W. E. Ward.

Window Shutter.

No. 13,145. Patented Jan. 2, 1855.

Fig: 1.

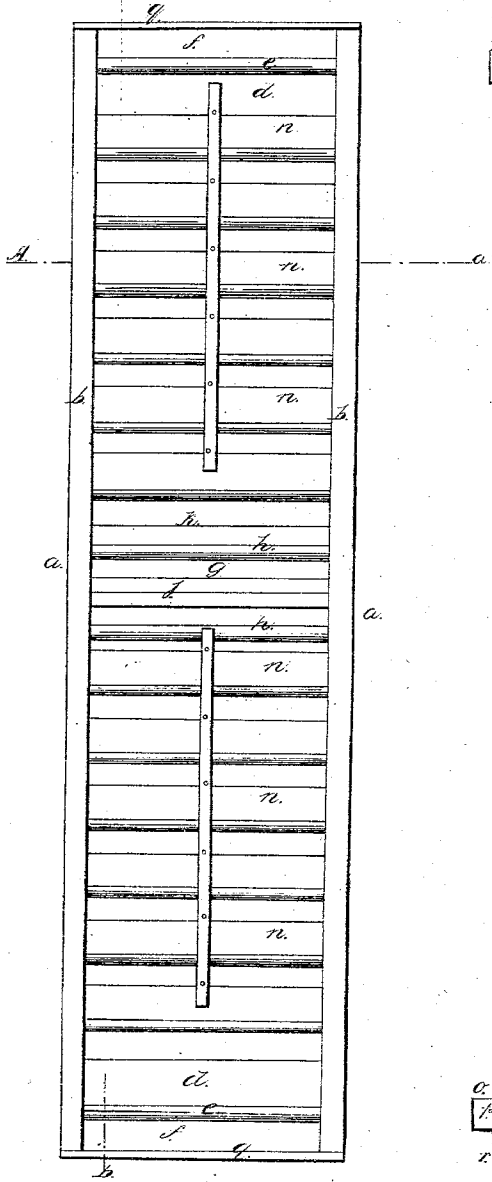


Fig: 4.

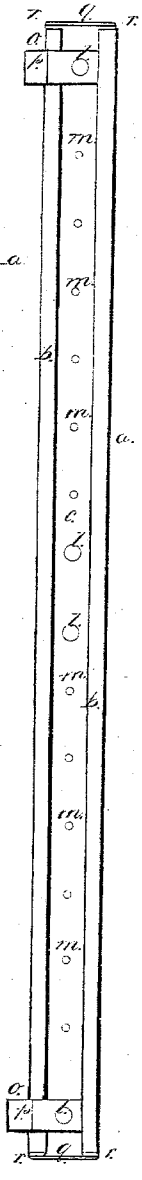


Fig: 4. B. B.

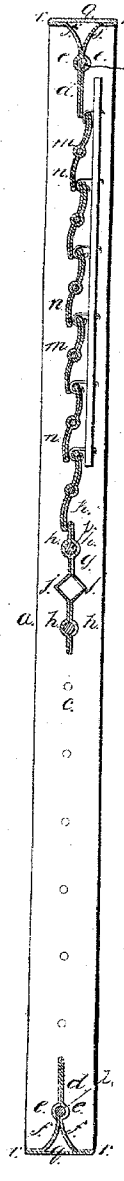


Fig: 3. A, a.

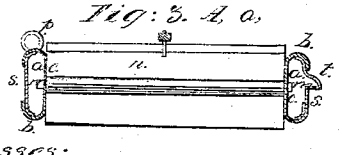


Fig: 5.

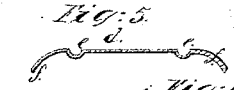
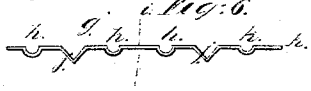


Fig: 6.



Witnesses:
Wm. H. Bishop
Andrew Dale Lacy

Inventor:
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UNITED STATES PATENT OFFICE.

WILLIAM E. WARD, OF PORT CHESTER, NEW YORK.

SHEET-IRON BLIND.

Specification of Letters Patent No. 12,145, dated January 2, 1855.

