(No Model.)

S. C. FREDERICK.

METALLIC ROOFING.

No. 398,246. Patented Feb. 19, 1889.

Fig. 1.

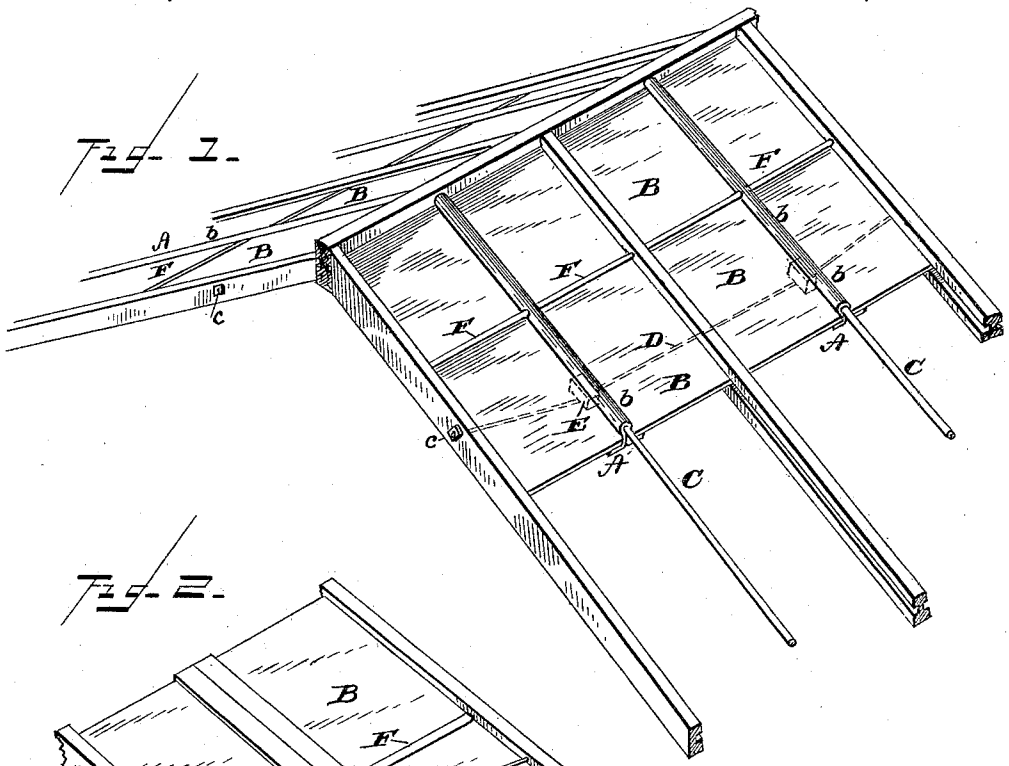


Fig. 2.

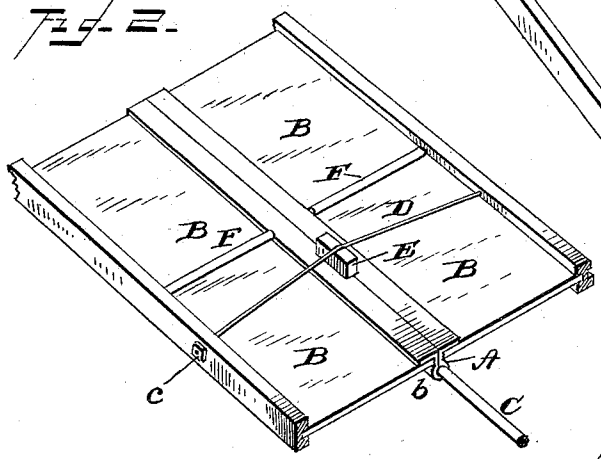


Fig. 3.

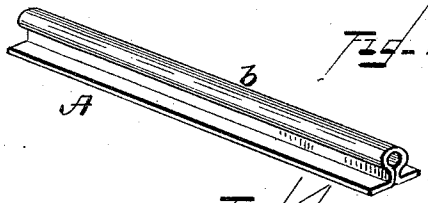
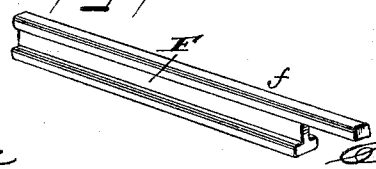


Fig. 4.



WITNESSES,

F. L. Durand.

R. W. Dewitt, Jr.

INVENTOR,

Samuel C. Frederick,

by J. Louis Dagger & Co.

Attorneys.

