(No Model.)

J. JENKINSON.

VAULT OR SKYLIGHT COVER.

No. 501,720. Patented July 18, 1893.

Fig. I.

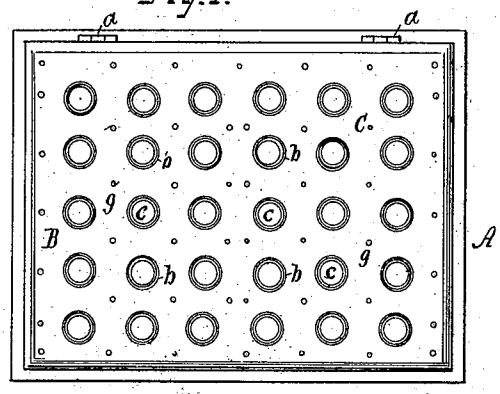

Fig. II.

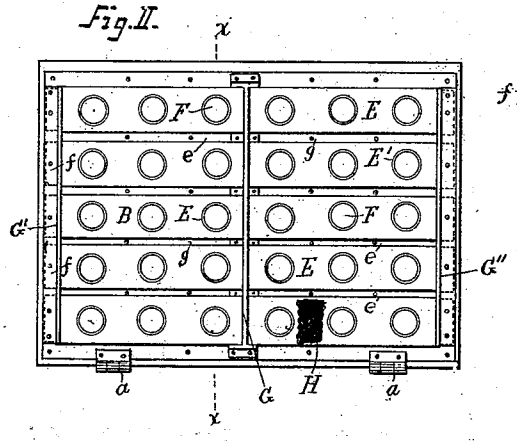

Fig. IV.

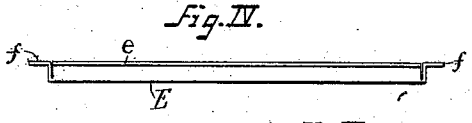

Fig. V.

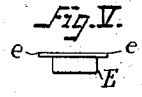

Fig. VI.

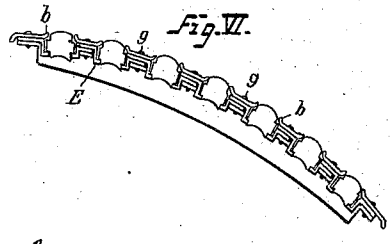

Fig. III.

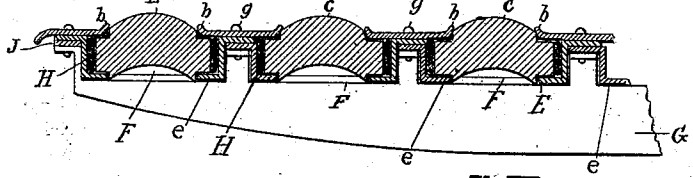

Fig. VIII.

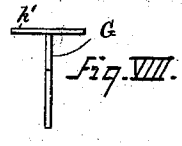

Fig. VII.

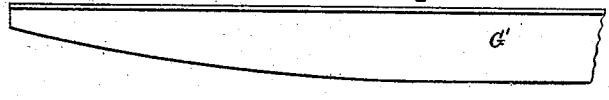

Fig. IX.

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UNITED STATES PATENT OFFICE.

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VAULT OR SKYLIGHT COVER.

SPECIFICATION forming part of Letters Patent No. 501,720, dated July 18, 1893.

Application filed January 3, 1893. Serial No. 457,090. (No model.)

To all whom it may concern:

Be it known that I, JAMES JENKINSON, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Vault or Skylight Covers, of which the following is a specification.

This invention relates to vault or skylight covers, pavement plates, roofs, &c., having the lenses embedded in putty, asphalt or other similar material, opposite to holes in the supporting plate or grating.

Prior to my invention it has been customary to put all the lenses in a cast iron frame filled with a single or continuous layer of putty or asphalt and hence if the material should crack or heave as by the action of the frost, the whole or a great portion of the series of lenses are thereby effected in their position and it is necessary to remove a corresponding portion of the asphalt for its replacement by fresh material. This is a serious objection to the old method of constructing the frames and arranging the lenses, and to overcome such is the object of my invention which consists in constructing the supporting frame or grating of a series of corrugated sheet metal troughs or ribs formed with feet thereon, a series of cell openings in their tops and placing the lenses in the cell openings respectively, they being embedded in putty or asphalt so that each series of lens holding troughs or corrugated ribs with its putty supporting layer is independent, and adapted to be removed, as for repair, &c., without disturbing the remainder of the corrugated troughs or ribs; and it consists further in the sheet metal cover provided with sight openings having their edges contiguous to the lenses inclined upward in their manufacture to prevent the water from entering the lens openings; and furthermore in the transverse strengthening braces provided with feet whereby they are bolted to the corrugated sheet metal troughs or ribs as hereinafter more fully set forth.

