W. F. DOWNEY.

Sewer and other Traps.

No. 197,838. Patented Dec. 4, 1877.

Fig. 1.

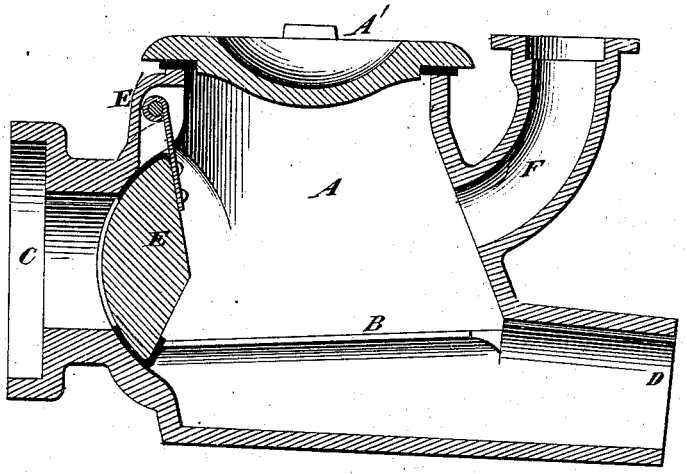
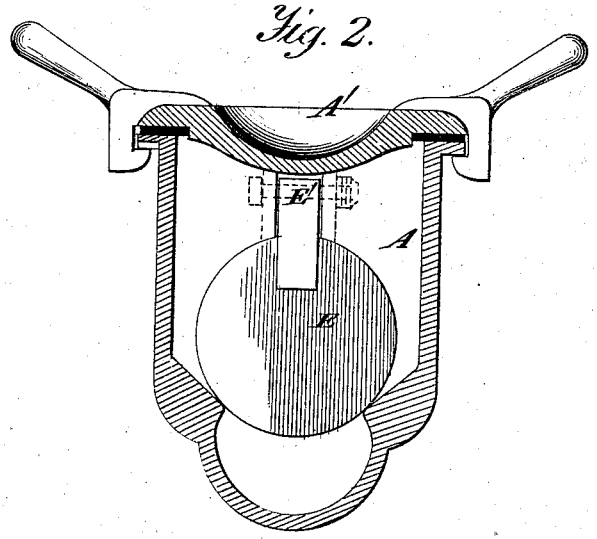


Fig. 2.



Witnesses.

A. Ruppert.

D. P. Howe

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Inventor.

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Attys

UNITED STATES PATENT OFFICE.

WILLIAM F. DOWNEY, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN SEWER AND OTHER TRAPS.

Specification forming part of Letters Patent No. **197,838**, dated December 4, 1877; application filed August 27, 1877.

To all whom it may concern:

Be it known that I, WILLIAM F. DOWNEY, of the city and county of Washington, and District of Columbia, have invented certain new and useful Improvements in Sewer and other Traps, of which the following is a specification:

This invention relates to improvements made on the sewer-traps patented by me on the 13th day of February, 1877; and consists in the use, with or without the ball-valve shown in said patent, of a sectional globe-valve, hung across the induction-pipe in such manner as to stand normally closed, and yet to yield to slight pressure from behind, so that it will open to permit the escape of the outflow, and immediately close after its passage, to act as a stench-trap; also, in adding to the trap a pipe, intended to be connected with the rain-water pipe, for the escape of noxious vapors and relieving the flap-valve from their pressure.

In the annexed drawings, making part of this specification, Figure I is a longitudinal section. Fig. II is a transverse section.

The same letters are employed in both figures in the designation of identical parts.

A is the body of the trap, A′ the cover, and B the ways upon which the ball-valve operates. C is the induction-pipe, and D the discharge-pipe, as in said former patent set forth.

Instead of inclining the ways to leave the ball at the outlet end, I incline them so as to have the ball stand in position normally to close the induction. I have added a valve, E, which is a flap-valve, convex where it bears on the valve-seat at the mouth of the induction-pipe, and which I prefer to make of metal, with a facing of india-rubber. This valve is suspended at E′ in such a manner as to hang normally against its seat, but with little pressure, being nearly balanced, so as to yield to pressure coming from behind. It will thus, while closed, serve as a stench-trap, preventing the inflow of noxious vapors generated in the sewer, and yet yielding readily to pressure from the other direction.

As the pressure of sewer-gas would tend to hold the valve closed, and so interfere with the outflow, it is desirable to prevent this, which I do by connecting a branch, F, opening out of the chamber A, with the rain-water pipes of the building, so that the gases may be drawn off, thus obviating any back pressure on valve E.

While I have described my valve as adapted to a sewer-pipe connection, it may be applied in other ways, and I do not desire to limit myself to any particular use. The valve E may be used with or without the ball-valve of my original patent.

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

1. In combination with the chamber A and the horizontal induction-pipe C, entering above the bottom of the chamber along which the sewage-water flows through the outlet-pipe D, the swinging valve E, hung so as to normally close the induction-pipe against the entrance of backwater or sewer-gas, but at the same time to yield to light pressure in the direction of the outflow, substantially as set forth.

2. In combination with the chamber A, pipe C, and valve E, hung substantially as described, the pipe F, for relieving the valve from back pressure, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WM. F. DOWNEY.

Witnesses:
R. P. CAFFERTY,
J. T. WALLACE.