(No Model.)

S. F. SNIFFEN.

WATER CLOSET TANK OR CISTERN.

No. 265,709. Patented Oct. 10, 1882.

Fig. 1.

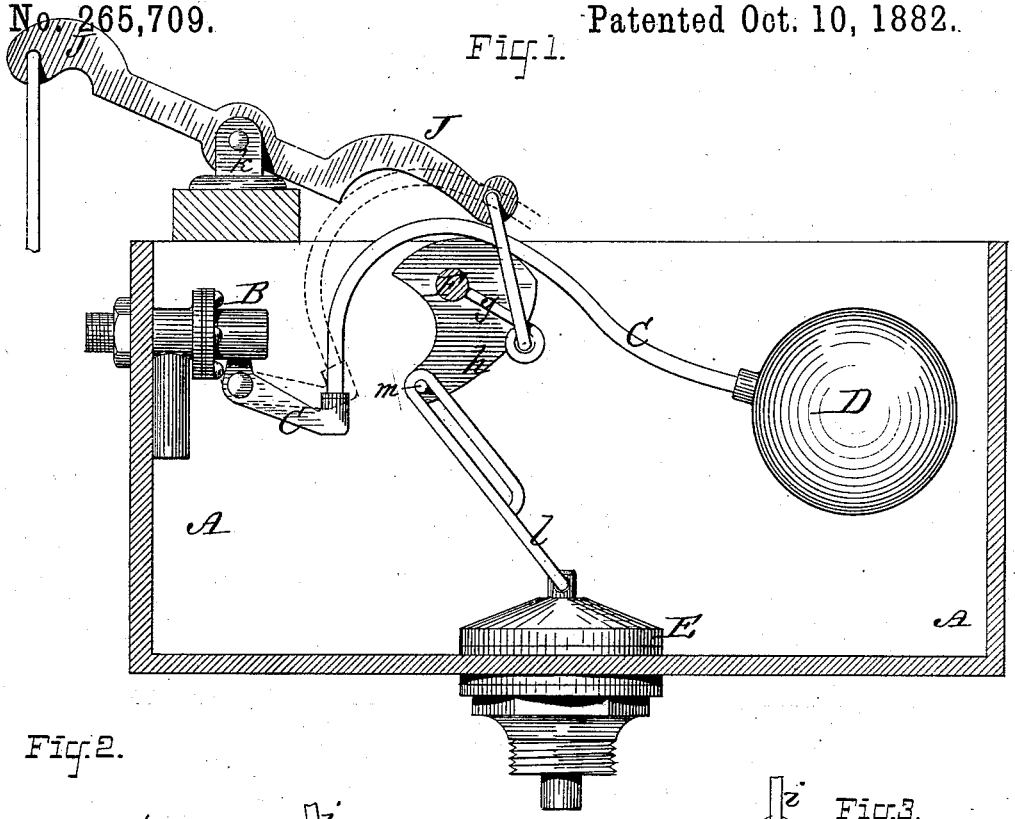


Fig. 2.

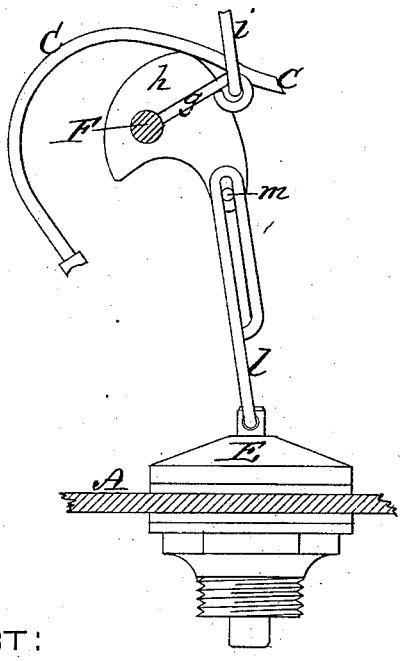
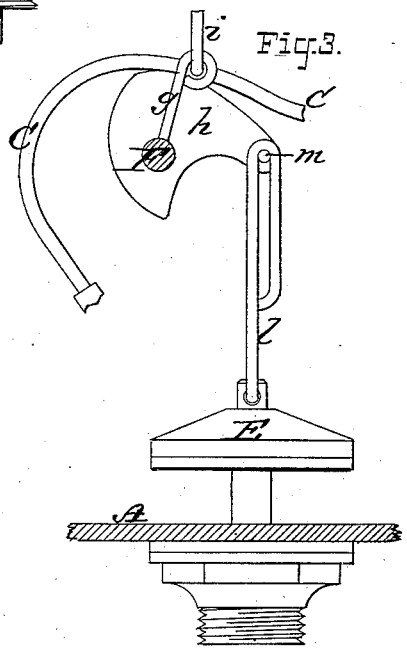


Fig. 3.



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UNITED STATES PATENT OFFICE.

SAMUEL F. SNIFFEN, OF NEW YORK, N. Y., ASSIGNOR TO HENRY C. MEYER & CO., OF SAME PLACE.

WATER-CLOSET TANK OR CISTERN.

SPECIFICATION forming part of Letters Patent No. 265,709, dated October 10, 1882.

Application filed June 19, 1882. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL F. SNIFFEN, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Water-Closet Tanks or Cisterns; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this application.

My invention relates to that type of water-closet cistern in which, by means of some suitable means, the closing of the inlet-valve is insured before the outlet-valve can begin to open whenever the closet may be used; and it consists in certain novel features of construction of this type of machine, as will be hereinafter more fully described, and as will be more particularly pointed out in the claim of this specification.

