(No Model.)

J. M. HARR.

Vault-Lights and Skylights.

No. 227,247. **Patented May 4, 1880.**

Fig. 1.

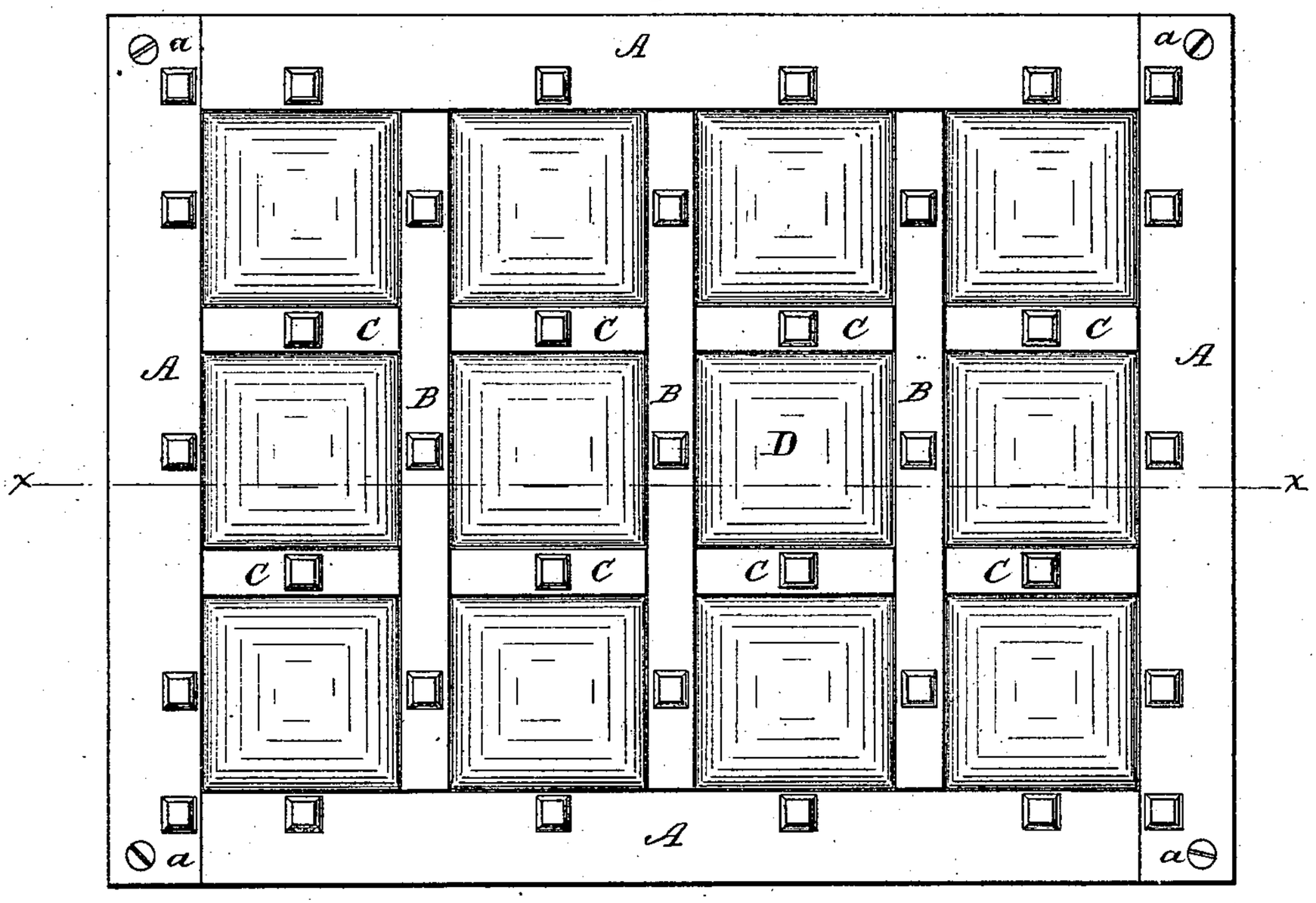


Fig. 2.

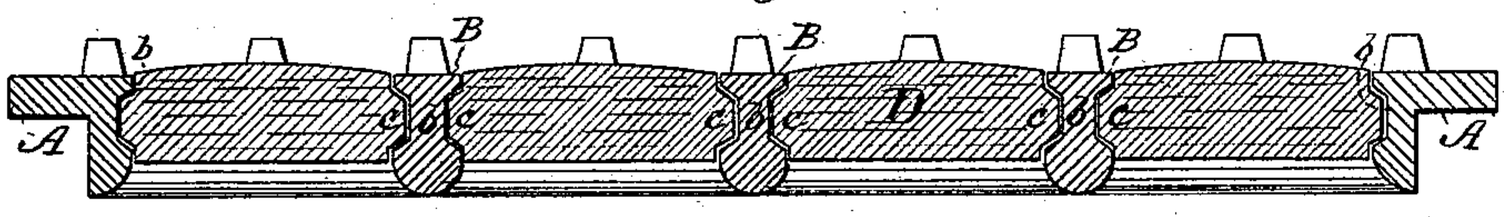


Fig. 3.

