

T. Dark
Sewer

N^o 9,828

Patented Jan. 29, 1869.

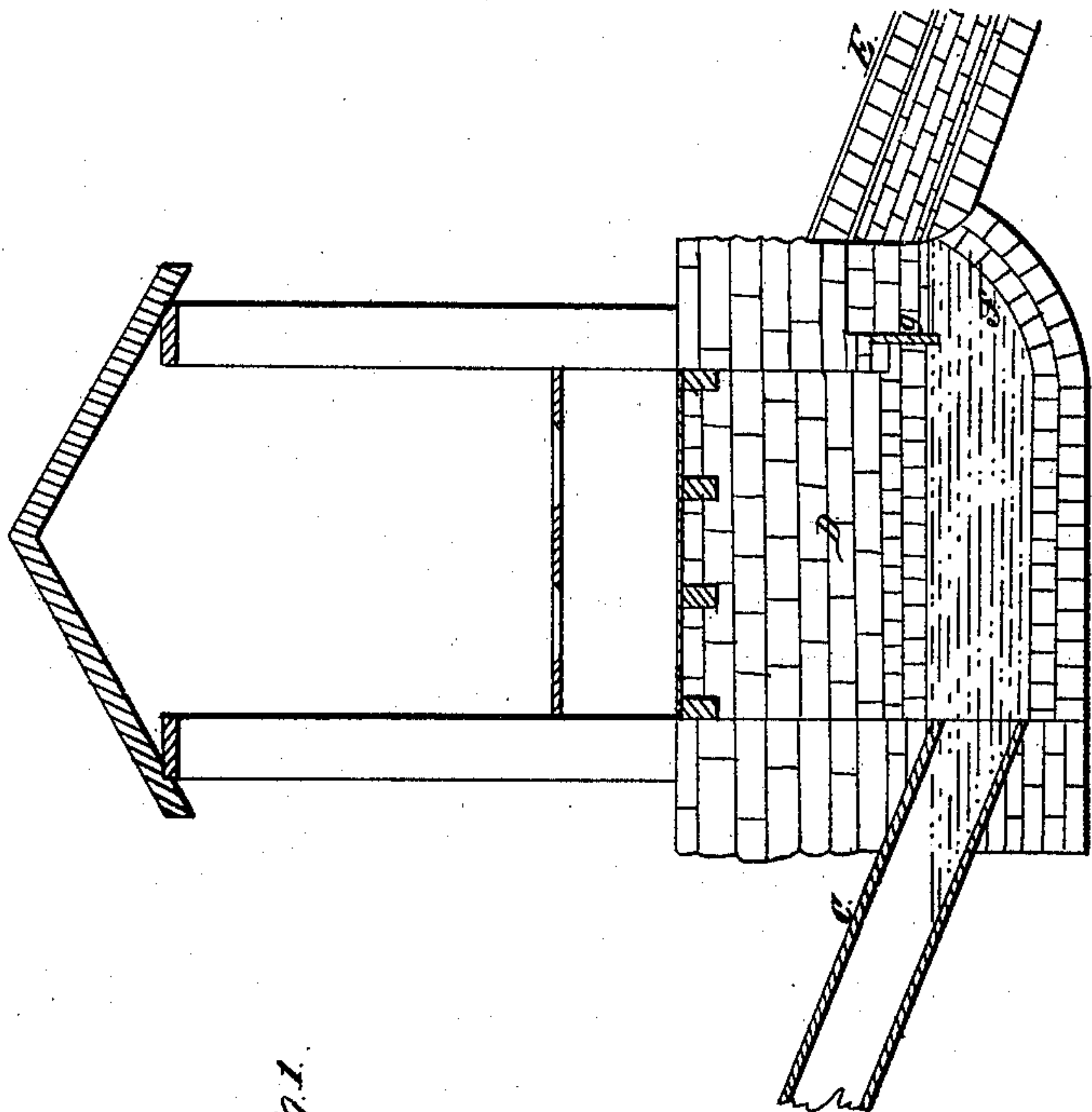


Fig. 1.

