J. M. WILLBUR.
Vault-Cover.

No. 166,572. Patented Aug. 10, 1875.

Fig. 1.

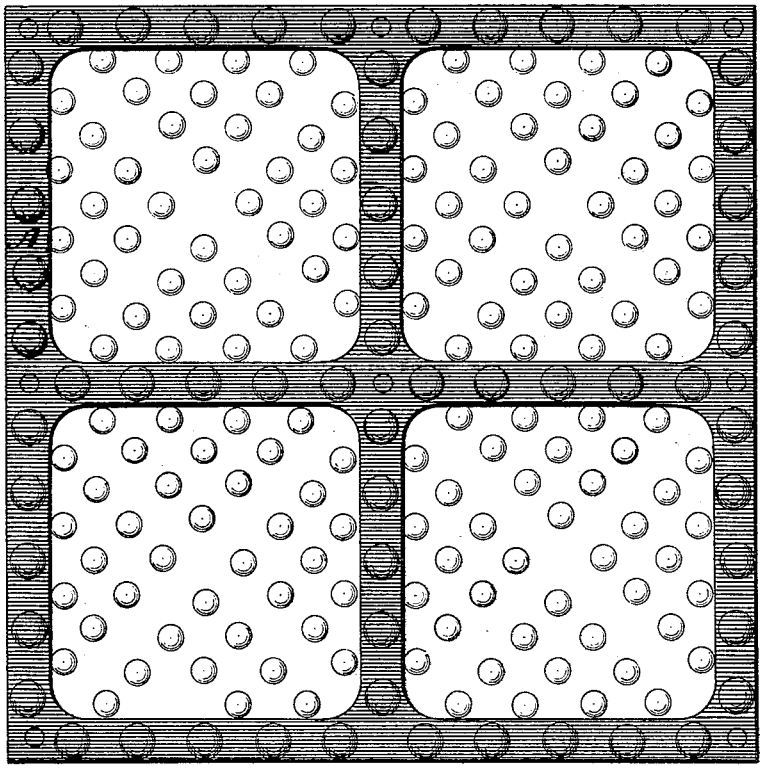
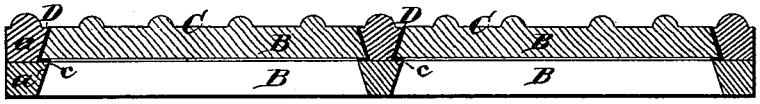


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES M. WILLBUR, OF NEW YORK, N. Y.

IMPROVEMENT IN VAULT-COVERS.

Specification forming part of Letters Patent No. **166,572**, dated August 10, 1875; application filed October 17, 1874.

CASE A.

To all whom it may concern:

Be it known that I, JAMES M. WILLBUR, of New York city, in the county and State of New York, have invented certain new and useful Improvements in Vault-Lights, Floor and Sky Lights; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1 is a top-plan view of a vault-light constructed in accordance with my invention, and Fig. 2 a transverse section of the same.

Similar letters of reference in the accompanying drawings denote the same parts.

This invention is an improvement on the means for securing the lenses or lights in their frame, shown in my patent dated April 21, 1874, No. 150,118, the frame being made in two parts or plates, adapted to confine the lights by being attached together, the lights being barrel-shaped or largest at the center, while the plates are so formed as to fit the peculiar shape of the lights, and hold them in place when connected.

My present invention relates more particularly to vault, floor, and sky lights having larger panes or pieces of glass than the lenses usually employed in vault-lights, and presenting a comparatively smooth and level upper surface, its object being to securely clamp or hold the lights in place, with their upper surfaces flush, or nearly so, with that of the metallic frame or sash, so as to produce a floor-light devoid of projecting corners. To this end my invention consists in the employment of a sash or frame composed of two parts, and provided with suitable apertures for the reception of the lights, the parts or sections of the frame being so constructed as to enable the lower section to form a support for the light, while the upper section confines and holds it down on such support when the two sections are bolted together, the edges of the light being suitably shaped to accomplish this result, as I will now proceed to describe.

In the drawings, A represents the metallic frame or sash of a vault or floor light, constructed in two parts or sections, *a a'*, having openings B of suitable size and shape for the lights C. The openings B of the frame are in the form, in cross-section, of two frustums of a cone, one above the other, the upper edge of the lower section *a'* projecting inward beyond the lower edge of the upper section, and forming a supporting-ledge, *c*, for the light C. The latter is also in the form of the frustum of a cone in cross-section, its edges inclining in the same degree as those of the opening in the section *a*, into which it fits, as shown in Fig. 2. When the two sections *a a'* are bolted or otherwise attached together, the lights C are supported by the upper edges of the lower section, and prevented from being raised or knocked out of place by the inclined walls of the section *a*. The lights are thus securely held in place simply by the attachment of the sections *a a'* to each other, as in my former patent. In the present case, however, I am enabled, by the construction of the sections *a a'*, to use lights of about half the thickness of the entire frame, instead of the whole thickness, as before, while at the same time the upper surfaces of the lights are flush with that of the frame. The lights are provided with a rubber packing, D, surrounding them, and bent under their lower edges, so as to be interposed between all parts of the bearing surfaces of the frame and the glass, the rubber being cemented to both. The frame A and lights C are provided on their upper surfaces with button-shaped projections, arranged in any suitable manner to protect the glass from being scratched and to prevent slipping. They also give an ornamental appearance, and prevent objects from being distinctly seen through the glass without materially obstructing the light.

I claim as my invention—

The frame or sash A, composed of the parts or sections *a a'*, having openings in the form, in cross-section, of two frustums of a cone, one above the other, in combination with the lights C, adapted to rest on the projecting edges of the lower section, and be held in place by the inclined walls of the upper section, substantially as described, for the purpose specified.

JAMES M. WILLBUR.

Witnesses:

C. F. BROWN,

M. CHURCH.