(No Model.)

S. F. SNIFFEN.

WATER CLOSET CISTERN.

No. 266,216. Patented Oct. 17, 1882.

Fig. 1.

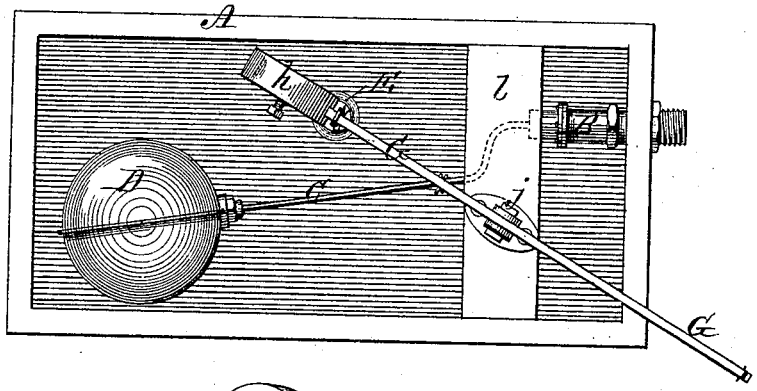


Fig. 2.

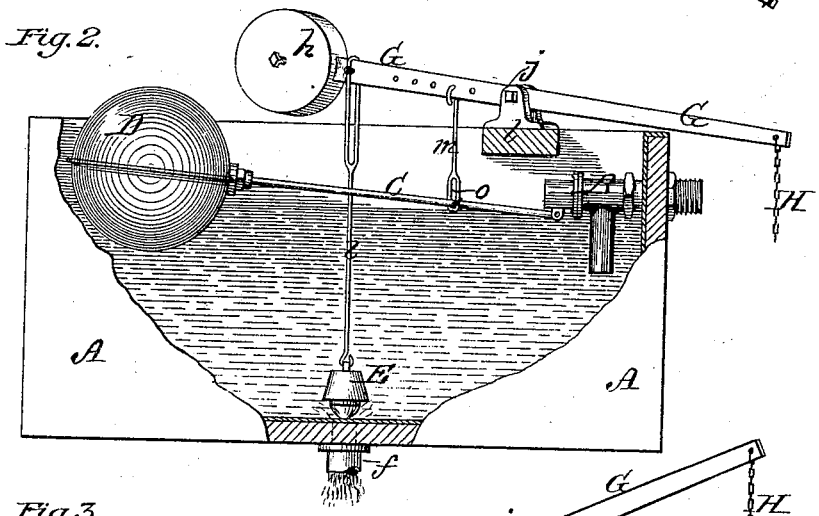
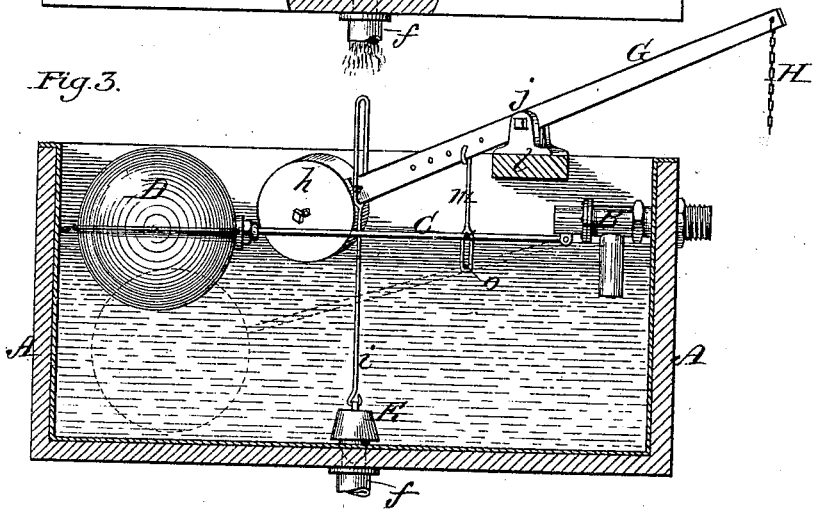


Fig. 3.



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UNITED STATES PATENT OFFICE.

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WATER-CLOSET CISTERN.

SPECIFICATION forming part of Letters Patent No. 266,216, dated October 17, 1882.

Application filed May 26, 1882. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL F. SNIFFEN, of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Water-Closet 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 an improvement in that kind of water-closet cisterns in which a single-compartment reservoir is employed, supplied automatically by what is usually called a "ball-cock"—that is, a cistern provided with a supply-cock that is automatically closed by a ball-float, which, as the supply of water rises, is floated up and (through suitable connections with the said cock) operates to close it.