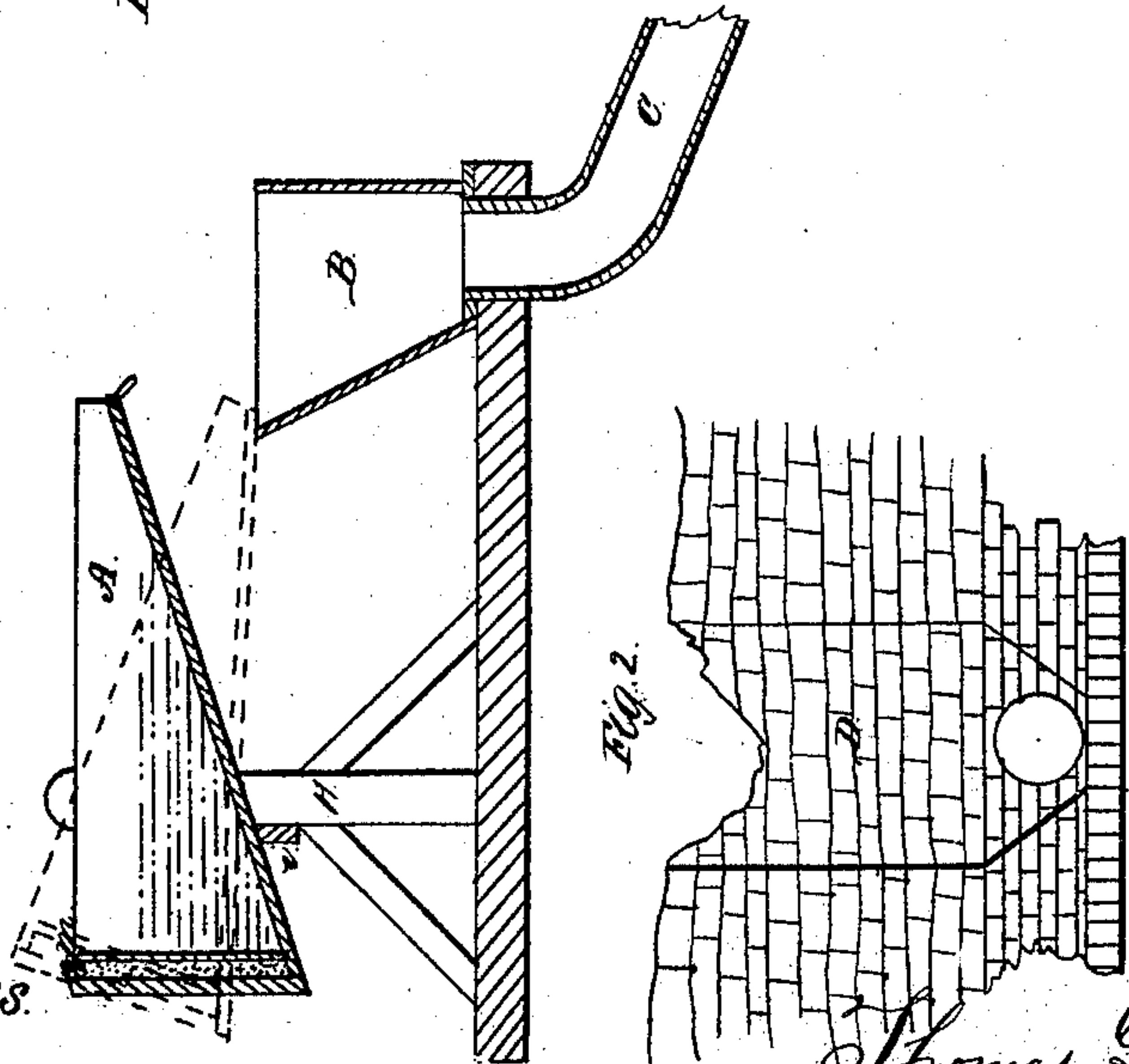


Fig. 2.

