(No Model.)

C. F. BINGHAM.

MANHOLE COVER.

No. 576,253. Patented Feb. 2, 1897.

Fig. 1.

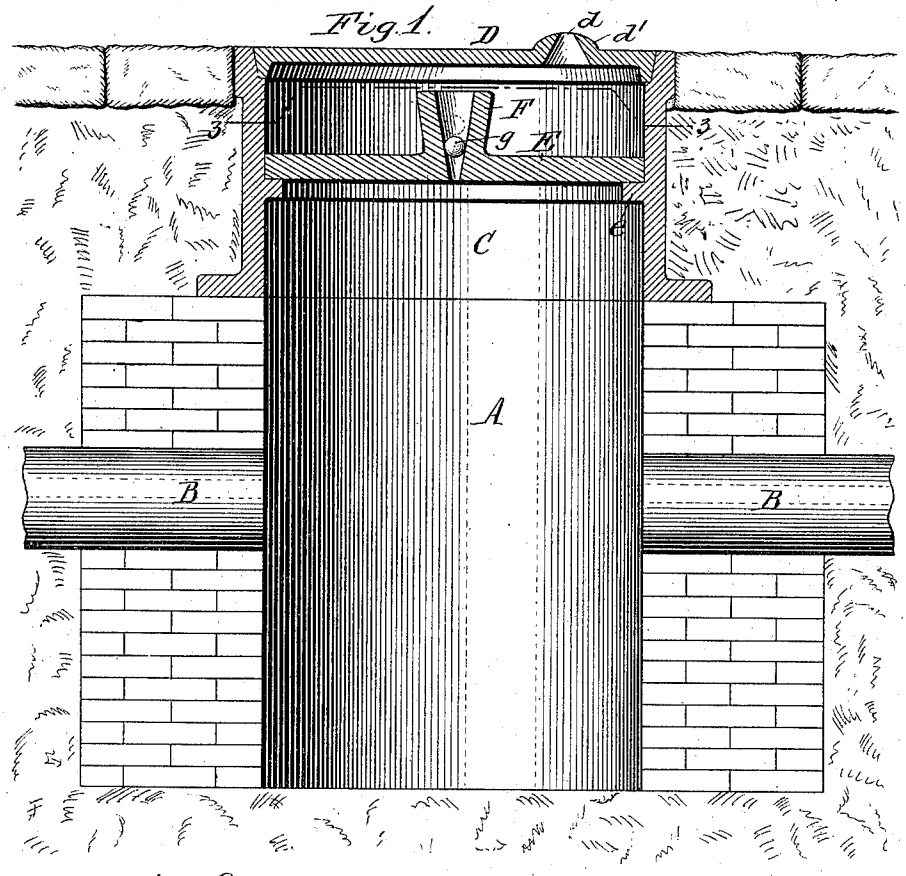


Fig. 2.

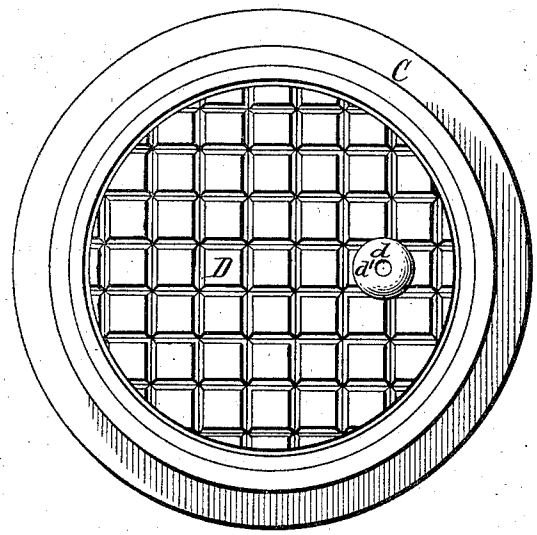
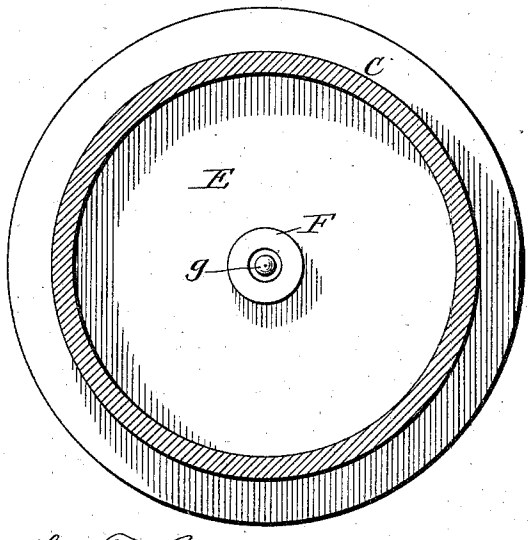


Fig. 3.