N. PETERS. Photo-Lithographer, Washington, D. C

UNITED STATES PATENT OFFICE.

SAMUEL C. FREDERICK, OF ARCADIA, KANSAS.

METALLIC ROOFING.

SPECIFICATION forming part of Letters Patent No. 398,246, dated February 19, 1889.

Application filed September 28, 1888. Serial No. 286,671. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL C. FREDERICK, a citizen of the United States, and a resident of Arcadia, in the county of Crawford and State of Kansas, have invented certain new and useful Improvements in Metallic Roofing; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to metallic roofing.

The object is to produce a metallic roofing which may be constructed at a small cost, which shall be exceedingly strong and durable in use and will not be liable to get out of repair.

With these objects in view the invention consists in the novel construction and combination of parts of a metallic roofing, as will be hereinafter fully set forth in the specification, illustrated in the drawings, and more particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, and in which like letters of reference indicate corresponding parts, I have illustrated one form of device embodying my invention, although the same may be carried into effect in other ways without in the least departing from the spirit thereof; and in these drawings—

Figure 1 is a perspective view of the upper side of the roof, showing the flanged supports on which the material composing the roofing rests and a packing to be placed between the joints of the sheets to present a water-tight joint. Fig. 2 is a perspective view of the bottom of the roof, showing a tie-rod for giving additional strength to the roofing and a block placed under the said tie-rod pressing against the joints of the roofing. Fig. 3 is a detail perspective view of the flanged support, and Fig. 4 is a detail view of the packing placed between the joints of the sheets composing the roofing.

Referring to the drawings, A designates the flanged support upon which the sheets of metal, B, composing the roofing rest. It will be observed that this support is shaped like an inverted T, the same being made of sheet metal, but preferably of heavy sheet-iron. The upper portion of this flange is formed into a tube, *b*, through which passes a rod, C, designed to support the roofing.

D designates the tie-rod, designed to act as an additional support for the roofing, the ends of which are secured to the rafters of the roof. At a point preferably near the center of this tie-rod is placed a block, E, designed to rest against one of the joints of the roofing under the flanged support, so that when the nuts *c* on the ends of the rods are tightened the block will be forced up, and thus prevent the roofing from sagging. Where the roof is very large and heavy, two or more of these tie-rods may be employed, the same extending from the rafter in one end of the roof to that of the other end, the block, as before stated, being in the center.

F designates a flanged packing, which may be made of any suitable material, but preferably of wood, designed to be placed between the joints of the sheets B of which the roofing is constructed, so that in case of rain or snow the moisture will cause the same to expand, and thus produce a water-tight joint. One end of the packing has its upper flange, *f*, projecting beyond the other portion thereof to enable it to lap or rest upon the separating part between adjoining series of roof-plates.

In constructing the roofing a number of the rods C, having the flanged support A placed thereon, are secured in position, the flanged portion being on the under side and the tube portion *b* on the upper side, as described. The sheets of metal, B, of which the roofing is composed, are then placed in position, and between each sheet is placed one of the flanged packings F, the flange *f* overlapping the said edges of the sheets. Then another sheet of the roofing, and then another packing, and so on until the roofing has been completed. At the bottom and top of the roof or at the comb and eaves the sheet metal may be bent down and secured by nails in the manner usually employed in ordinary tin roofing. The tie-rods D are then placed in position, with the block E resting under the joints of the flanged supports, and the nuts *c* on the ends of the said tie-rods are tightened, thus forcing the block up against the roofing to prevent the same from sagging from the weight of snow or from any other cause. The

number of tie-rods, as before stated, may be varied according to the size of the roof, and at the points where the sheets rest against the flanged supports the same may be soldered to prevent the entrance of moisture at that point. It will thus be seen that by this construction an exceedingly cheap and durable roof may be made, and one that will not be liable to get out of repair, and which will be practically fire-proof.

It is obvious that my invention may be applied with considerable advantage in the construction of glass roofs for greenhouses, photographic studios, and all other purposes where transparent roofs are desirable. In that case I of course substitute plates of glass for the plates of metal hereinbefore referred to.

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

1. The roof comprising the series of roof-plates and the packing-bars placed between the edges of the same and having upper and lower flanges and expansible under the action of moisture, substantially as and for the purpose set forth.

2. The roof comprising the series of roof-plates and packing-bars placed between the edges of said plates and having upper and lower flanges, said packing-bars being expansible under the action of moisture and each having one end of its upper flange extending beyond its other portion, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

SAMUEL C. FREDERICK.

Witnesses:

A. A. McPHERSON,

F. A. JEWELL.