(No Model.)

D. WELLINGTON.

SERVICE BOX FOR WATER CLOSETS.

No. 370,433. Patented Sept. 27, 1887.

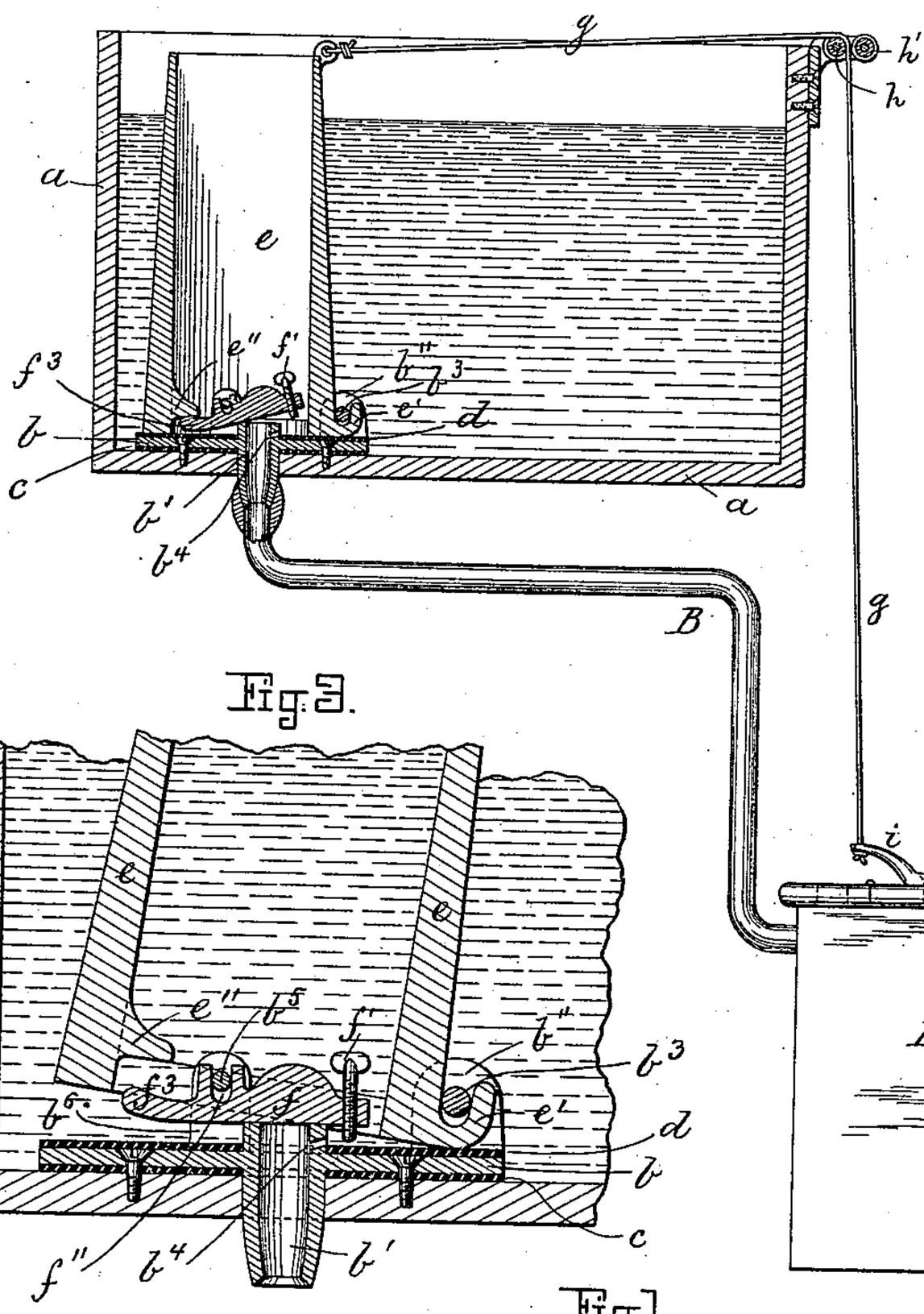
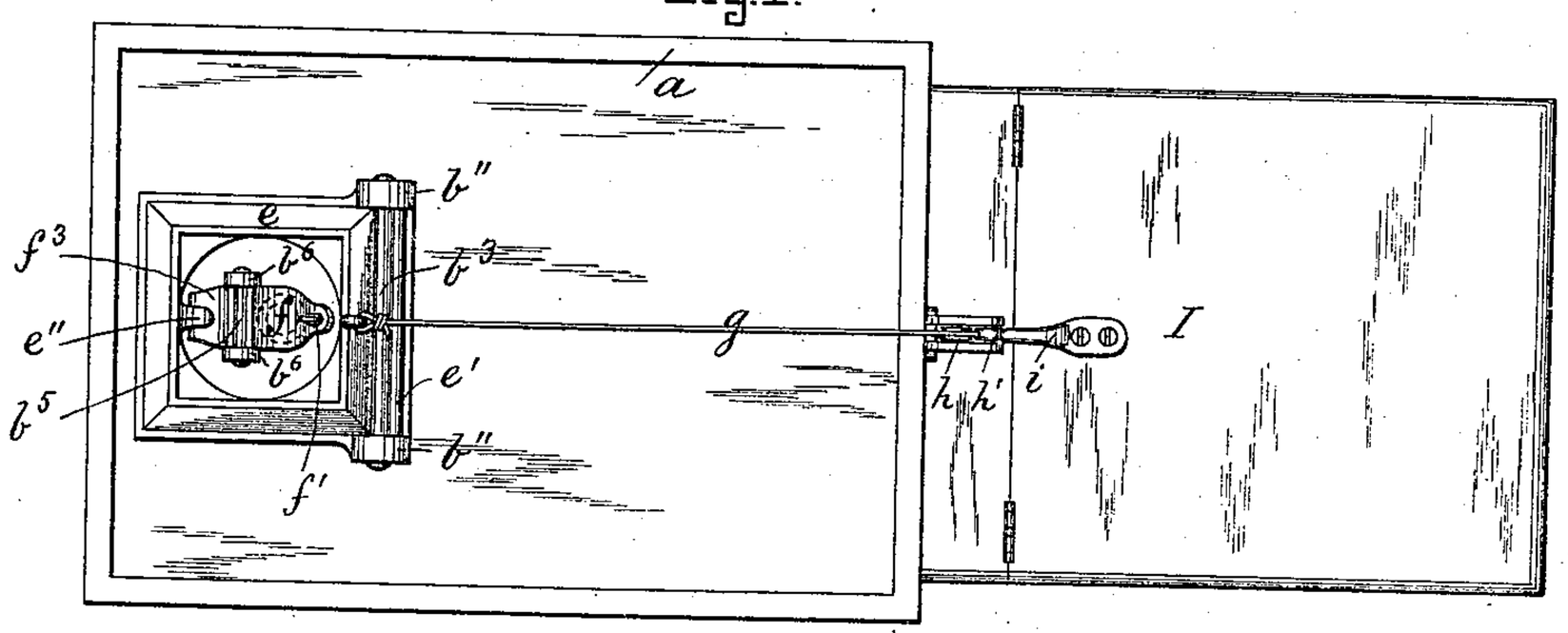