WITNESSES:
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UNITED STATES PATENT OFFICE.

CHARLES F. BINGHAM, OF BUFFALO, NEW YORK.

MANHOLE-COVER.

SPECIFICATION forming part of Letters Patent No. 576,253, dated February 2, 1897.

Application filed April 8, 1895. Serial No. 544,884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. BINGHAM, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Manhole-Covers, of which the following is a specification.

This invention relates to a manhole cover or casing which is especially desirable for electric-wire conduits, although the same is also useful in connection with sewers.

My invention has for its object to provide the manhole-casing with means which permits the free escape of any gases that may accumulate in the manhole, but which at the same time excludes the atmosphere from the manhole, the presence of damp air in the manhole being objectionable because of its conductive property.

In the accompanying drawings, Figure 1 is a sectional elevation of my improved manhole cover or casing in connection with an electric-wire conduit. Fig. 2 is a top plan view thereof. Fig. 3 is a horizontal section of the same in line 3 3, Fig. 1.

Like letters of reference refer to like parts in the several figures.

A represents the manhole proper, and B conduits opening into the same.

C is the manhole casing or cover, which may be of circular or other suitable form, and which rests upon the brickwork forming the walls of the manhole.

D is the removable lid or cover of the casing, which is seated upon a rabbet formed at the upper end of the casing, so as to be flush with the top of the latter. This cover is formed with a ventilating or gas-escape opening *d*, which is preferably flared downward to prevent dirt from lodging therein, and which is surrounded on the upper sides of the cover by a sloping rim *d'*, which sheds water from the opening.

E is a horizontal diaphragm or dirt-trap arranged within the casing at a short distance below the cover and removably supported upon a ledge or shoulder *e*, formed on the inner side of the casing. This diaphragm receives any dirt which may enter through the gas-escape opening of the cover, thus preventing the same from dropping to the bottom of the manhole.

F is a tube or passage through which any gas is allowed to pass from the portion of the casing below the diaphragm to the portion thereof above the diaphragm, so as to escape through the opening of the cover. In the construction shown in the drawings this tube extends upwardly from the middle of the diaphragm, and its open lower end coincides with an opening formed in the diaphragm, as shown in Fig. 1, while its upper end opens into the portion of the casing above the diaphragm. The tube rises to a sufficient height above the diaphragm to prevent any dirt which drops upon the diaphragm from overflowing into the tube and falling into the bottom of the manhole. The dirt which accumulates on the diaphragm is removed from time to time by withdrawing the diaphragm from the casing.

g is a check-valve applied to the tube or passage F for checking or preventing the entrance of air into the manhole through said tube, while permitting the escape of gas from the manhole into the atmosphere. This valve preferably consists of a ball of aluminium or other light and non-corrosive material, which is seated loosely in the bore or passage of the tube, the bore being tapered downward and its smallest diameter being smaller than that of the valve, as shown in the drawings, so as to retain the latter in the tube, while allowing it to rise freely. The pressure of any gas that may accumulate in the manhole from any cause will lift the check-valve and escape into the upper portion of the casing and thence through the opening of the cover, and as soon as the gas has passed out the valve again closes the tube automatically, thus practically excluding the atmosphere from the manhole and avoiding the objections arising from the presence of damp air in the manhole.

I claim as my invention—

In a manhole-cover, the combination with a casing having in its top a ventilating or gas-escape opening, of a removable diaphragm

arranged in said casing and having a gas-escape tube extending above the upper surface of the diaphragm and connecting the portions of the casing on opposite sides of the diaphragm and an automatic check-valve arranged in said tube and permitting the escape of gas upwardly through said tube while preventing the entrance of the atmosphere into the chamber below the diaphragm, substantially as set forth.

Witness my hand this 26th day of March, 1895.

CHAS. F. BINGHAM.

Witnesses:
JNO. J. BONNER,
ELLA R. DEAN.