To all whom it may concern:

Be it known that I, WILLIAM E. WARD, of Port Chester, Westchester county, and State of New York, have invented a new Manufacture of Sheet-Iron Venetian Window-Blinds, of which the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1, is a face view of a window blind of my improved manufacture; Fig. 2, an elevation of the hinged edge; Figs. 3, and 4, sections taken at the lines A, *a* and B, *b*, of Fig. 1; Fig. 5, a section of one of the end rails before it is completed; and Fig. 6, is an edge view of the middle rail in the process of being formed.

The same letters indicate like parts in all the figures.

The object of my invention is to produce Venetian window blinds of iron which shall present the qualities of being light, strong, durable, fire proof and cheap. And to this end the nature of my invention consists in making the frame, for the reception of the slats, of sheet iron, and in parts so bent and the parts so united as to give the required strength with but little weight of metal.

In the accompanying drawings *a*, *a*, represent the two side rails formed of thin sheet iron so bent as to form two partial tubes. The two edges are turned over in semi, or nearly semi cylindrical form as at *b*, *b*, leaving a flat surface *c*, from end to end, between the two curved portions, and an open space between the two turned edges. The upper and lower rails *d*, *d*, made of sheet metal, are rolled or bent each in the form represented in Fig. 5, that is, with two longitudinal beads *e*, *e*, at equal distances from each edge, and the portions from the beads to the outer edges on each side in segments of circles, or nearly so. And after being thus prepared they are bent midway between the two beads, and the two halves brought together so that the two beads will form a hollow tube with the two edges *f*, *f*, flaring out as in Fig. 4. The distance between the two edges *f*, *f*, should be equal to the width of the flat part *c*, of the side rails. The middle rail *g*, also made of sheet metal, is first prepared, as represented at Fig. 6, by being rolled or otherwise bent with two semi-cylindricel beads *h*, *h*, *h*, *h*, two on each side of the middle line *i*, and with two larger and angular beads *j*, *j*, one on each side between the two beads *h*, *h*, And after being thus prepared the sheet is bent over at the line *i*, midway between the two sets of beads, the two sets of beads *h*, *h*, forming cylindrical tubes and the two beads *j*, *j*, also forming a larger tube equal to the width of the flat part *c*, of the side rail. And then finally the one edge *k*, of this sheet is bent and lapped over the other edge.

Holes are punched through the flat part *c*, of the two side rails, one near each end, and two near the middle, through which pass screw bolts *l*, *l*, *l*, *l*, that also pass through the tubes formed by the semi-cylindrical beads of the end rails and the middle rail by which the whole is firmly bound together. The contact of the ends of the middle and the end rails with the flat surface of the side rails, together with the spread of the curved edges of the end rails and the large beads of the middle rail, aided by the spread of the small beads, when the whole is bound together by the screw bolts effectually brace the whole in all directions.

Small holes are punched through the flat part of the side rails to receive the pivot rods *m*, of the turning slots *n*, which are made on the plan secured to me by Letters Patent bearing date the 11th day of July 1854; but which may be made in any other suitable manner. If desired however fixed slats may be substituted.

One edge of one of the side rails is cut out near each end, as at *o*, *o*, to receive the hinges *p*, *p*, which are secured by two of the bolts *l*, *l*, passing through them—the hinges receiving additional support by being fitted into the places cut out for them in the edges of the side rails. Or instead of cutting out as above, a slot may be cut through sufficient to receive each hinge, the slot being so located that the hinge when inserted can be secured in the manner above described.

If desired the outer edges of the end rails may be made to project slightly beyond the ends of the side rails, and there form a dovetail in their cross section for the reception of cap plates *q*, *q*, which have their edges, as at *r*, *r*, bent over, so that they can be slipped on over the edges of the end rails, thus completely capping the ends. And the open space in the outside face of the side rails is closed up by means of a strip of sheet iron *s*, bent along the edges and forced inside, and which by its elasticity is kept

firmly out against the edges of the tube. But if it be desired to have the inner edges of the blinds lap, as in the case of wooden blinds, the strip *s*, can then be rolled or otherwise formed with a rabbet *t*, a corresponding reversed rabbet being formed in the other half blind. I prefer however to make the blinds without this lap by having them so hung to the window as to shut against the frame thereof.

I do not wish to be understood as limiting myself to the special form of the parts herein specified so long as the same end is attained by equivalent means.

What I claim as my invention and desire to secure by Letters Patent is—

The manufacture of Venetian blinds of sheet metal bent in the form and united in the manner substantially as herein specified.

WM. E. WARD.

Witnesses:
WM. H. BISHOP,
ANDREW DE LACY.