

(No Model.)

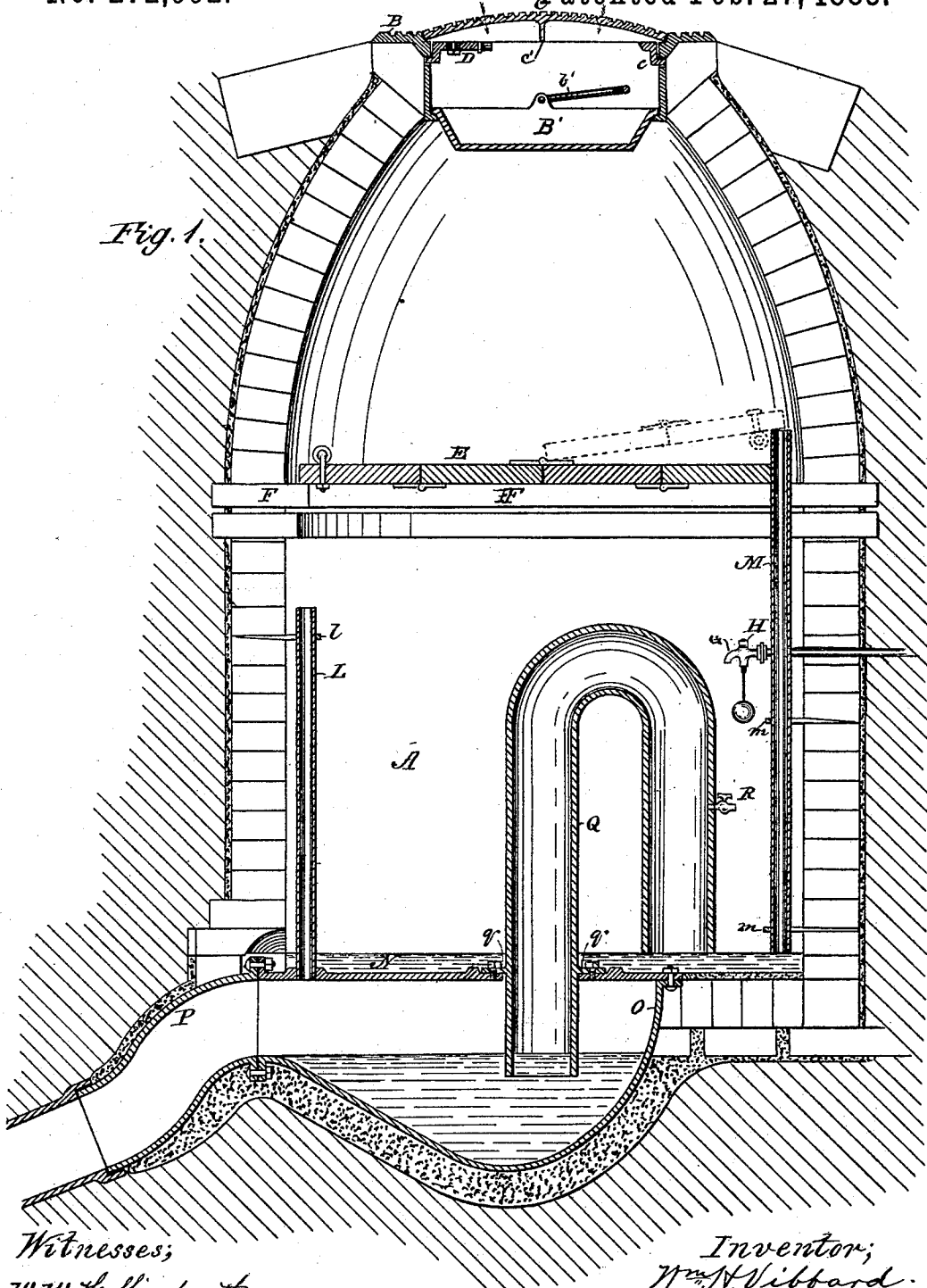
2 Sheets—Sheet 1.

W. H. VIBBARD.

SEWER FLUSHING APPARATUS.

No. 272,992.

Patented Feb. 27, 1883.



Witnesses;  
W. W. Hollingsworth  
W. B. Brown

Inventor;  
W. H. Vibbard.  
By J. W. Robertson  
Attorney.

(No Model.)

2 Sheets—Sheet 2.

W. H. VIBBARD.  
SEWER FLUSHING APPARATUS.

No. 272,992.

Patented Feb. 27, 1883.

