(No Model.)

C. H. ROSS.

VENTILATING VAULT COVER.

No. 497,388. Patented May 16, 1893.

Fig. 1

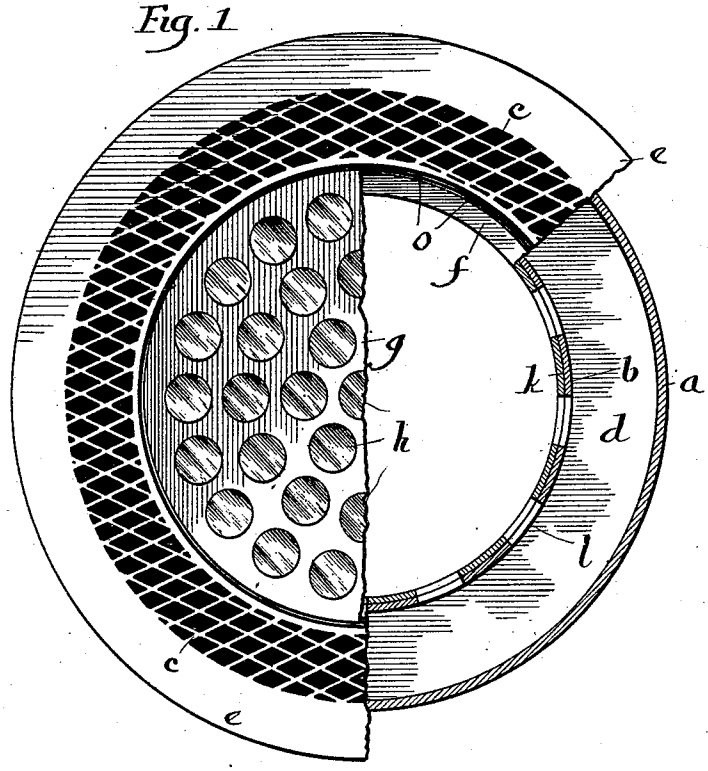


Fig. 2.

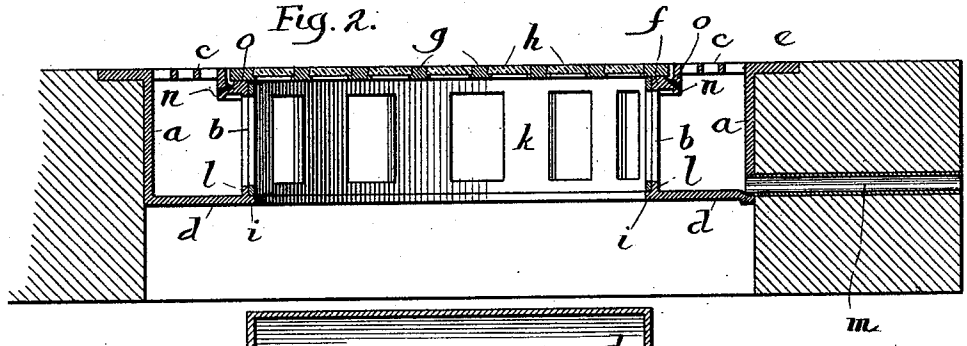


Fig. 4.

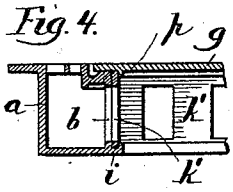
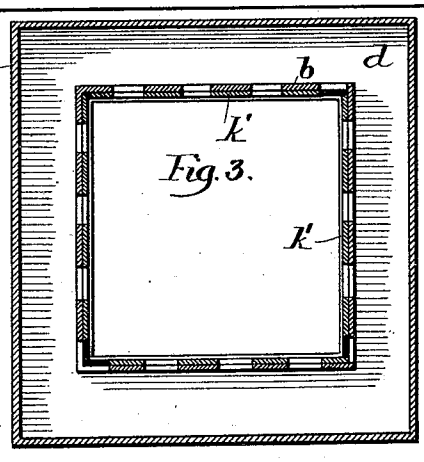


Fig. 3.



Witnesses:
Fred Gerlach
J. D. Carpenter.

Inventor:
Christian H. Ross
By Peirce & Fisher
Attorneys.

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UNITED STATES PATENT OFFICE.

CHRISTIAN H. ROSS, OF CHICAGO, ILLINOIS.

VENTILATING VAULT-COVER.

SPECIFICATION forming part of Letters Patent No. 497,388, dated May 16, 1893.

Application filed July 11, 1892. Serial No. 439,680. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN H. ROSS, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Ventilating Vault-Covers, of which the following is hereby declared to be a full, clear, and exact description, sufficient to enable others skilled in the art to which such invention appertains to make and use the same.

The exact nature of the improvements will appear from the description following and be thereafter more distinctly pointed out by claim at the conclusion thereof.

In the drawings which accompany, like parts of structure are denoted by like designation throughout.

