P. Naylor.

Metallic Roof.

No. 1,631. Patented Jun. 12, 1840.

Fig. 2.

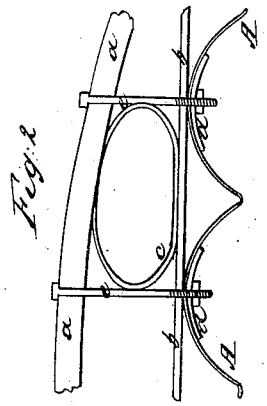
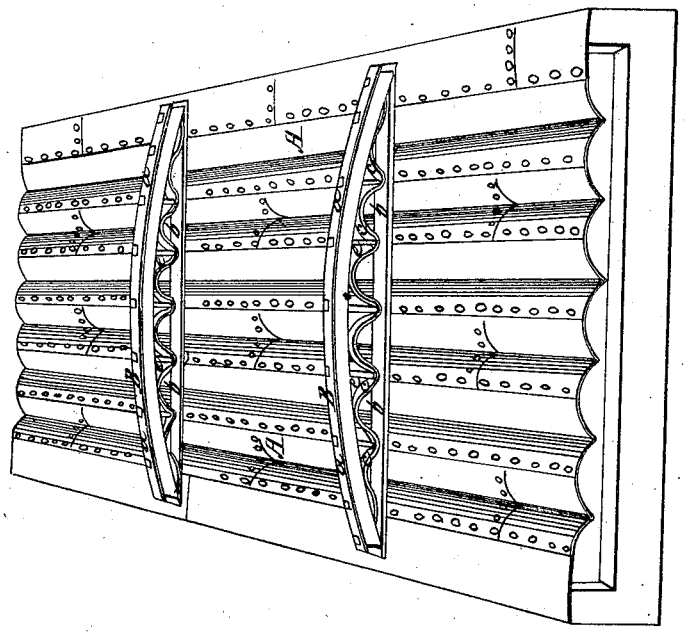


Fig. 1.



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UNITED STATES PATENT OFFICE.

PETER NAYLOR, OF NEW YORK, N. Y.

MODE OF SUPPORTING METAL ROOFS.

Specification of Letters Patent No. 1,631, dated June 12, 1840.

To all whom it may concern:

Be it known that I, PETER NAYLOR, of the city of New York, in the State of New York, have invented a new and improved mode of supporting the metallic roofs of buildings by means of truss-beams made of cast and wrought iron, which truss-beams are to be placed above the roof which they are to sustain upon the principle of suspension; and I do hereby declare that the following is a full and exact description thereof.

In Figure 1, in the accompanying drawing, A, A, is a roof of metal represented as composed of sheets united together by riveting, and bent so as to form a series of parallel arches. The metallic roofing may, however, be made in other forms, as my plan of support is independent of the particular shape given to the metal plates constituting the covering. B, B, are iron truss beams placed above the roof, and spanning across the same so that their ends may rest upon the side walls. The upper portion, or arched part, *a*, *a*, of these beams I make of cast iron, in any convenient number of pieces which may be united together by screw bolts, in the ordinary way, the ends of the different pieces butting against each other, that they may properly sustain the thrust to which they are to be subjected. The chord pieces *b*, *b*, are to be of wrought iron, which is to be acted upon by tension alone. These chord pieces may be made in one or more parts; when more than one piece is used the parts are to be secured together by eyes and keys or bolts. These wrought iron chord pieces must be firmly connected at their ends with the cast iron arch pieces. The former should be turned up at each end so as to constitute shoulders, which are to operate as abutments within which the ends of the arches are received. Intermediate arch pieces *c*, *c*, *c*, of wrought or cast iron, are placed between the arch and string pieces along the whole beam; or, instead of arches, the pieces *c*, *c*, *c*, may be formed into circles, ovals, or otherwise.

To sustain the roof upon the suspension principle, there are wrought iron rods, or bolts, *e*, *e*, *e*, which pass through suitable holes in the arch, the string pieces, and the roof plates, said bolts having heads which rest upon the arch pieces, and being furnished with screw nuts at their lower ends, which are tightened beneath the roof plates, there being flat iron support plates, which operate as washers, and bear against the under side of the roof plates, as shown at *d*, Fig. 2. By the aid of these truss beams so placed, the metal roofing will be sustained entirely from above, without beams, props, posts, or other devices being used in the apartment which they cover.

Having thus fully explained the nature of my invention, and shown the manner in which I carry the same into operation, what I claim as constituting my improvement, and desire to secure by Letters Patent, is—

The combining of iron truss beams, constructed in the manner herein described, with the plates constituting the metallic roofing, said truss beams being placed above the roofing, and sustaining the same upon the suspension principle, substantially as set forth.

PETER NAYLOR.

Witnesses:

GEORGE STEVENS,

K. S. VAN VOORHIS.