To enable those skilled in the art to make and use my invention, I will now proceed to more fully describe it, referring by letters to the accompanying drawings, forming part of this specification, and in which I have shown an ordinary or old-fashioned single-compartment cistern or tank having my invention embodied therein or added thereto.

Figure 1 is a longitudinal vertical section at a plane just to one side of the discharge-valve, and showing all the parts in the relative positions they would occupy a moment after the complete discharge of the contents of the tank at the time of reclosing the valve through which such discharge was effected. The dotted lines in said figure show the position to which the arm or lever of the float of the ball-cock would be forced to ascend by the automatic refilling of the tank, and in which position said arm or lever effects the closing of the supply-cock. Fig. 2 is a similar sectional view, but with the parts in that relative position in which they would be whenever the pull-up handle or other device of the closet shall be moved partially in the direction necessary to effect the opening of the discharge-valve of the cistern or tank. Fig. 3 is a similar view, but with the parts in still another relative position—viz., that which they would be brought into whenever the discharge-valve may be opened to prevent the escape of all or any part of the contents of the tank.

In the several figures the same part will be found designated by the same letter of reference.

A is the tank or cistern; B, the supply-cock, which is opened and closed by the movements of the arm or lever C, provided at its free end with a hollow float or ball, D, all of about the usual construction.

E is the discharge-valve, of about the usual construction, but operated by the novel means I will now describe, which novel means operates to prevent the ingress to the tank of any water during the opening of the discharge-valve or while said valve is in any other than a completely-closed condition.

Mounted near the upper part of the tank A, and so as to freely turn on its own axis, is a shaft, F, which is formed or provided with a radially-projecting arm, *g*, and a sort of cam-like device, *h*. The free end of arm *g* is connected by a link or loop-like connection, *i*, to one end of the usual lever, J, (that is pivoted in a stand at *k* in about the ordinary manner,) to the other end of which lever is attached the upper end of the chain or cord, which descends to the closet and is operated on at its lower end by either the pull-up handle or a depressible seat, as usual.

From the stem of the discharge-valve E extends upwardly a lifting pitman or device, *l*, the upper end of which is coupled to pins *m* on the cam-like device *h* in such a manner that, while said cam-like device can turn to a certain extent without affecting the pitman *l*, a portion of its movement will operate to effect the lifting of said pitman, and consequently a lifting of the discharge-valve E.

The operation of my improved contrivance will be understood to be about as follows: Supposing the tank to have just been emptied of its contents and the valve E to have just been reseated, all as illustrated at Fig. 1, the supply-cock B being open, the water will run into the tank A in the usual manner until the ball D shall have been floated up to a position such as to cause its lever C to assume the position shown by the dotted lines at said figure and effectually close the supply-cock, all in a man-

ner well known to those skilled in the art. Now, whenever it may become necessary to re-discharge any of the water thus supplied to tank A the discharge-valve E must of course be lifted, and it is lifted through the medium of the pitman *l*, actuated by the cam-like device *h*, the shaft of which latter is turned by the lever J pulling on arm *g* through the medium of link *i*. But the initial movement of lever J, arm *g*, and cam-like device *h* brings the latter device into the relationship with the lever C of the supply-cock seen at Fig. 2 before any effect begins to be produced on pitman *l* or discharge-valve E, and in this relationship the said cam-like device, it will be seen, operates to hold up the lever C, and thus keep the supply-cock B effectually closed. After this object shall have been thus effected the further turning of cam-like device *h* does not produce any further effect on arm C, except to hold it in the position seen at Fig. 2; but the continued movement of said cam-like device brings the pins *m* into contact with the upper end of the slot in the loop-like portion of pitman *l* and causes the said pitman to be pulled up, and hence the valve E to be lifted into the position seen at Fig. 3. In this position the water in tank A is free to run out, and will do so as long as the parts are kept in this position. Whenever the lever J shall be permitted to move in an opposite direction to allow the valve E to descend the complete descent of said valve onto its seat must occur by the time the several parts reassume the position seen at Fig. 2 and before the cam-like device *h* can turn to any position in which any descent of the ball D and lever C can occur. Therefore the supply-cock B cannot possibly be opened, or even partially opened, until after the valve E shall be on its seat. After said valve E shall have been reseated, then the further movement of lever J, and the consequent further turning of *h*, will permit the lever C and ball D to descend, thus opening the supply-cock; and the parts being left in this condition, the tank will be refilled for future use and the ball D floated up to automatically cut off the water-supply in the usual manner.

It will be seen that in my improved contrivance it is practically impossible to use at any one time more than the contents of tank A, though less can be used, if desired, and that this mode of operation is due to the use, in connection with the usual tank, supply-cock, and discharge-valve, of means by which the supply-cock is, so to speak, locked in a closed position before it is possible to open the discharge-valve.

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

In combination with the float-lever of the inlet-valve and the outlet-valve, a cam-like lifter device flexibly connected to the outlet-valve and adapted to act directly on the said lever of the inlet-valve, the construction being such, as described, that said cam-like lifter will come into contact with and hold up the said lever before it begins to operate to effect the lifting of the outlet-valve, all as set forth.

In witness whereof I have hereunto set my hand this 14th day of June, 1882.

SAML. F. SNIFFEN.

In presence of—
JACOB FELBEL,
F. MCCLARY.