*Fig. 2.*

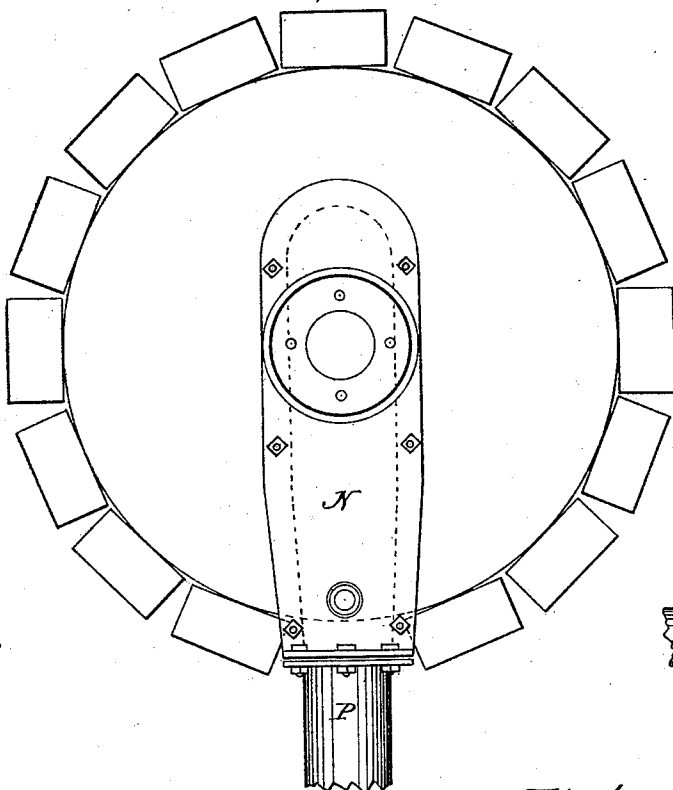


*Fig. 3.*

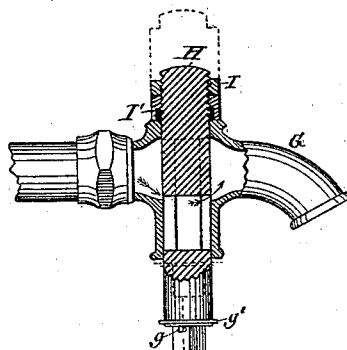


*Fig. 4.*

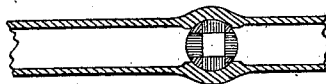


*Fig. 5.*

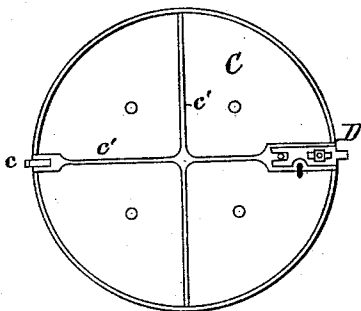
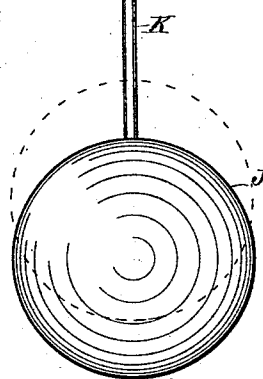


*Fig. 6.*



Witnesses;  
*W. W. Hollingsworth*  
*H. B. Brown*

Inventor;  
*Wm. H. Vibbard*  
By *J. W. Robertson*  
Attorney.

# UNITED STATES PATENT OFFICE.

WILLIAM H. VIBBARD, OF KALAMAZOO, MICHIGAN.

## SEWER-FLUSHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 272,992, dated February 27, 1883.

Application filed December 27, 1882. (No model.)

*To all whom it may concern :*

Be it known that I, WILLIAM H. VIBBARD, a citizen of the United States of America, residing at Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Sewer-Flushing Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in sewer-flushing apparatus; and it consists in improvements on the invention shown in the patent granted to myself and Geo. H. Chandler, August 15, 1882, No. 262,860, which improvements will be hereinafter more fully described, and then pointed out in the claims.

In the accompanying drawings, Figure 1 shows a vertical sectional view of my apparatus as improved; Fig. 2, a plan view of the bottom of the tank with siphon and tubes removed; Fig. 3, an enlarged view of the cock, shown in Fig. 1, partly in section; Fig. 4, a horizontal section of the cock; Fig. 5, an inverted plan of the cover and its lock; Fig. 6, a side view of the lock-key.

A represents the tank, preferably of circular form, provided at the top with a metal collar or mouth-piece, B, on which rests the cover C, having at one side a lug, c, to fit into a corresponding recess in the collar, and on the other side a lock-bolt, D, which is secured to the under side of the cover by a nut or nuts on studs or bolts passing through slots in the bolt. The upper side of this cover is provided with projections, as shown in Fig. 1, and holes for the admission of air, and its under side has strengthening-ribs c', one of which is broadened out to form a seat for the bolt, as shown in Fig. 5. The cover has a key-hole, through which may be inserted the key, Fig. 6, to lock or unlock the bolt. The key may have its handle formed at one end into a hammer, and the other into a scraper, to remove ice or dirt.

B' is a pan, having a bail, b', resting on lugs on the bottom of the collar B, which serves to catch any water, dust, &c., that may fall through the holes in the cover C, and further serves to aid in preventing the freezing of the water in the tank below.

