

(No Model.)

J. CLIFFORD.
WATER CLOSET.

No. 340,287.

Patented Apr. 20, 1886.

Fig. 1.

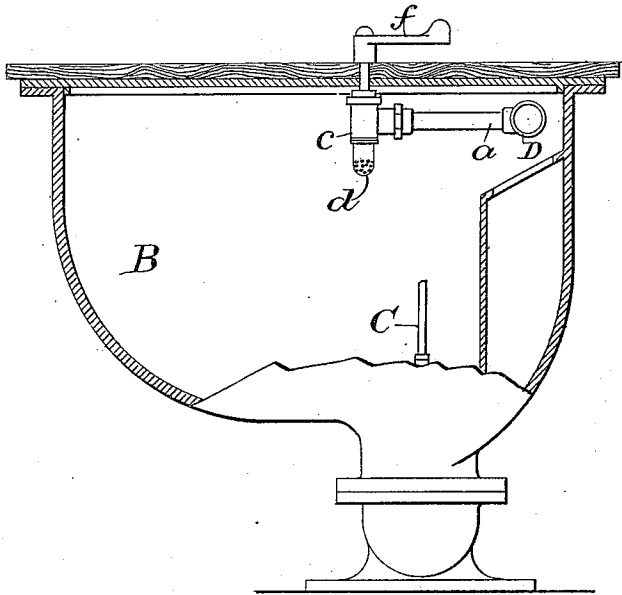


Fig. 2.

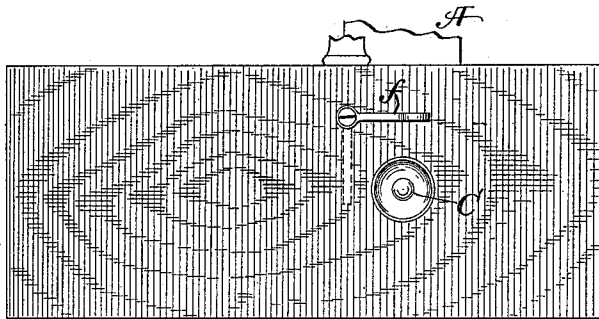
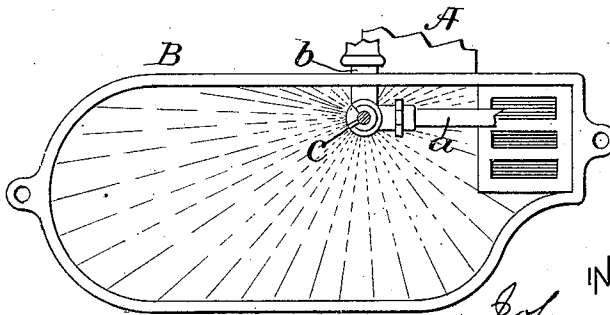


Fig. 3.



ATTEST:

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JOHN CLIFFORD, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE L. WOLFF MANUFACTURING COMPANY, OF SAME PLACE.

WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 340,287, dated April 20, 1886.

Application filed December 12, 1885. Serial No. 185,461. (No model.)

To all whom it may concern:

Be it known that I, JOHN CLIFFORD, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful
5 Improvements in Water-Closets; 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.

10 My invention relates to a new and useful improvement in that type of water-closet in which the bowl is connected with and discharges its contents into and through a reservoir
15 or tank being supplied with water from the bowl, and provided with a plunger-valve operated by the pull-up handle of the closet. In this type of closet, under the various known forms, there has always existed a serious objection,
20 due to the liability of the interior walls of the trunk or reservoir to get fouled with excrementitious matter, and, although some means for cleansing or washing off the interior surfaces of the trunk have been suggested
25 and used, I believe, to some extent, this difficulty or objection in this type of closet has never yet been overcome or remedied.

30 My invention has for its main object to provide for use a closet of the type referred to, in which the construction and mode of operation shall be such that the interior surfaces or walls of the trunk may be easily kept perfectly clean,
35 and the closet be thus maintained in a perfectly sanitary condition; and to this main end and object my invention may be said to consist in the use, in connection with the trunk, of what I denominate a "wash-out
40 cock," located within the trunk and at a proper elevation, and constructed so as to throw a spray or a series of divergent jets or streams of water, which will strike and thoroughly wash down the interior walls of the trunk, in a manner to be hereinafter more fully explained.
45

To enable those skilled in the art to which my invention relates to make and use the same, I will now proceed to more fully describe it, referring by letters of reference to the accompanying drawings, which form a part
50 of this specification, and in which I have shown

my invention carried out in that form in which I have so far successfully practiced it, and which is the best now known to me.

In the drawings, Figure 1 is a vertical central section of the trunk portion of a water-closet of the type above referred to, and having my invention embodied in its construction. Fig. 2 is a partial top view of the closet; and Fig. 3 is a partial top view of the closet with
55 the trunk-cover removed, and showing particularly the action of the jets of water thrown from the wash-out cock onto the interior walls of the trunk.

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

In the drawings, A is the bowl, and B the trunk, of a closet of the type to which my improvement especially relates.