Fig. 2.

Fig. 3.

Fig. 1.



Witnesses
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UNITED STATES PATENT OFFICE.

DARIUS WELLINGTON, OF BOSTON, MASSACHUSETTS.

SERVICE-BOX FOR WATER-CLOSETS.

SPECIFICATION forming part of Letters Patent No. 370,433, dated September 27, 1887.

Application filed February 3, 1887. Serial No. 226,422. (No model.)

To all whom it may concern:

Be it known that I, DARIUS WELLINGTON, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Service-Boxes for Water-Closets, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in service-boxes for water-closets, and it is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 represents a plan view of the invention, and Fig. 2 represents a longitudinal section of it, showing the valve in the service-box as open and the bottom of the service-box closed. Fig. 3 represents a detail sectional view showing the valve closed and the bottom of the service-box open to allow the water from the bottom of the tank to enter it when the cover of the water-closet is raised.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

a is the water-tank, as usual, which is kept constantly filled, or nearly so, with water by means of any of the well-known automatic supply devices, such devices being, however, not shown in the drawings.

To the bottom of the tank *a*, I secure a metal plate, *b*, provided with a discharge-pipe, *b'*, that projects downward through a perforation in the bottom of the tank *a*, as shown in Figs. 1 and 2. I prefer to interpose a sheet of rubber or other packing, *c*, between the plate *b* and the bottom of the tank *a*, as shown. I also prefer to secure to the upper side of the plate *b* a sheet of suitable packing, *d*, to effect a tight connection between said plate and the under side of the service-box *e* when the latter is in its normal closed position. (Shown in Figs. 1 and 2.)

To the plate *b* are secured or cast in one piece the upwardly-projecting ears b'' b'', to which is secured the fulcrum-pin b^3, on which the service-box *e* is pivoted, having for this purpose a lip, *e'*, embracing the fulcrum-pin b^3, such lip being rounded on its under side, so as to roll on the plate *b* (or its packing *d*) while in the act of being opened or closed. By this arrangement the whole weight of the service-box *e* is brought to bear on the packing *d*, to effect a tight connection between such parts when the service-box is closed, all strain on the fulcrum-pin b^3 is relieved, and the service-box *e* can be detached from the fulcrum-pin b^3 simply by swinging it downward into the tank *a*, and as easily put in place therein without disconnecting the bolt b^3 or other parts of the device. The service-box *e* is open from top to bottom, as shown, and has on its inside near its lower end a projection, e'', for actuating the flush-valve *f*, as will be hereinafter more fully described.

