

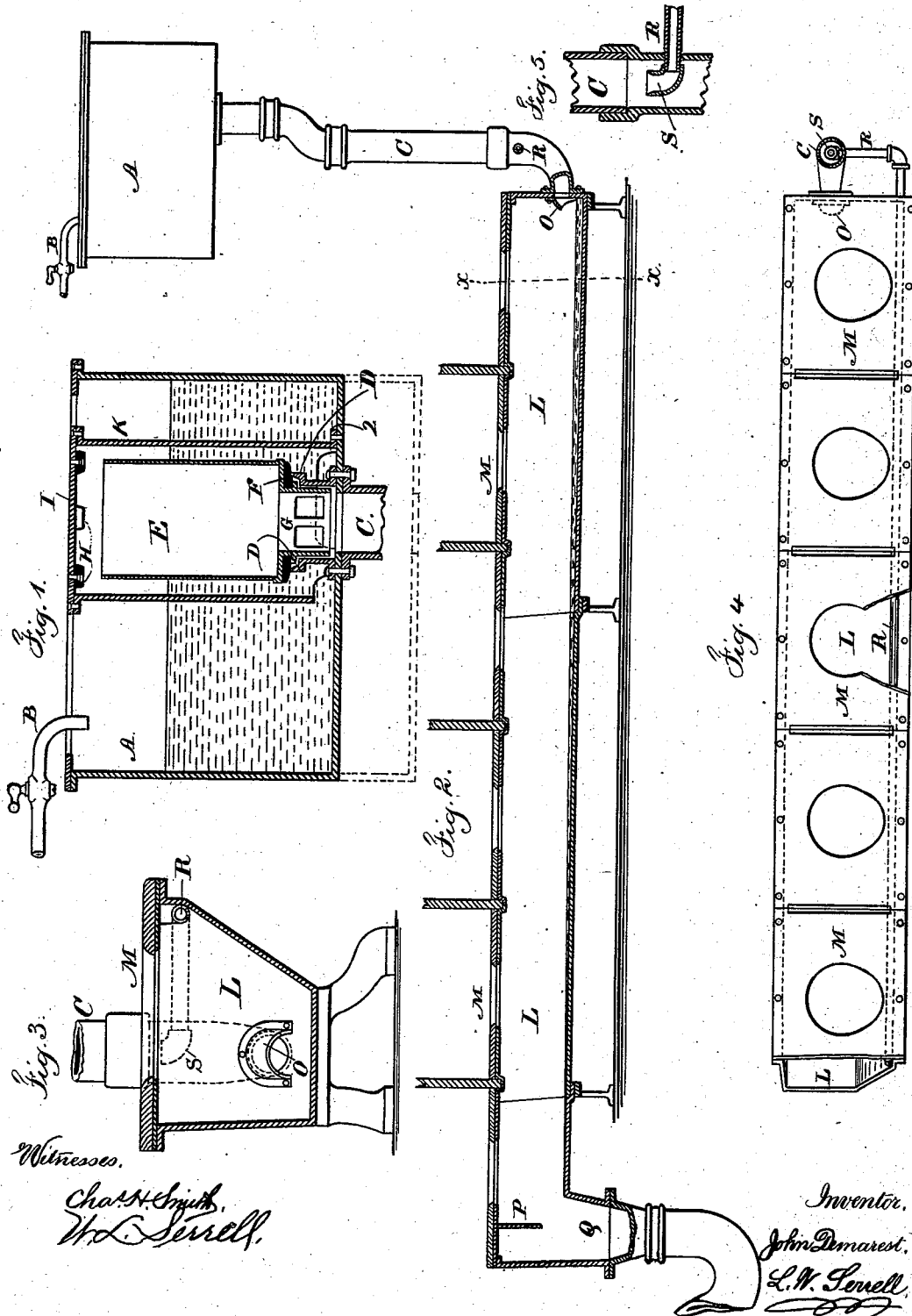
(No Model.)

J. DEMAREST.

FLUSHING APPARATUS FOR WATER CLOSETS, &c.

No. 381,221.

Patented Apr. 17, 1888.



# UNITED STATES PATENT OFFICE.

JOHN DEMAREST, OF NEW YORK, N. Y., ASSIGNOR TO THE J. L. MOTT IRON WORKS, OF SAME PLACE.

## FLUSHING APPARATUS FOR WATER-CLOSETS, &c.

SPECIFICATION forming part of Letters Patent No. 381,221, dated April 17, 1888.

Application filed October 17, 1887. Serial No. 252,547. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN DEMAREST, of the city and State of New York, have invented an Improvement in Flushing Apparatus for Closets, Sewers, &c., of which the following is a specification.

Sewers and drains are liable to become obstructed by a deposit from a gradual flow of dirty water, and in case where a periodical flushing has been provided there is risk of the apparatus becoming obstructed by pieces of paper or by small foreign substances in the water passing into the pipes or valves of the flushing-cistern.

My present invention is adapted to the rapid discharge of water periodically, whether the water is clean or more or less contaminated with foreign material.

