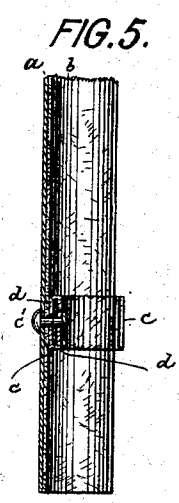
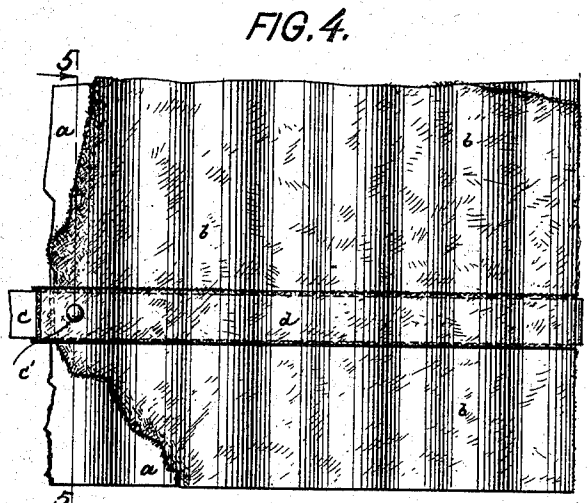
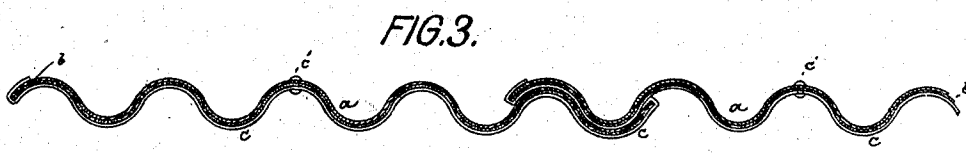
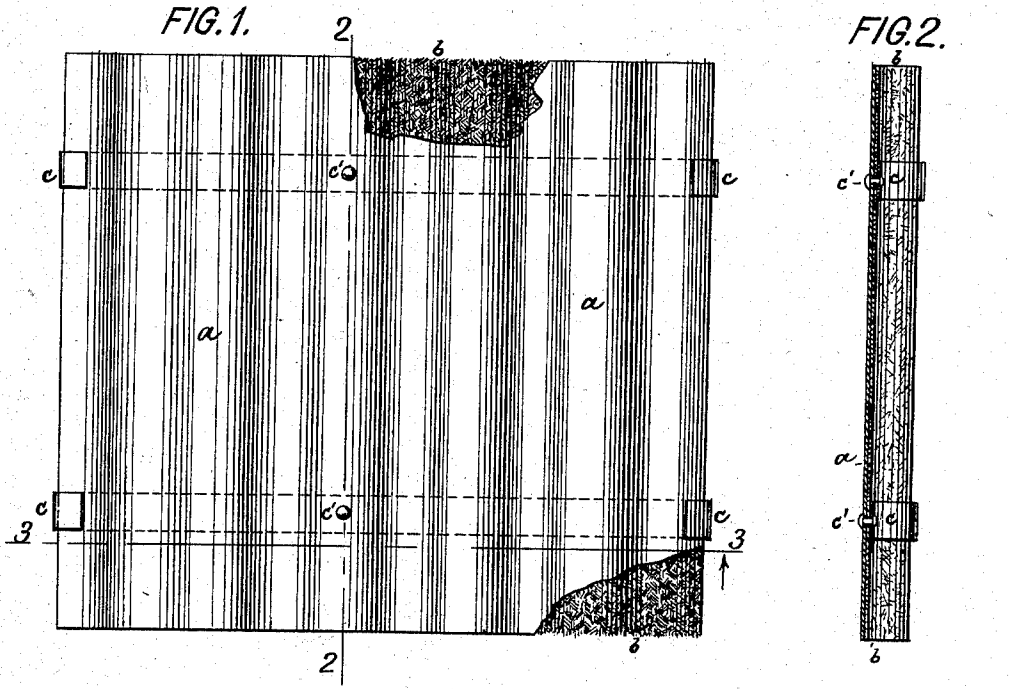


(No Model.)

P. NORTON.
ROOFING PLATE.

No. 527,505.

Patented Oct. 16, 1894.