To the upper end of the service-box *e* is attached one end of a cord or chain, *g*, that is carried over or between pulleys *h h'*, located in a bearing secured to the top of tank *a*, as shown in Figs. 1 and 2, the other end of said cord or chain being secured to an arm or projection, *i*, on the cover I, hinged to the water-closet box I', as shown in said Figs. 1 and 2.

B is the flush-pipe leading from the lower end of the discharge-pipe *b'* to the water-closet bowl, as usual. The flush-valve *f* is weighted, so as to rest closed on the upper end of the discharge-pipe *b'*, as shown in Fig. 3, when the cover of the water-closet is raised. I make through the side of the upwardly-projecting part of the discharge-pipe *b'* a small perforation, b^4, (shown in Figs. 2 and 3,) to allow a small quantity of water to pass to the pipe B and water-closet when the latter is in use, and thus keep up a small stream flowing to the bowl of the closet when in use. The same object may be accomplished by means of the thumb-screw *f'*, screwed through a screw-threaded perforation in a side projection on the valve *f*, the lower end of said screw being so adjusted as to bear against the plate *b* or its packing just sufficiently to keep the valve *f* a little above its seat when the closet is used. The valve *f* has on its upper side a groove, f'', embracing the fulcrum-pin b^5, secured to ears b^6 b^6, projecting upwardly from the plate *b*, as shown, and said pin b^5 serves as a fulcrum on which the valve *f* swings.

f^3 is a lip or projection on the valve *f* directly below the projection e'' on the interior of the service-box *e*, as shown.

The operation is as follows: When the cover

I of the water-closet is closed, as shown in Figs. 1 and 2, the lower end of the service-box *e* rests squarely on the packing *d* on top of plate *b*, thus closing communication from the tank *a* to the flush-pipe B, and the valve *f* is tipped on its fulcrum b^5 and kept open by the projection *e''* acting on the lip or extension f^3 on said valve *f*, as shown in Figs. 1 and 2, causing such water remaining in the service-box *e* to pass out through the pipes *b'* and B, and after all the water in the service-box *e* has flowed out through said pipes all communication from the tank *a* to the water-closet is cut off. When the cover I is raised preparatory to using the closet, the service-box *e* is tipped on its fulcrum b^3, by the influence of the cord or chain *g*, to the position shown in Fig. 3, by which the projection *e''* in the service-box is relieved from the lip f^3 on the weighted valve *f*, causing the latter to automatically close the upper end (or partially so) of the discharge-pipe *b'*, and allowing the water in the tank *a* to pass up through the now open bottom of the service-box *e*, so as to make the water level in the tank *a* and service-box. As long as the cover I is raised, a small stream of water passes from tank *a* through the small perforation b^4 (or the partially-open valve *f*) to the pipe B and the bowl of the closet. As soon as the cover I is closed, the service-box *e* returns by its own weight to the position shown in Figs. 1 and 2, by which its lower end is closed, as above described, and the valve *f* automatically opened by the influence of the projection *e''* on the valve-lip f^3, thus allowing all the water contained in the service-box *e* to pass by the open valve *f* and out through the pipes *b'* B to the bowl of the water-closet, and so on.

The service-box *e* is sufficiently heavy to cause the cover I to be automatically closed as soon as a person leaves the seat of the closet.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent, and claim—

1. In combination with the tank *a*, the service-box *e*, open from end to end and pivoted in its lower end to the stationary fulcrum-pin b^3, and the weighted valve *f*, having lip f^3, actuated by the projection *e''* within the service-box *e*, as and for the purpose set forth.

2. The tank *a* and the open-ended service-box *e*, pivoted to its bottom, as described, and having projection *e''*, in combination with the valve *f*, its lip f^3, the discharge-pipe *b'*, and flush-pipe B, leading to the water-closet bowl, and the chain or cord *g*, leading from the service-box *e* to the cover I of the water-closet, as and for the purpose set forth.

3. The open-ended service-box *e*, pivoted to the tank *a*, and having the projection *e''*, combined with the pivoted valve *f* and its lip f^3, and the discharge-pipe *b'*, with its side perforation, b^4, as and for the purpose set forth.

4. The open-ended service-box *e*, pivoted to the tank *a*, and having the projection *e''*, combined with the pivoted valve *f* and its lip f^3, and regulating-screw *f'*, as and for the purpose set forth.

5. The plate *b*, having the discharge-pipe *b'* and fulcra b^3 b^5, as described, in combination with the open-ended service-box *e*, pivoted to the fulcrum b^3, and having valve-operating projection *e''*, and the valve *f*, pivoted to the fulcrum b^5, and having lip or projection f^3, as and for the purpose set forth.

6. The tank *a*, combined with the open-ended service-box *e* and valve *f*, both pivoted at or near the bottom of said tank and having the respective projections *e''* and f^3, to automatically open and close the valve *f* by the rocking motion of the service-box, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 25th day of January, A. D. 1887.

DARIUS WELLINGTON.

Witnesses:
ALBAN ANDRÉN,
HENRY CHADBOURN.