I make use of a cistern or reservoir of any desired size or character, and into this fresh water is allowed to run, said water coming from any desired source, or water from sinks, basins, or water-closets may pass into this reservoir, and the discharge-pipe rises within the reservoir and has at its upper end a valve-seat, valve, and float, and around the valve, float, and discharge-pipe is a siphon-case; hence when the liquid in the reservoir has accumulated sufficiently to lift the float and valve the liquid rushes into the discharge-pipe, filling the same and causing a siphonic action that instantly returns the valve to its seat, and the contents of the reservoir are drawn away through the float and discharge-pipe; and it is to be observed that the valve is protected by the siphonic case, so that it is not liable to become obstructed by any floating substance, and the valve is instantly returned to its seat as soon as the discharge-pipe is filled, so that foreign substances are not drawn away over the valve-seat, but simply through the siphon.

In the drawings I have shown my improved cistern or reservoir in connection with a range of privies, as the same is specially adapted to washing out such privies and the sewers with which they are connected.

Figure 1 is a vertical section of the cylinder. Fig. 2 is a section of the range of privies and an elevation of the cistern and flushing-pipe. Fig. 3 is a section in larger size at the

line *x x*. Fig. 4 is a plan view of a portion of the range of privies. Fig. 5 is a section at the junction of the primary and secondary flushing-pipes.

The cistern or reservoir A is of any desired size—usually it will be deeper in proportion than represented in Fig. 1, as indicated by the dotted lines—and illustrates the pipe through which the water runs into the cistern.

The sewer or discharge pipe C passes, preferably, through the bottom of the cistern, and it rises to any desired height within such cistern, and at the upper end thereof is a valve-seat, D.

The float E is an open vessel, at the bottom of which is a valve, F, to rest upon the seat D, and this float E is guided in any suitable manner, so that it may move vertically a short distance. I have shown the slotted tubular extension G at the bottom of the float passing into the upper end of the discharge-pipe C as the guide for such float, and there are stops H, preferably elastic, upon the under side of the siphon-cover I, that limit the upward movement of the float E.

The siphon-case K surrounds the float E and pipe G, and it extends nearly to the bottom of the cistern A, and it is supported in any convenient manner. I have shown the legs 2 as bolted to the bottom of the cistern.

The float E will not rise until the water in the tank A reaches nearly to the top of such float, and as soon as the float rises and lifts the valves F off the seat D the water rushes violently into the pipe C, and by its suction action draws the air out of the float E and out of the upper part of the siphon-case K, and the float E instantly descends and the valve F closes upon the seat D, and the siphon is filled with water and continues to act rapidly and with great force to exhaust the contents of the cistern A and to flush the privy, sewer, or drain with which it is connected.

This improvement is of great utility, especially in tenement houses, where the washing-water can be made use of for flushing the privies and washing out the drain-pipes, so as to carry away the voluminous refuse material and prevent the obstruction of the sewer-pipe. I have therefore represented the discharge-pipe

C as flushing the nearly-horizontal container L below the privy-seats M and carrying the excreta and foreign materials to the sewer-pipe Q. I find it important to make use of a deflector, O, at the lower end of the flushing-pipe C, to prevent the water dashing up against the under sides of the seats M, and also to use an overhanging deflector, P, over the sewer-pipe Q, and beneath which deflector the flushing-water dashes, and in striking the end of the container L some portion thereof is usually thrown upwardly, and then it is deflected downwardly by the hanging deflector P, so that it cannot dash against the under side of the seat at this end, and I use a secondary flushing-pipe, R, running along at the front or back of the seats within the container L and slotted or perforated on its under side to wash the inclined back surface of the inside of the container, and this secondary flushing-pipe R passes into the flushing-pipe C and is turned upwardly with a mouth, S, that receives a portion of the flushing-water as it rushes down the pipe C and causes the same to flow through the secondary flushing-pipe R.

I claim as my invention—

1. The combination, with the cistern or reservoir A, of a stationary siphon pipe or case, K, closed at its upper end, the discharge-pipe C, extending up within the siphon-case K and having a valve-seat at its upper end, a float within the case K, open at the upper end, and a valve at the lower end to rest upon the seat to close the discharge-pipe, substantially as set forth.

2. The combination, in a cistern or reservoir, of the siphon-case K, a standing discharge-pipe within that case, the open float E, the valve F below the same, and the tubular slotted guides G within the standing-pipe, substantially as set forth.

3. The combination, with the privy-container L, of a water-cistern, A, a discharge-pipe connecting the cistern to the container, a stationary case within the cistern closed at the top and forming part of a siphon, a float within the case open at the top and forming a continuation of the discharge-pipe, and a valve between such float and the discharge-pipe, substantially as specified.

4. The combination, with the container L for a range of privies, of the flushing-pipe C, supply-cistern A, and deflector O, to direct the water along the bottom of the container, the sewer-pipe Q at the distant end of the container, and a deflector over the sewer-pipe and hanging from the top of the container, with its lower edge above the bottom of the container, to allow the water to pass freely under the deflector into the sewer and prevent the water splashing back from the end of the container, substantially as specified.

Signed by me this 12th day of October, A. D. 1887.

JOHN DEMAREST.

Witnesses:

GEO. T. PINCKNEY,  
WILLIAM G. MOTT.