J. G. HODGSON.

MEANS FOR ACTUATING FLUSH VALVES AND OTHER DEVICES.

APPLICATION FILED JAN. 28, 1909.

945,166.

Patented Jan. 4, 1910.

2 SHEETS—SHEET 1.

Fig 1

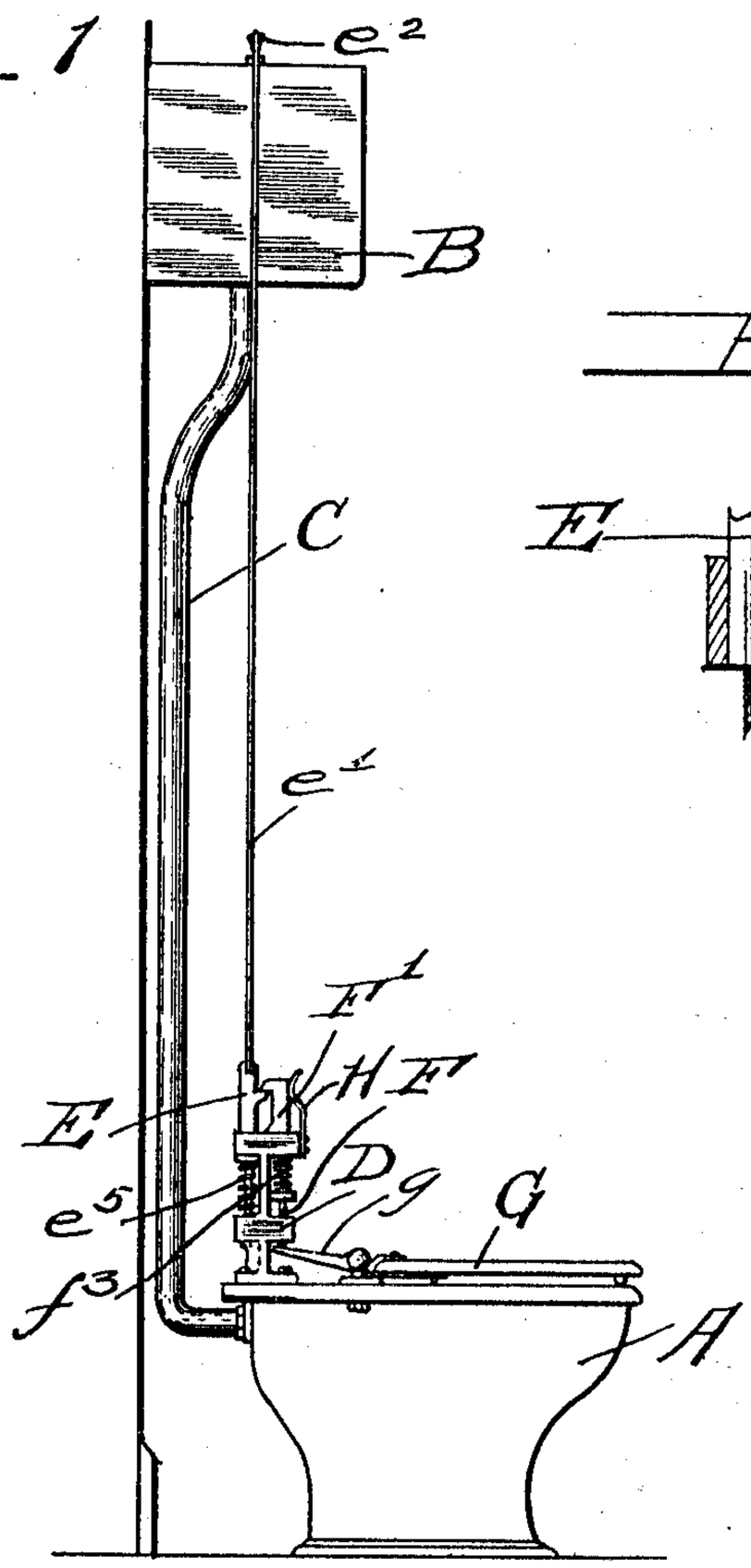