This invention is illustrated in the accompanying drawings in which—

Figure 1 represents a plan or top view. Fig. 2 represents an inverted plan or bottom view. Fig. 3 represents a partial horizontal cross section on a larger scale. Fig. 4 represents a longitudinal view of one of the corrugated troughs or ribs detached. Fig. 5 is an end view thereof. Fig. 6 represents my invention in curve for skylights, &c. Fig. 7 represents a partial side view of the end brace. Fig. 8 represents an end view of the middle brace. Fig. 9 represents an end view of the end brace.

Similar letters of reference indicate corresponding parts.

The letter A designates the frame to which the vault or skylight cover B is united by hinges *a a*.

The letter C indicates the sheet metal cover tapering at its edges and having any desired size, shape or thickness and provided with a series of light openings *c c* having their edges *b* contiguous to the lenses D inclined upward in their manufacture to prevent water from entering the lens openings as shown in Figs. 1, 3, and 6.

In the drawings the letter E marks the corrugated sheet metal troughs or ribs which in the present instance are five in number and are constructed of a single piece of material. These corrugated sheet metal troughs or ribs E are of an approximately U-shape in cross section having strengthening lips *e, f*, formed on their sides and ends by which they are joined by rivets *g* to the cover C, and light openings E′ in their lower parts to coincide with the light openings *c c* in the sheet metal cover C. The interior of each of the corrugated sheet metal troughs or ribs E is made larger than the diameter of the lenses F to leave room around the latter for the reception of the putty or asphalt H or its substitute. By constructing the corrugated sheet metal troughs or ribs E of the U-shape, with the lips *e, f*, they are very materially strengthened and moreover afford a ready means of uniting them to the cover C by rivets *g* or otherwise.

The letter G indicates the middle cross brace and G′ G″ the end cross braces which are constructed of sheet metal and taper on their lower portions *h* from end to end. The middle brace G is provided on its upper portions with T-shaped feet *h′* to receive rivets *g* to bolt them to the lips *e f* of the corrugated

sheet metal troughs or ribs E and the metal cover C as shown in Figs. 2 and 3; while the end cross braces G′ G″ are provided with feet of an inverted Γ-shape, and they also serve to unite the braces to the other parts by rivets *g*, as shown in Figs. 2, 3 and 4.

Over the feet of the end cross braces G′ G″ and under the lips formed on the corrugated ribs E and under the edges of the cover C, I place the metal frame J for the purpose of strength, as shown in Fig. 3.

In carrying out my invention I take any desired number of the corrugated sheet metal troughs or ribs E, place the lenses F in the latter so their lower edges will rest on the upper side of the feet *e* of the corrugated sheet metal troughs and their upper portions opposite the lens openings in the cover C, and then fill each corrugated trough or rib E with a layer of putty or other like material so that the lenses are surrounded or embedded in such material and thus firmly held in position. I then place a series of the corrugated sheet metal troughs or ribs E so that their respective light openings will coincide, arrange in proper position the sheet metal frames J, the end cross braces G′ G″, middle cross brace G and rivet the parts together. It will be perceived that by this construction each of the corrugated sheet metal troughs or ribs E and the portions of the putty concomitant thereto are independent of the remainder and consequently either can be removed separately and repaired or replaced by another without affecting the portions of the vault or skylight cover.

Another advantage is that the cover being constructed of sheet metal it can be produced at a low cost of manufacture and one that will last longer than those constructed of cast metal.

What I claim as new, and desire to secure by Letters Patent, is—

In a vault or skylight cover the combination with the sheet metal cover having lens openings contiguous to the lenses inclined upward, of a series of U-shaped corrugated sheet metal troughs or ribs with lips formed integrally therewith a lens to each hole embedded in putty or the like to coincide with the holes in the sheet metal cover and having transverse braces united to the cover and the corrugated troughs to strengthen the same, substantially as shown and described.

JAMES JENKINSON.

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