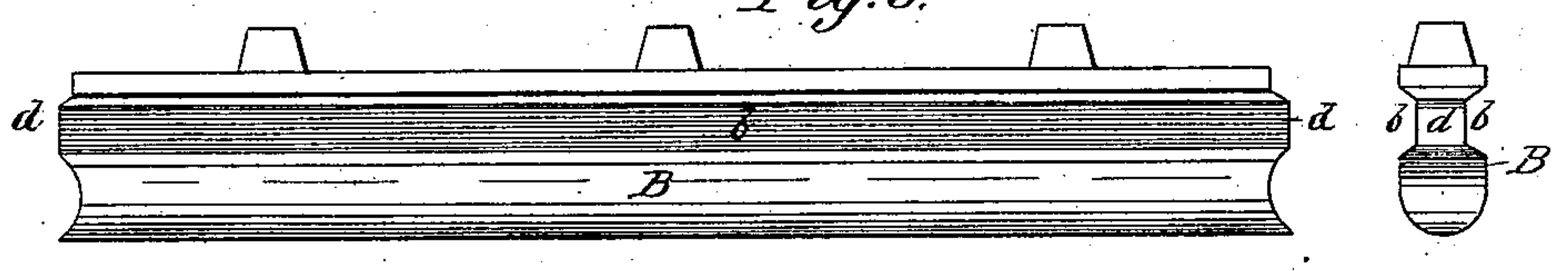
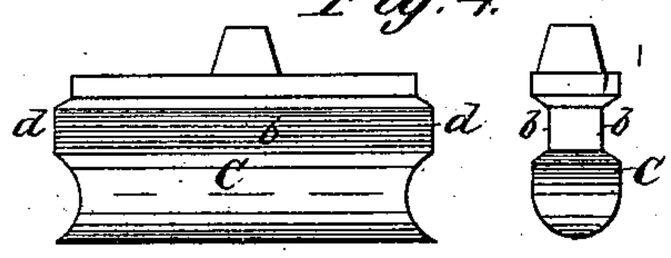


Fig. 4.



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JESSE M. HARR, OF BALTIMORE, MARYLAND.

VAULT-LIGHT AND SKYLIGHT.

SPECIFICATION forming part of Letters Patent No. 227,247, dated May 4, 1880.

Application filed March 25, 1880. (No model.)

To all whom it may concern:

Be it known that I, JESSE M. HARR, of Baltimore city, in the State of Maryland, have invented a useful Improvement in Vault and Sky Lights; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view; Fig. 2, a longitudinal section through the line *x x*. Fig. 3 shows a side and end view of one of the longer cross-bars. Fig. 4 shows similar views of one of the shorter cross-bars.

My invention relates to certain improvements in that class of skylights which are made strongly and studded with thick glass disks and placed in the sidewalk for the purpose of illuminating the dark recesses of a cellar or vault without allowing the entrance of rain and without breaking up the continuity of surface or weakening the pavement at such points.

The improvement consists in combining the thick glass blocks or panes with a skeleton-frame of metal, which frame is arranged in the plane of the blocks, and is made up of sectional bars, which form the matrix for holding the panes, and which arrangement permits the skylight to be built up progressively, and permits also the ready removal of a broken pane and the insertion of a new one, as hereinafter described.

In the drawings, A A A A represent four metal bars connected in rectangular form and secured at their corners to each other by screws or bolts *a*. These bars constitute the marginal frame of the entire panel, and are made strong enough to form a rigid support for the filling and wide enough to join with the pavement and form a proper bearing. In cross-section they are in the nature of angle-bars, and have upon their inner edges a longitudinal groove, *b*, which receives the edges of the adjacent panes and the ends of the sectional skeleton-frame pieces.

B C are these skeleton-frame pieces, of which B extends entirely across the frame A, while C are only equal to the length of one pane, and extend at right angles from one bar B to the next. All the bars A B C have grooves *b* in their side edges, and all the panes or blocks of glass D are formed with tongues *c*, that fit into the grooves *b*.

At the ends of the bars B where they join the marginal frame-bars A are also formed tongues or projections *d*, that enter the grooves *b* of said marginal bars, while the shorter bars C have at their ends corresponding tongues, that fit into the grooves *b* of the bars B, so that the bars B are supported by the marginal frame, and bars C by the bars B, while the glass panes D are supported on two sides by bars C C and on two sides by bars B B.

In fitting together the parts of the skylight three of the marginal frame-bars are first connected, and then a row of the panes, with alternating short bars C, are fitted in place and cemented therein. Then one of its long bars B is fitted with its ends in the grooves of the marginal bars, and is slid up and cemented to the first series of panes. Then follows a second series of panes and alternating short bars, and then another long bar, B, and so on until the whole panel is filled, after which the fourth marginal bar is fitted in place and secured to the ends of the two parallel bars A A, to constitute a rigid panel.

From the foregoing it will be seen that the skeleton-frame and the panes are arranged in the same plane and the panel is built up progressively with the panes and filling-bars.

Among the advantages of this construction may be mentioned the fact that the opaque sections of the panel are reduced to a minimum, and a proportionately larger amount of light may be transmitted through the skylight. By the uniform transverse size of the bars B and C also I am enabled to make them strongly and yet cheaply by rolling them from wrought-iron.

In making use of my invention I do not confine myself to its application to sidewalks simply, but may use the same principle for skylights on the tops of houses, or for the roofs of hot-houses, if found desirable. Neither do I confine myself to a metal frame, but may use a wooden or clay frame instead.

When used for sidewalk purposes, the upper surface of the skeleton-frame is formed with a series of lugs or roughened faces to prevent slipping, as shown.

Having thus described my invention, what I claim as new is—

1. A skylight composed of glass panes or blocks and a skeleton-frame arranged in the same plane with the glass panes, and constructed of detachable sectional bars, substantially as and for the purpose described.

2. The marginal frame A, having a groove upon its inner edge, the long bars B, having corresponding grooves along their edges and tongues at their ends, the short bars C, having grooves along their edge and tongues at their ends, and the panes D, having tongues upon their four sides, all combined substantially as shown and described.

JESSE M. HARR.

Witnesses:
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