At E is shown the frost-door, which is made in four sections hinged together, as shown, for convenience in inserting into or removing from

the tank, so that should the dampness rot the door it may be readily replaced by a new one. The sections of the door, it will be seen, are hinged in three places, two of the hinges being below and the center one above, by which means the door may be raised one-half at a time, as shown by dotted lines, when the door is required to be open for any purpose. The door rests on a ledge, F, formed around the inside of the tank, of a suitable width. The door is preferably round; but, if preferred, the ledge F may be of such form as to have a square instead of a round opening, in which case the door may be square.

G shows a cock, connected by a pipe with the water-main, and having a peculiarly-formed plug, H, provided with two ports at right angles, as shown in Fig. 4, on the top of which is a nut, I, and jam-nut, I', the latter having its thread partly cut away to form a recess, by which means the height of the plug may be regulated, so as to allow more or less water to pass through when the plug occupies its normal position. To the lower part of the plug is attached a float, J, by a stem, K, screwed into the bottom of the plug, which is made square for convenience in holding with a wrench when the nuts are being adjusted. At g is shown a pin, which holds on a washer, g', to prevent the plug rising too high. By this construction a small and regulated amount of water will be allowed to pass through the cock into the tank when the plug is in its normal position; but as the water rises and the tank becomes nearly full the float causes the plug to rise, and then the largest amount of water which the cock will pass rushes rapidly into the tank, thus filling up the tank very fast to its proper height and causing the siphon to operate, when the float descends, the plug resumes its original position, and the water trickles in as before. The two passages at right angles through the plug will be found especially useful, as no matter in which position it may accidentally turn in rising and falling it will still allow substantially the same amount of water to pass through.

In addition to rapidly filling the tank as the siphon becomes nearly ready to act, the increased supply of water by its agitation tends to prevent freezing when the water is at its highest point in the tank.

In some cases I propose to use a cock and float having the ordinary turning-plug; but I much prefer the arrangement shown.

At L and M are air-tubes for the same purpose as in my previous patent; and it is therefore unnecessary to describe them here, any more than to state that the tube M is secured to the side of the tank by suitable irons, *m m*, built or driven into the brick-work of the tank, so as to be held at the proper height above the bottom thereof, and that the upper end of the tube L is also secured by a similar iron, *l*, and its lower end is screwed or otherwise held in the metal plate N, forming the top of the trap O, which plate is secured to said trap and to the outlet P by bolts and nuts, as shown. This plate N forms a support for the siphon Q, which is provided with a flange, *q*, by means of which the siphon is bolted fast to the plate, and is thus securely held in its proper position.

At R is an air-cock to admit air to the short leg of the siphon, and the amount is governed by the size of the opening in the plug of the cock, which can further be governed by the turning of the plug more or less. The cock should be placed far enough above the water to allow the siphon to thoroughly fill with air, and thus clear itself of water after siphonage.

In building my apparatus I prefer to make the trap, siphon, &c., of iron in the manner shown, but do not limit myself to this material, nor to the particular form shown, except when such form is especially referred to in the claims, as other materials—such as terra-cotta, for instance—may be employed, and the plate and trap may be made in one piece, if preferred; or, instead of the outlet being bolted onto the trap, it may be made in one piece with it. I prefer, however, the form shown, as it is more convenient in molding the trap, for in this form it can be made without a core.

I have shown the pan B' suspended by lugs projecting from the under side of the collar; but I do not limit myself to the form shown,

as I propose in some cases to bolt or otherwise secure loops to the collar, which will hang down at some distance below it, and on these loops suspend the pan. I also propose in some instances to suspend the pan from staples or hangers driven or built into the wall of the tank.

What I claim as new is—

1. The combination, with the tank A, siphon Q, and trap O, of the cock G, provided with a float to open it as the water rises, substantially as described.

2. The combination, with the tank A, of the cock G, provided with an automatic device constructed to open the passage through the cock as it rises, and an adjusting device to regulate the flow of the water through the cock as the plug returns to its normal position, substantially as described.

3. The combination, with the tank A, of the cock G, having plug H, moved by the float J, and provided with apertures at right angles to each other, substantially as and for the purpose specified.

4. The combination, with the tank A, of the trap O, siphon Q, and air-cock R, substantially as and for the purpose specified.

5. The combination, with the trap O, of the plate N, provided with an aperture for the siphon Q, and a socket for the pipe L, substantially as described.

6. The combination, with the tank A, having the edge F, of the frost-doors E, formed of sections hinged together for removal or replacing, substantially as described.

7. The combination, with the tank A, having collar B, of the cover C, provided with the lug *c*, and lock D, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 20th day of December, 1882.

WILLIAM H. VIBBARD.

Witnesses:

LYMAN M. GATES,  
GUSTAVUS M. GATES.