(No Model.)

# C. E. FURMAN.

## VENTILATING VAULT COVER.

No. 302,476. Patented July 22, 1884.

Fig. 1.

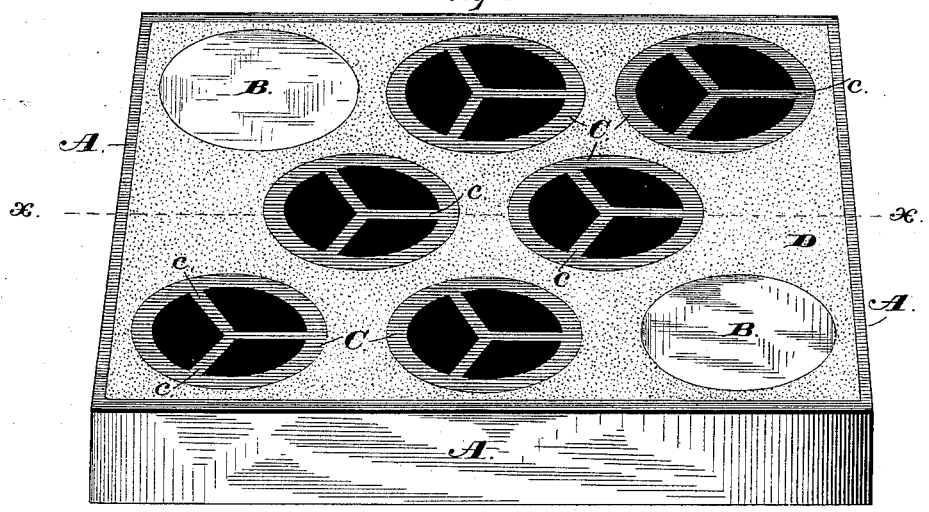



Fig. 2.

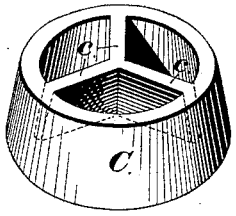
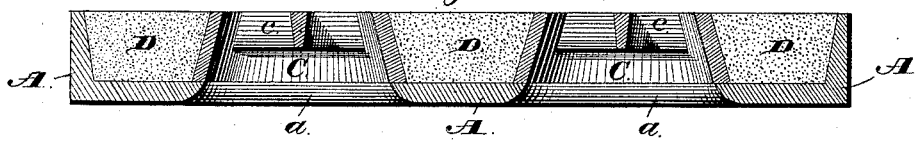



Fig. 3.

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# UNITED STATES PATENT OFFICE.

CHARLES E. FURMAN, OF NEW YORK, N. Y.

## VENTILATING VAULT-COVER.

SPECIFICATION forming part of Letters Patent No. 302,476, dated July 22, 1884.

Application filed February 16, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. FURMAN, of New York city, in the county of New York, and in the State of New York, have invented certain new and useful Improvements in Ventilating Vault-Covers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of a tile or vault-cover containing my improved ventilators. Fig. 2 is a like view of one of the ventilating-thimbles separate from the tile, and Fig. 3 is a vertical section upon line *x x* of Fig. 1.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to enable coal-vaults, covered areas, &c., to be ventilated through the ordinary covering-plates; to which end said invention consists, principally, in a vault-cover, illuminating-tile, &c., composed of a metal plate provided with light-openings, metal thimbles, having downward flaring open centers placed over a part or the whole of said openings, and cement or other like non-slippery substance applied to and caused to fill the space between said thimbles, substantially as and for the purpose hereinafter specified.

It consists, further, in the construction of the ventilating-thimble, substantially as and for the purpose hereinafter set forth.

In the annexed drawings, A represents a metal plate provided with a recessed upper face, and having at suitable points within its bottom light-openings, *a*, said plate being such as is ordinarily used for covering coal-vaults, areas, basement-extensions, &c., and having such size and shape as will best adapt it to the place which it is to occupy. Such of the light-openings *a* as are not required for ventilating purposes are covered by means of glass lens B of any usual form, while for ventilating purposes said openings have placed over each a metal thimble, C, which may have exteriorly the form of a plain cylinder, but which is preferably somewhat larger in diameter at its lower end than at its upper end. Interiorly said thimble is open and corresponds in shape to its exterior, and within the opening thus formed are a number of partitions, *c*, (preferably three,) which extend radially inward from equidistant points around the side wall and unite at the center. Said partitions extend from the upper smaller end of said thimble a portion of the distance between the same and its lower end, and decrease in thickness from their upper to their lower edges. The interior of the lower end of the thimble C is intended to just equal in diameter the light-opening *a*, over which the same is to be placed. When thus in position, said thimble, together with the lenses B, are securely fastened by means of cement D or other like material, which is applied in a plastic or semi-fluid state to the space between said parts, and is caused to fill said space flush with the upper edges of the same. The surface thus formed is practically the same for walking purposes as are those in which all of the openings are covered by glass lenses, and but little if any water will pass through the thimbles, while for the space below said thimbles afford ventilation which is more or less complete, as the number of the same correspond to the dimensions of said space.

In consequence of the tapering form of the partitions, the spaces between the same and the side wall of each thimble increase in horizontal dimensions from their upper ends downward, and are not liable to become clogged by dirt, snow, or ice, while in case of thimbles in which the side walls are flaring such increase in the dimensions of the air-openings is more marked, and greater opportunity for clearance is afforded.

In case of area-covers which extend up to the front wall of the building, it will often prove advantageous to place one or more rows of ventilating-thimbles adjacent to the building, in which position they are protected in a great measure from water and dirt, and are as capable of fulfilling their design as though placed in a more exposed position.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. A vault-cover, illuminating-tile, &c., composed of a metal plate provided with light-openings, metal thimbles having downward-flaring open centers placed over a part or the whole of said openings, and cement or other

like non-slippery substance applied to and caused to fill the space between said thimbles, substantially as and for the purpose specified.

2. The thimble C, provided within its open center with the partitions *c*, and adapted for use within or over a light-opening of a vault-cover, illuminating-tile, &c., substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of December, 1883.

CHAS. F. FURMAN.

Witnesses:
GEO. S. PRINDLE,
E. P. GLEASON.