70 C is the usual plunger discharge-valve of the reservoir B, operated by the pull-up handle C, and D is the ball-cock, of the usual approved construction, opened and closed by the descent and ascent of the float-lever E. The
75 watersupplied through the ball-valve D passes through the pipe or connection *a* to the inlet-pipe *b* of the flushing-rim of the bowl, and in its passage through said pipe enters and passes through a cock or valve at *c*, which I call a
80 "wash-out cock." This cock has connected to it or is pivoted with a perforated device or sort of spray-nozzle, *d*, and has its key projecting upward through the cover of the trunk (and through the seat of the closet) and provided with a small handle or hand-lever, *f*,
85 by means of which it may be manipulated at pleasure by the person occupying the seat. When the hand-lever *f* is turned to or set in the position seen in full lines at Fig. 2, the
90 cock *c* will have its key adjusted to a position such that the water supplied from the ball-cock and entering cock *c* from pipe *a* will pass through cock *c* to the inlet-pipe *b* of the bowl. When, however, said lever *f* is
95 turned to the position shown in dotted lines, the ingress of the water (passing through pipe *a*) to the inlet-pipe *b* of the bowl will be cut off and it will pass through the water-way of cock *c* into the depending spray-nozzle *d*, and, escaping through the numerous perforations of
100 said nozzle, will strike against and thoroughly

wash down the interior walls of the trunk B. The directions taken by the jets of water is illustrated to some extent by the broken lines at Fig. 3, though this view shows only, of course, the upper set of the jets that escape in a succession of horizontal series from the numerous holes of the wash-out cock. It will be seen that by the use thus of a discharge-nozzle arranged within the trunk the latter may be thoroughly washed, and it will be understood, of course, that the particular form and precise arrangement shown of the cock *c* are not essential to my invention so long as the wash-out cock be adapted to perform the functions I have explained.

In the use of the contrivance shown the person using the closet manipulates the pull-up handle, as usual, and the general mode of operation of the closet is the same as that of closets now in use of the type shown; but whenever desired, (and as often as it may be deemed expedient,) the occupant of the seat, after having lifted the pull-up handle and held it up long enough, turns the hand-lever *f* into the position shown in dotted lines, thereby cutting off the supply of water from the inlet *b* to the bowl and forcing all the water to enter and escape from the nozzle of the wash-out cock to wash down the walls of the trunk. Of course, so long as the pull-up handle shall be held up (thus keeping the discharge-valve of the trunk open) the water supplied through the ball-cock to the pipe *a*, and thence to the wash-out cock, will continue to flow, while, if the pull-up handle be released, the water supplied will continue to be thrown against the walls of the trunk until a quantity shall have passed through the wash-out cock sufficient to refill the bowl and trunk to the level at which the ball or float will effect the closing of the ball-cock.

As is well known to those skilled in the art, or even at all familiar with the construction and operation of water-closet apparatuses, the fouling up of the interior surface of the trunk (like the collection of dirt on the walls of a basin with dirty water left standing in it) occurs mostly, if not wholly, at about the vicinity of the level to which the water rises and stands in the bowl and trunk when the closet is not being used; and the foul water which, rising to the surface of the standing water, adheres to the walls of the trunk cannot be removed by ever so thorough and complete a discharge of the contents of the trunk and bowl, or by any amount of redumping of these connected receptacles, because in making its

exit from the trunk the water will drop down from and leave adhering to the walls of the trunk the foul matters thereon collected. By the use of a wash-out cock, however, properly arranged, the trunk may, so to speak, be thoroughly flushed out and washed off interiorly at any time (as often as may be desired) by simply for the time being adjusting the valve of the wash-out cock so as to direct the water-supply from the bowl to the spray-nozzle, as explained.

By the arrangement of the key of the wash-out cock so as to protrude through the seat and its location, as shown, the hand-lever *f* may be most conveniently managed by one hand of the person occupying the seat, while the other hand controls the pull-up handle; and this convenient arrangement of the parts conduces to a more frequent use of the means for keeping the trunk thoroughly washed out than if to effect this desirable sanitary result the occupant had to be put to some inconvenience.

Of course many changes in the details of construction of the water-closet apparatus may be made without departing from the spirit of my invention, the gist of which lies in the use of means for directing the full supply and head of water furnished through the ball-cock from the bowl to a similarly constructed and arranged device for discharging the water in a spray or jets against all those portions of the interior surface of the trunk on which any dirt may collect.

Having now so fully explained my invention that those skilled in the art can easily understand and practice it, either in the form shown or carried out in some other form, what I claim as new, and desire to secure by Letters Patent, is--

In combination with the trunk and with the source of supply of water to the bowl of a closet, a device arranged within the trunk and operating to discharge water in spray or in jets against the whole interior surface of said trunk, and a suitable cock or valve for diverting the supply of water from the bowl to said device for discharging water against the interior walls of the trunk, all substantially as hereinbefore set forth.

In witness whereof I have hereunto set my hand this 7th day of November, 1885.

JOHN CLIFFORD.

In presence of--

JNO. F. WOLFF,
E. M. FORD.