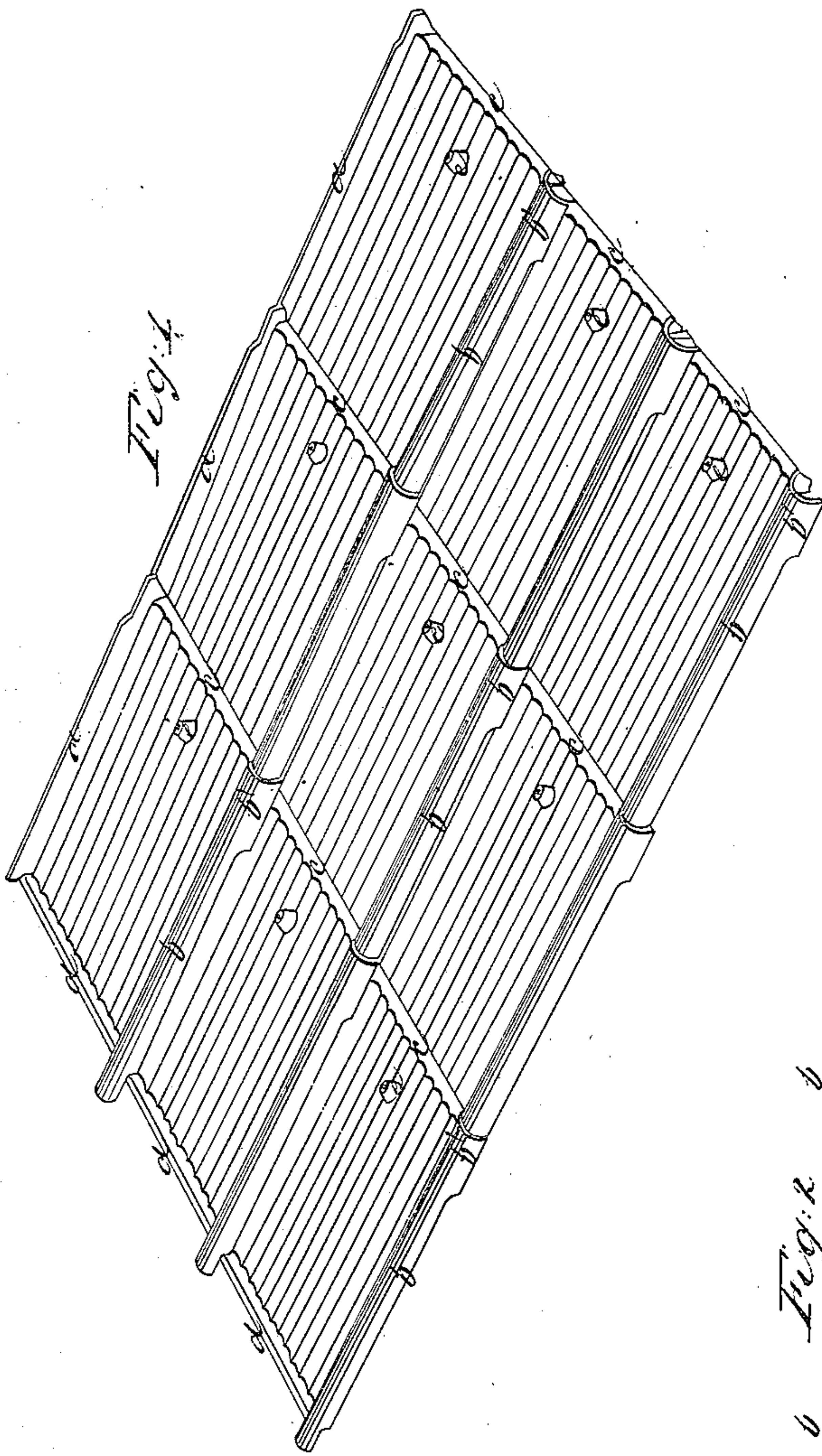


*W. Beach.*

*Metal Roofing.*

*N<sup>o</sup> 2,585.*

*Patented Apr. 23, 1842.*





# UNITED STATES PATENT OFFICE.

WILLIAM BEACH, OF PHILADELPHIA, PENNSYLVANIA.

## CAST-IRON ROOFING.

Specification of Letters Patent No. 2,585, dated April 23, 1842.

*To all whom it may concern:*

Be it known that I, WILLIAM BEACH, of the city of Philadelphia, Pennsylvania, have made an Improvement in the Manner of Forming and Combining Plates of Cast-Iron for Covering the Roofs of Buildings; and I do hereby declare the following is a full and exact description thereof.

I am aware that plates of cast-iron have been used for the covering of the roofs of buildings, and I do not claim, therefore, to be the first to have employed this material for that purpose; but I limit my claim to certain improvements thereon, by which such covering is rendered more secure and effective than heretofore.

In the accompanying drawing, Figure 1, represents a number of plates of cast-iron combined together so as to form a part of the covering of a roof. Fig. 2, is a section through these plates, cutting them laterally, or in the direction of their width; and Fig. 3, a section cutting them lengthwise, or in the direction from the ridge of the roof to the eaves. I form flutes, or hollows, from the top to the bottom of each of these plates, as shown in the drawing, for the purpose of preventing the water which may run down them from being driven by the wind to one side, and being thereby caused to flow over the lateral edges, which it has been found to do when the plates were made smooth upon the surface. To cause the plates to be as light as possible, their undersides are reeded to correspond with the fluting on their upper surface. On one edge of each of the plates I raise a ledge, as shown at *a, a*, say to the height of an inch, more or less. On the opposite side I form a hollow bead, *b, b*, which is to receive and embrace the ledge *a, a*, of a contiguous plate; at its lower end, as at *b'*, this hollow bead is enlarged so as to receive, and overlap, the upper end of the bead of the plate immediately below it. At the lower edge of each plate I form a ledge which turns downward, as shown at *c, c, c*, and at their upper ends a similar ledge that turns upward, as at *d, d, d*. To attach these plates to the plank of the roof I use a single screw,

or nail, which passes through a hole in a protuberance *e, e*, made in each plate for that purpose. This protuberance rises to a sufficient height to prevent the overflow of water; and the plates being each thus fastened at a single point are left free to expand and contract in all directions, unobstructedly. For the ridge of the roof similar plates may be cast, but descending on each side; and at the sides where the roof terminates, plates are to be used adapted thereto; that is to say, without the provision for connecting them with a contiguous row. By the above described arrangement, the surfaces of the respective plates in each row, laterally, will be all in the same plane, and the whole will be compactly and securely bound together. The plates may vary in size, but I prefer them of about twelve by eighteen inches, as they may then be cast so as not to be more than an eighth of an inch, or thereabout, in thickness; while if they are of a larger size their thickness will have to be increased.

Having thus fully described the nature of my improvements in the formation of a covering of cast-iron for the roofs of buildings, what I claim therein as new, and desire to secure by Letters Patent, is—

The combination of plates whose surfaces are fluted, in the manner set forth, in combination with the particular manner of joining them at their sides, or edges, by the hollow bead, and the respective ledges, formed as set forth; the whole being so arranged as that the surface of each plate will be on the same plane with its contiguous plates, laterally, and also, as making a part of the same combination, the manner of fastening the respective plates by means of a single nail or screw, passing through a hole in a protuberance made thereon, in the manner and for the purpose herein set forth. And I do hereby declare that I do not claim these devices otherwise than as they each make a part of this combination.

WILLIAM BEACH.

Witnesses:

JOHN THOMPSON,  
CHARLES H. MELLOE.