My invention has for its object to produce for use a perfectly simple and reliable contrivance in the use of which no more water can be used (at each operation of the cistern) than is represented by the capacity of the tank, no matter how long the discharge-valve of the cistern be held open, either by accident or design; and to this end and object my invention consists in the employment, in connection with the usual cistern and automatic supply-cock, of a rod or strap hung to the chain-lever and provided with an elongated eye or loop receiving the float-lever, and a rod or strap fixed to the discharge-valve, and having an elongated eye or loop at its upper end, through which passes the chain-lever, by which construction and arrangement the supply-cock is closed whenever the discharge-valve is opened, all as will be hereinafter more fully described, and particularly pointed out in the claim.

To enable those skilled in the art to make and use my invention, I will now proceed to more fully describe the same, referring by letters to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a top view of a water-closet cistern and its attachments embodying my invention. Fig. 2 is an elevation or side view of the same, but with the front side of the tank broken away, (for the purpose of better illustrating the interior fixtures,) and showing the movable parts of the apparatus in the positions which they occupy when the discharge-valve of the cistern is open. Fig. 3 is a view nearly similar to Fig. 2, except that the movable parts are in the positions they occupy when the filled cistern has its discharge-valve closed.

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

A is an ordinary or old-fashioned single-compartment tank or cistern, provided at B with a supply-cock, (which is to be connected in the usual manner to the water-supply pipe,) said cock being operated by the lever C, pivoted at one end to the cock-fixture and provided at the other end with a hollow ball or float, D, all in a manner well known.

E is the exit-valve of the cistern, which is seated in the usual manner over the discharge pipe or orifice *f* in the bottom of the tank, which pipe *f*, as usual, leads to the closet or place at which the flushing-water is to be used. Said valve E is lifted off of and replaced in its seat at pleasure through the medium of the lever G and gravity, one end of said lever being provided with a weight, *h*, while the other is connected with one end of the chain or cord H, that is pulled on to work said lever, and the said valve E and lever G being connected by a rod, *i*, all as clearly shown. The lever G is pivoted at *j* in a stand mounted on a cross-beam, *l*, at the top of the tank, and, together with the connected parts thus far described, does not materially differ in form or mode of operation from the lever and attachments of the old-fashioned single-compartment tank; but depending from said lever G at a suitable point between its fulcrum and the end carrying the weight *h* is a rod or strap, *m*, the lowermost portion of which is formed or provided, as shown, with a sort of loop, *o*, which surrounds (or through which passes) the lever C of the ball-cock fixture, and the said strap, with its loop-like end, and the levers G and C, are arranged in such relationship that while the lever C can freely vibrate upward during the filling of the cistern (in the usual manner) for the purpose of effecting the closing of the supply-cock when the cistern shall have been filled, said lever cannot descend (and thus permit the opening of the supply-cock B) when the lever G is lifted at the weighted end sufficiently to cause the valve E to be open. The lever G is by

preference perforated at several points, in order that the strap *m* may be conveniently set in a proper position, or may be easily adjusted so as to properly control the movement of the lever C.

The operation of my improved contrivance will, in view of the drawings and the foregoing explanation of the construction and arrangement of the parts, be seen to be as follows: Supposing the tank or cistern A to be fully supplied with water and the valve E to be closed, the supply-valve B will be closed, and will, as usual, be kept in a closed position by the action of lever C, induced by the buoyancy of the ball D, that rests on the water near its surface. Now, whenever the chain H shall be pulled down in the usual manner, and the lever G thereby operated in a manner to effect the lifting of the valve E for the purpose of discharging (either partially or wholly) the water from tank A, the vibration of said lever G will at the same time of causing the opening of valve E sufficiently lift the strap or rod *m* to cause the lower part of its loop *o* to support (and prevent any possible downward vibration of) the lever C; and hence it follows that whenever the valve E is held open the valve B (through the medium of loop *o*, acting to hold up lever C) must be kept closed. Now, the instant the pull or chain H is released and the lever G is permitted to descend, at its weighted end, so as to let valve E close, that moment the loop-like device at *o* descends sufficiently to allow the lever C to vibrate to any extent the condition of the water-supply in tank A will permit the ball D to fall, in order that the supply-cock at B may be opened to replenish the tank to the requisite extent.

At Fig. 3 the dotted lines illustrate the position to which the ball would be permitted to fall after a discharge of the tank's contents, while the full lines show the position to which the float or ball ascends by the ingress of a full supply of water, in the usual manner.

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

In a cistern provided with a supply-cock, the combination, with the chain-lever, the float-lever, and the discharge-valve, of the looped rods or straps *m* and *i*, whereby the supply-cock is held closed whenever the discharge-valve shall be opened.

In witness whereof I have hereunto set my hand this 24th day of May, 1882.

SAML. F. SNIFFEN.

In presence of—

JACOB FELBEL,

H. C. JANVIER.