

H. C. MEYER
Water Closet Supply Apparatus.

No. 201,815.

Patented March 26, 1878.

Fig. 1

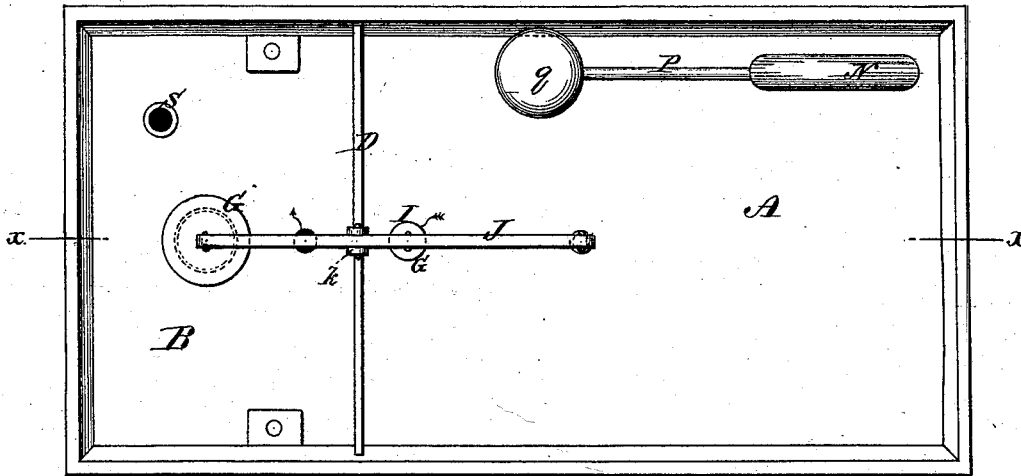
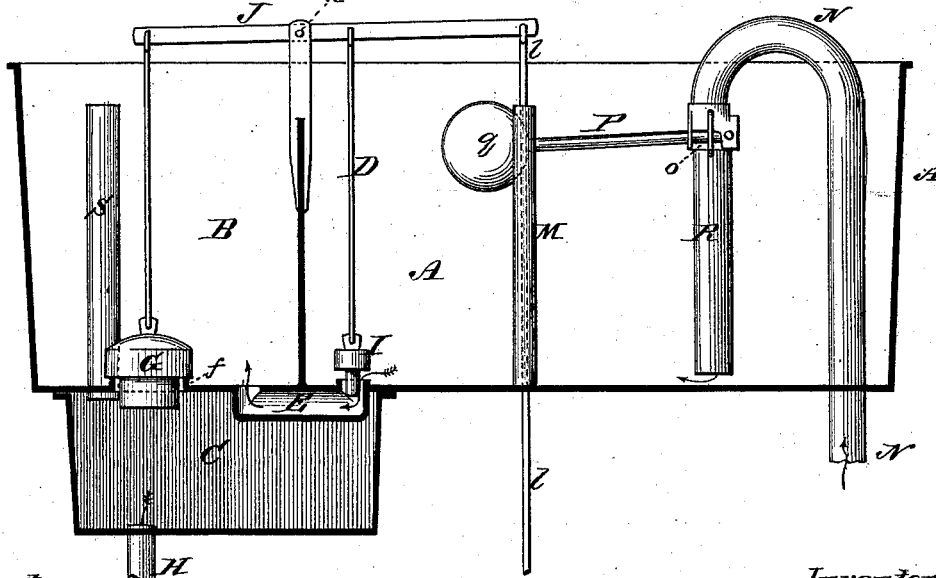


Fig. 2.



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IMPROVEMENT IN WATER-CLOSET-SUPPLY APPARATUS.

Specification forming part of Letters Patent No. **201,815**, dated March 26, 1878; application filed January 16, 1878.

To all whom it may concern:

Be it known that I, HENRY C. MEYER, 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-Supply Apparatus; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Previous to my invention various contrivances for supplying water to water-closets have been devised, involving the use of a supply cistern or tank, and in some of such prior contrivances means have been provided to prevent any waste or unnecessary use of the water-supply, while in others of them the construction has been such that in the event of even a sudden operation of the pull-up handle there would be an "after-wash" to the closet, and in some these features of construction have been combined so that the apparatus has the capacity to prevent undue waste of water, and also effect the after-wash; but, in such contrivances as the last mentioned, the construction of the apparatus has been complex and expensive.

To provide for use a water closet cistern, or water-supply apparatus for water-closets which shall combine means for both effecting an after-wash and preventing any waste of the water, and at the same time be simpler and more economic of structure, is the object of the first part of my invention, which, to this end, consists in the combination, with the main supply tank or cistern and an auxiliary reservoir, of a passage-way or means of communication between the main and auxiliary tanks located beneath or formed in the common bottom of said two tanks, all as will be hereinafter more fully explained.

A further object of my invention is to provide for use an apparatus involving the characteristic features of the first part of my invention, together with a service-box and means for effecting an after-wash, and at the same time simple in its construction and economic of manufacture; and to this end the

second part of my invention consists in a water-closet cistern, or supply-apparatus having a two-compartment or partitioned tank or reservoir formed or provided with a passage-way or channel of communication extending from one to the other of the compartments, in combination with a service-box, arranged beneath the said passage-way, and suitable valves, all as will be hereinafter more fully explained.

To enable those skilled in the art to make and use my invention, I will proceed to describe the construction and operation of an apparatus embracing it, referring by letters to the accompanying drawings, in which—

Figure 1 is a top view, and Fig. 2 a vertical longitudinal section, of one of my improved water-closet-supply apparatus.

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

A is the main reservoir; B, the auxiliary tank, and C the service-box.