Witnesses.
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THOMAS DARK, OF BUFFALO, NEW YORK.

Letters Patent No. 91,828, dated June 29, 1869.

IMPROVED SEWER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS DARK, of the city of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Flushing Drains, Vaults, and Sewers; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section of a vault and flushing-apparatus.

Figure 2, a cross-vertical section of a vault.

Like letters designate similar parts in both figures.

My invention consists of the construction and arrangement of parts, as hereinafter described, for automatically flushing drains, vaults, and sewers.

In the drawings—

A represents the reservoir;

B, the enlarged mouth of the flushing-pipe C;

D, the vault; and

E, the drain leading therefrom to the main sewer.

The sides of the vault are contracted at the bottom, as shown in fig. 2, and has the bottom, at the discharge-end, curved or inclined upward, as shown at *f*, fig. 1, to facilitate the discharge of the contents of the vault into the mouth of the drain, which is located above the bottom of the vault. The bottom of this outlet should be a little higher than the top of the inlet-opening at the opposite end, so that the water in the vault will fill the end of the flushing-pipe, and thereby prevent the gas from the former passing into the latter.

In front of the entrance to the drain is provided a certain valve or wall, *g*, which extends a little below a line horizontal with the bottom of the entrance, and, by dipping in the water in the vault, effectually prevents the foul air and gases from the drain and sewer escaping into the vault, while it prevents the free discharge of the contents of the latter.

The reservoir A may be located at any convenient locality, and is constructed substantially as represented. It is pivoted in any suitable manner—that shown being two posts, H, with gudgeons on each side, which support and allow it to turn thereon.

It is so balanced that it will rest in the position shown in black lines, on a cross-piece, *i*, or equivalent, until it has become filled, or nearly so, with water, when the weight of the latter is sufficient to produce a preponderance in the opposite direction, (shown in red lines,) which causes the water to empty itself into the mouth B of the flushing-pipe.

The proper balancing of the reservoir may be readily effected by constructing a space, *m*, at the closed end

of the reservoir, in which sand or equivalent may be filled in, to the amount required for the purpose.

The reservoir should be elevated sufficiently above the bottom of the vault, and at a distance therefrom, so that the water, when discharged into the flushing-pipe, will have acquired a momentum, by the time it reaches the vault, adequate to force the contents thereof into the drain E, and properly cleanse the former. Where the ground is sufficiently inclined, the reservoir may be arranged in a hole in the same, so as not to extend above the surface.

The reservoir may be of any size required, and be supplied with water from any source, as most convenient, such, for instance, as the roof of a building, which gradually collects therein till it becomes full, when it preponderates and empties its contents into the enlarged mouth B, from whence it rushes through the pipe C, into the contracted bottom of the vault, forcing its contents up and into the drain, which conducts it to the main sewer or other final discharge. The reservoir having become emptied of the water, which caused the preponderance, resumes its normal position again, when the filling and flushing are repeated, with a longer or shorter interval, according to the amount of supply to the reservoir.

The construction of the bottom of the vault enables the latter to be more effectually emptied of its contents, while the relative arrangement of the inlet and outlet-openings, with the bottom of the vault and dipping-valve *g*, prevents the escape of foul air from the sewer into the vault, and the passage of the gases generated in the latter up the pipe C. The depression of the bottom of the vault below the entrance to the drain, prevents the heavier articles that may accidentally get into the vault from being washed into and obstructing the drain and sewer. These may be readily hooked out or otherwise removed from the top of the vault.

What I claim as my invention, is—

1. The reservoir A, pivoted to the uprights H, and provided with the space *m*, at its closed end, as and for the purposes set forth.

2. The reservoir A, flushing-pipe C, provided with an enlarged mouth, B, vault D, and drain E, all constructed, arranged, and operated in the manner and for the purpose set forth.

In witness whereof, I have hereunto signed my name, in the presence of two subscribing witnesses.

THOMAS DARK.

Witnesses:

ALBERT HAIGHT,
JAY HYATT.