

W. R. WILLIAMS.
Vault-Covers.

No. 139,938.

Patented June 17, 1873.

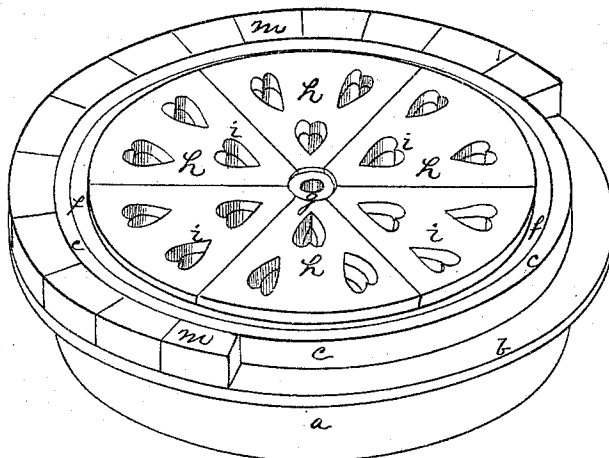


Fig. 1.

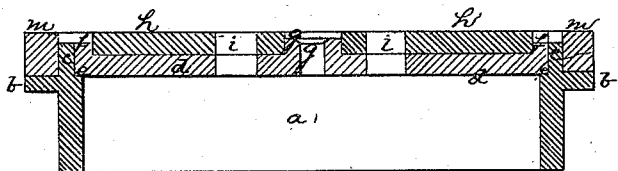


Fig. 2.

WITNESSES
James L. Kay
R. C. Henderson -

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UNITED STATES PATENT OFFICE.

WILLIAM R. WILLIAMS, OF INDIANA TOWNSHIP, ALLEGHENY COUNTY, PA.

IMPROVEMENT IN VAULT-COVERS.

Specification forming part of Letters Patent No. **139,938**, dated June 17, 1873; application filed March 20, 1873.

To all whom it may concern:

Be it known that I, WILLIAM R. WILLIAMS, of Indiana township, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Sidewalk-Gratings; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a perspective view of my improved sidewalk-grating; and Fig. 2 is a vertical section of the same.

Like letters of reference indicate like parts in each.

My invention consists in the construction of a sidewalk-grating having a non-metallic upper surface. The sidewalk-gratings now in use mostly have their upper or exposed surface, either wholly or in part, made of metal, ordinarily iron. Frequently glass lights are inserted in the grating to shed light into the vault below. In wet or frosty weather such gratings become very slippery, and are exceedingly dangerous to step upon, being often the cause of serious and sometimes fatal accidents.

To enable others skilled in the art to make and use my invention, I will describe its construction and manner of use.

The frame *a* is made of iron by casting, and has a flange, *b*, around its outside, which is designed to rest upon the shoulder in the circular opening in the sidewalk, specially prepared for its reception. Extending up from the top of the flange *b* is a vertical flange, *c*, inside of which is a ledge or shoulder, *e*, upon which the basket *d* is placed. The basket *d* has a flange, *f*, around its outer edge, and a raised bolt-seat, *g*, tapped for the insertion of the bolt which holds the grating in place. Between the bolt-seat *g* and flange *f* I insert a number of bricks or tiles, *h*, of triangular shape. These tiles stand on a level with the

surrounding pavement, and above the flange *f* and bolt-seat *g*. Through the tiles *h* and basket *d* I make a number of openings, *i*, of any desired size, shape, number, and arrangement, for the admission of light into the vault below.

I prefer to make these openings widening or flaring as they extend inward, so that more light shall be transmitted through them.

Upon the outer flange *b*, and between the surrounding sidewalk and the vertical flange *c*, I place a row of bricks, *m*, which are specially prepared for that purpose, being curved to conform to the circular shape of the flange. The bricks are level with the pavement and with the tile *h*. The tiles *h* and bricks *m* are cemented in place.

The concavity of the bolt-seat *g* is deep enough to contain the bolt-head below the level of the surrounding tile.

Instead of bricks and tile, other substances of a non-metallic nature, having a deadened surface, may be used for making the exposed face of the grating.

The form of the tile *h* may of course be varied.

The whole filling of the basket may either be made in one or several pieces.

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

A sidewalk-grating frame, consisting of the outer shell or ring *a*, having a flat flange, *b*, and a vertical flange, *c*, and a basket, *d*, for containing a filling, having a roughened non-metallic surface, resting in the ring *a* upon a suitable seat, *e*, substantially as and for the purposes described.

In testimony whereof I, the said WILLIAM R. WILLIAMS, have hereunto set my hand.

WILLIAM R. WILLIAMS.

Witnesses:

W. N. PAXTON,
THOS. B. KERR.