The two water-tanks A and B are formed, it will be seen, of one box, preferably of cast-iron, having a partition, D, arranged as shown; and these tanks are connected, as shown, by a passage-way, E, by preference cast in the bottom of the box.

The service-box C is arranged, as seen, beneath a portion of the box comprising the main and auxiliary tanks, and communicates with the auxiliary reservoir B at *f*, where is arranged a valve, G, while at H it is provided with a discharge-pipe, for conducting its contents to the water-closet.

I is a valve, for closing that end of the passage-way E that opens into the main reservoir A, the other end of which is always in open communication with the auxiliary reservoir B.

The valves G and I are both suspended by rods, wires, or other means from a lever, J, which is pivoted, as shown, at *k*, and which has attached to one end a wire, cord, or equivalent device, *l*, extending downward toward, and connected to, the lever of the pull-up handle of the water-closet.

The rod or cord *l* is, by preference, passed

right down through the bottom of main tank A, and, as a simple means for permitting this without risk of leakage, the usual tube M is employed, fitted water-tight at its lower end to the tank-bottom, and having its upper end located above the highest level ever occupied by the water in the tanks.

N is the supply pipe or tube, through which water passes to the tanks. This supply-pipe is provided at its nozzle or outlet with a suitable tank-regulator apparatus, composed, as usual, of a valve operated automatically by the water in the tank A, through the medium of the ordinary lever and float P *q*; and extending down from the supply-nozzle to near the bottom of tank A is the usual "hush-pipe" R, through which the water passes.

The capacity of the passage-way of *f* when the valve G is raised from its seat is, for purposes to be presently explained, much greater—say, three times—than that of the discharge-pipe H; and the service-box C is provided with a vent-tube or air-tube, S, extending up inside of the auxiliary tank B to a point above the highest level ever acquired by the water in said tank.

After what has been said of the construction of the apparatus illustrated, the following explanation will make clear its operation.

With the parts of the apparatus in their normal positions or conditions, as shown in the drawings, the communication at *f* between the auxiliary tank B and service-box C is closed by the valve G, and the communication between the main and auxiliary reservoirs, A and B is open, the valve I being held up off its seat. Therefore the water supplied from the main N will have supplied both tanks or compartments A and B to the same level, and up to the level at which the float *q* operates, through the lever P, to shut off the supply, in the usual manner.

Now, if the rod or cord *l* be pulled downward by the usual manipulation of the water-closet handle, the lever J will be so oscillated upon its pivotal point or fulcrum at *k* as to permit the descent of valve I onto its seat, thus cutting off or closing up all communication between the tanks A and B, while at the same time the valve G will be raised from its seat, thus opening a free communication between the tank B and the service-box C.

In this changed condition of the movable parts of the apparatus the water in the auxiliary tank B is free to flow through the passage-way at *f* into the service-box C, from whence it passes into the discharge-pipe H, and thence to the water-closet; and so long as the parts are kept in this condition this operation will continue, until the contents of the auxiliary tank B shall have been exhausted.

The air in the service-box C is allowed to escape and re-enter freely, to facilitate the flow of water, by reason of the vent-tube S be-

fore alluded to, and as soon as the parts shall have been restored to their normal positions (thus reseating valve G and unseating valve I) the water in the main tank A will flow through passage-way E into tank B, and, the ball *q* falling, water will be supplied through nozzle *o* until both tanks shall have had their contents restored to the proper and original level. Since, however, it is not contemplated that the parts shall remain in that condition in which the outflow of water from the apparatus shall occur long enough to empty the tank B, or even long enough to exhaust the greater portion of the contents of B, it follows that if the water should run out of the service-box C as fast as it entered it, there would be no after-wash—that is, there would be no run of water to the water-closet after the return of the parts to their normal condition was permitted by releasement of the pull-up handle of the closet. This objection, it will be understood, is overcome by having the inlet to the service-box at *f* made of much greater capacity than the outlet at H.

Since a great deal more water can rush into the box C when it is empty than can make its exit from said box in the same length of time, it follows as part of the usual operation of the apparatus that when the working parts are manipulated in the ordinary manner an ample supply of water will rush into the service-box C, and that after the supply to said box shall have been cut off, its accumulated contents will be discharged through pipe H to the water-closet, and the latter thus always receive an after-wash.

If the communication between tank B and the service-box be either intentionally or accidentally kept open longer than is proper or necessary, no more water than can be contained in the auxiliary tank B can possibly be used, and this possible maximum quantity of consumption can, of course, be regulated by the size given to the auxiliary tank B.

By the employment in connection with the main and auxiliary reservoirs of a passage-way, E, cast in or provided to the common floor or bottom of the tanks, the latter, it will be seen, may be made very economically, and will be simple, efficient, durable, and not liable to any leakage from joints.

By the arrangement with the two tanks A B and service-box C of the valves G I and lever J, with its operating cord or rod *l*, a very simple and efficient apparatus is formed, which is not liable to derangement, and all the parts of which are quite accessible for inspection or repair.

Having now so fully described the construction and operation of my improved water-closet-supply tank or apparatus that any one skilled in the art can make and use it, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The combination of the main and auxiliary tanks with a passage-way, E, located at,

or formed in, the common bottom or floor of the tanks, substantially as set forth.

2. The combination of the two tanks having a passage-way or channel of communication, such as specified, with the service-box and system of valves, the whole arranged and operating as and for the purpose specified.

In testimony whereof I have hereunto set my hand and seal this 12th day of January, 1878.

HENRY C. MEYER. [L. S.]

In presence of—

J. N. McINTIRE,
JACOB FELBEL.