Witnesses:
John Becker
William Schulz

Inventor:
Patrick Norton
by his attorneys
Roder & Brisson

UNITED STATES PATENT OFFICE.

PATRICK NORTON, OF JERSEY CITY, NEW JERSEY.

ROOFING-PLATE.

SPECIFICATION forming part of Letters Patent No. 527,505, dated October 16, 1894.

Application filed April 21, 1894. Serial No. 508,408. (No model.)

To all whom it may concern:

Be it known that I, PATRICK NORTON, of Jersey City, Hudson county, New Jersey, have invented an Improved Roofing-Plate, of which the following is a specification.

This invention relates to an improved corrugated plate for roofing and siding, which is constructed with a view of preventing water from condensing on its lower face. This condensation of water or "sweating," is objectionable for various reasons, the principal ones being that the drippings are apt to injure the articles upon which they fall, and that the water adhering to the plates is apt to accelerate their decay. For avoiding the injurious results of such condensation and dripping, roofings have already been devised consisting of corrugated metal plates to which layers of non-conducting material such as felt; but hitherto these layers of non-conducting material have been secured to the metal plates by continuous contact of the surfaces, as by cementing the whole of the upper surface of the non-conducting material to the under surface of the metal. This would form a very durable roofing plate were it not for the changes of temperature; but owing to the great difference in the expansibility of the metal and non-conducting material with a rise of temperature, such roofing plates will be short-lived. The difference in expansibility is rendered the more effective in breaking up and destroying the union between the metal and non-conducting material from the fact that the former is exposed to great extremes of heat and cold while the latter is not so exposed. Thus the one undergoes great expansion which the other would not undergo even if it were of the same specific expansibility.

To avoid the defects in the above mode of union of the metal and non-conducting material, which have hitherto so much impaired the value of the combination as a commercial article by limiting its durability, I have devised a roofing plate consisting of two corrugated layers, the upper of metal and the

lower of non-conducting material, which layers are secured to each other at sparsely scattered points, as by rivets. This arrangement entirely obviates the above mentioned defects, for each layer, being corrugated, is free to expand or contract between the points common to both, the rivets, and there is no tendency whatever to become loose. A further advantage of this means of union is its economy of manufacture, and further advantages are that there is an air-space between the two layers for ventilation, and that rust spots from the upper layer are not liable to strike through to the lower.

In the accompanying drawings: Figure 1 is a top view, partly broken away, of a pair of my improved roofing plates. Fig. 2 is a section on line 2, 2, Fig. 1; Fig. 3, an enlarged section on line 3, 3, Fig. 1; Fig. 4, a bottom view of a modification, and Fig. 5 a section on line 5, 5, Fig. 4.

The letter *a*, represents a corrugated sheet metal plate to the lower side of which is secured a layer of corrugated asbestos paper, roofing felt, or similar material, which is a poor conductor of heat. This lining is not bodily connected to the roofing plate by an adhesive, but it is secured to such plate at intervals, by means of a series of parallel corrugated metal bands *c*, arranged at suitable distances apart and extending along the lower face of the lining. The bands *c*, are attached to the plates *a*, by rivets *c'*, passing through the lining *b*, and they serve not only to offer a retaining surface for the rivets, but also to prevent the lining from sagging.

The best way to manufacture my roofing plate is to subject the sheet *a*, lining *b*, and bands *c*, simultaneously to the action of the corrugating rolls, so that all parts are shaped together.

In Figs. 4 and 5, the bands *c*, are provided with a covering *d*, composed preferably of the same material as the lining *b*, and which prevents the bands themselves from sweating. The covering *d*, is folded around the edges of the bands, before the latter are riveted to the plates *a*. It will be seen that in this way, the

entire roofing plate is protected at the bottom by the lining, so that sweating and consequent dripping are rendered impossible.

What I claim is—

- 5 A roofing plate comprising a corrugated metallic plate, a similarly corrugated, non-conducting lining, such as asbestos, on the under side of the said plate, and similarly corrugated strips or bands extending the width

of the plate, and secured thereto and securing the lining thereto partly by having their ends bent round the edges of the plate, and partly by an intermediate rivet, substantially as described.

PATRICK NORTON.

Witnesses:

WM. J. ENRIGHT,
F. V. BRIESEN.