Figure 1 is a top plan view (partly in section) of one form of vault cover embodying the improvements therein. Fig. 2 is a view of the same in diametric vertical section. Fig. 3 is a transverse mid-section view of a modified form of the improvements. Fig. 4 is a detail vertical section of the modified cover (Fig. 3).

About the margin of the pavement or floor opening to be covered, is arranged the frame proper which consists of outer and inner sides or walls *a b*, and top and bottom plates *c d*, cast integral or otherwise permanently joined together to constitute a hollow box-like rim surrounding the central man-hole. An out-flange *e* and in-ledge *f* extend peripherally from the box-frame near the upper face thereof, and serve repectively to sustain said frame in position flush with the pavement, and to seat the man-hole lid *g*. The lid *g* is ordinarily furnished with the lenses *h* to admit light into the vault beneath. The top *c* and inner side *b* of the box frame are perforated as shown about the circuit thereof, and thus allow the air to circulate freely between the vault or covered passage, and the street or space above. An in-lip *i* extends from the rim frame near the bottom *d* thereof and carries the perforated slide *k* which can be adjusted at will to expose or close the vents occurring at intervals in the inner wall *b* of the frame. The ventilation of the vault is thus always within control and can be regulated as desired in keeping with the conditions of the weather. The rain or dust admitted through the perforations in the top *c* is trapped within the box-frame, the solid bottom *d* of which prevents its escape into the interior of the vault. The holes in the inner wall *b* of the rim-frame do not extend quite to the level of the bottom plate *d* so that a dam *l* remains, which checks the over-flow of rain into the man-hole and directs the same toward the outlet tube *m*. Said tube opens at any convenient point from the box-frame, and in the plan shown (Fig. 2) rests within a grooved or O-way cut in adjacent faces of contiguous sections of the pavement. By such expedient the tube serves to interlock the sections and at the same time affords free passage for the waste water and dirt. A curtain or lip *n* droops slightly into the box-frame at the ledge seat of the man-hole lid *g* and prevents the seepage through holes *o* or top *c* from following the inner wall of the box and thus dripping eventually into the vault beneath.

The vault cover is usually round (Fig. 1) or square (Fig. 3) or may be formed in other shape as desired. In lieu of the single ring slides *k* to control the vents in the inner wall *b* of the rim frame, separate slides can be used for the several faces of the wall, as shown by Figs. 3—4. Said slides *k'* rest beneath as usual upon the in-lip *i*, and are retained above by a flange *p* or the like, depending from the lid *g*. The slides *k'* are separately actuated and can be shifted in the ways *i p*, to expose or close the vents in frame wall *b*. The lid *g* can be securely fastened in familiar fashion, to prevent its removal from the man-hole which it closes. Obviously, the lid is thus kept at rest in position flush with the pavement or passage while at the same time free ventilation for the vault is afforded, and provision made for trapping and discharging the waste water and dirt without permitting the same to flow or percolate into the vault interior.

The invention designs to provide an improved cover for vault openings or the like, and is especially applicable for use in street pavements or in other exposed situations where it is oftentimes desirable to ventilate the vault. The purpose is to make an improvement in that class of covers which remain flush with the side-walk or passage at all times so as to present no obstruction to

traffic; which can freely ventilate the vault or room beneath without exposing the latter to rain and dust or to the inroads of rats or sneak-thieves and which yet allows free access to the vault at will by simple removal of the man-hole lid of the cover.

For vault openings, the use of a ventilating box-like frame with a central man-hole has already been proposed. The man-hole lid did not stop at an in-ledge on the frame as by my device but extended over and served as a top to the box. Taking off the lid exposed the man-hole and the interior of the box as well. The shifting slide to control the air-vents was set on lugs within the box and rested snugly against its inner side. It was necessary to slit the side-wall in order to reach the slide for adjustment from the vault. A circular curtain depended from the lid and fitted around the slide as a guide. This compelled nicety in re-setting the lid to place. By my plan, the ventilating slide is external, next about the man-hole, and is sustained on an in-lip at the lower edge outside of the box-frame. The frame itself is completely shut in; its top is integral with the remaining parts. The man-hole lid serves no longer as the frame-top. It has its seat at the in-ledge of the frame and carries no curtain for the slide which latter is guided instead, at its upper part by contact with the in-ledge, quite independently of the lid.

The details of the improvement can be varied according to the skill of the mechanic without departing from the spirit of the invention.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

In ventilating vault-covers, the combination with the rim-frame comprising top, bottom and sides integral with each other and constituting a hollow box the upper and inner walls of which are perforated, said frame having an outer supporting flange and also an in-ledge near its upper face and an in-lip near its lower face, projecting externally about the man-hole, of the removable lid set at top upon said in-ledge and a perforated plate mounted upon said in-lip at the outside of said hollow box, substantially as described.

CHRISTIAN H. ROSS.

Witnesses:
JAMES H. PIERCE,
I. B. CARPENTER.