Fig 6

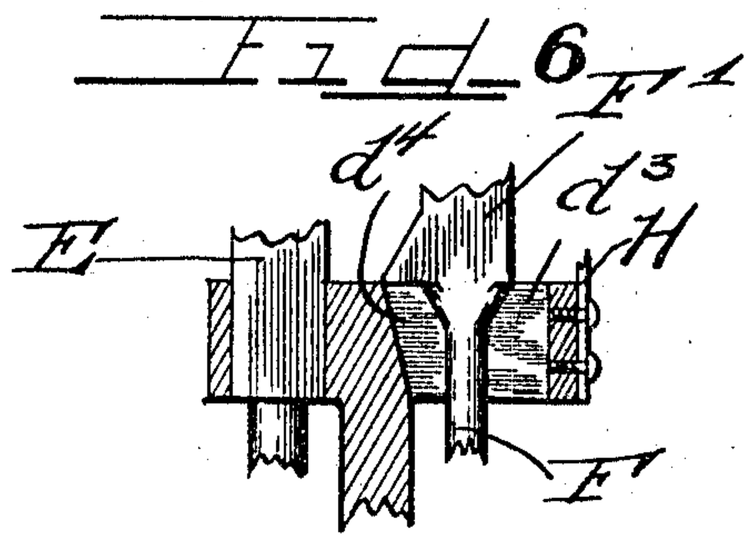
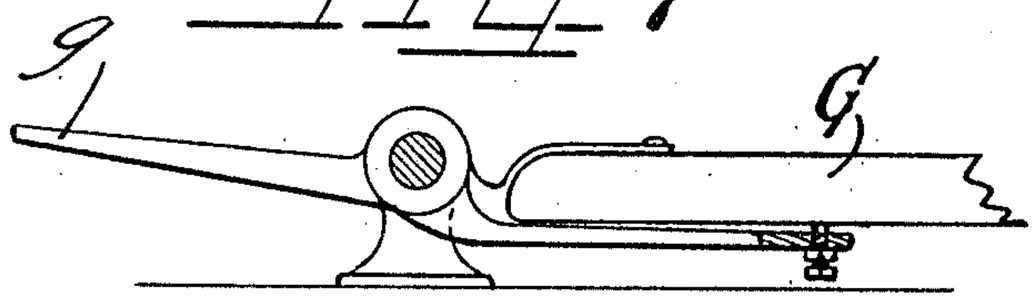


Fig 7



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2

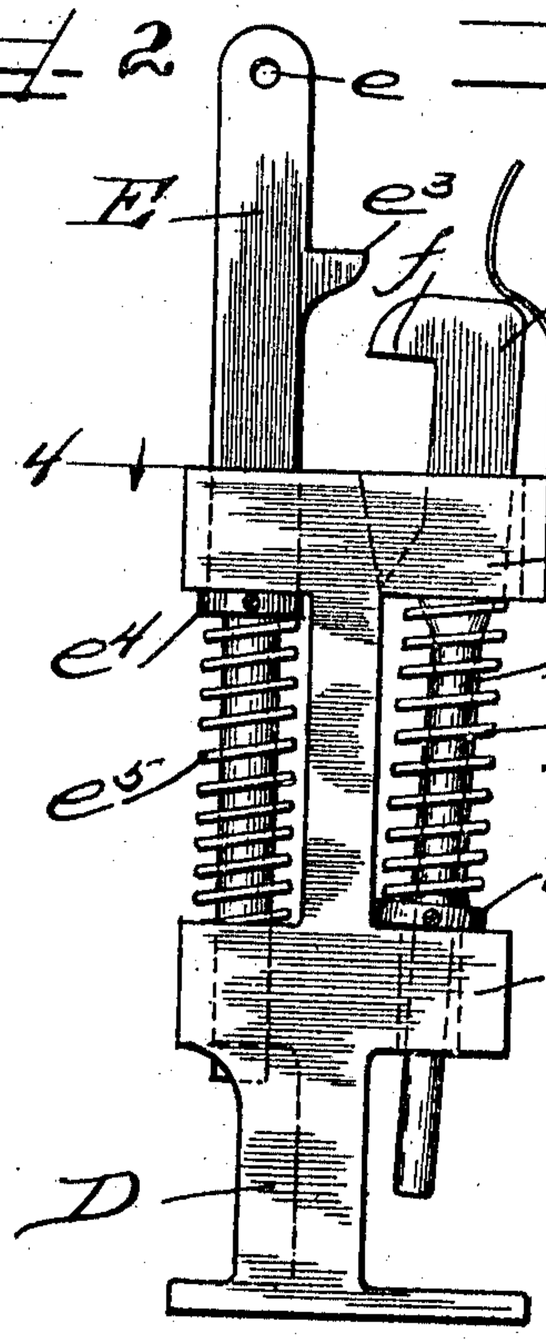


Fig. 3

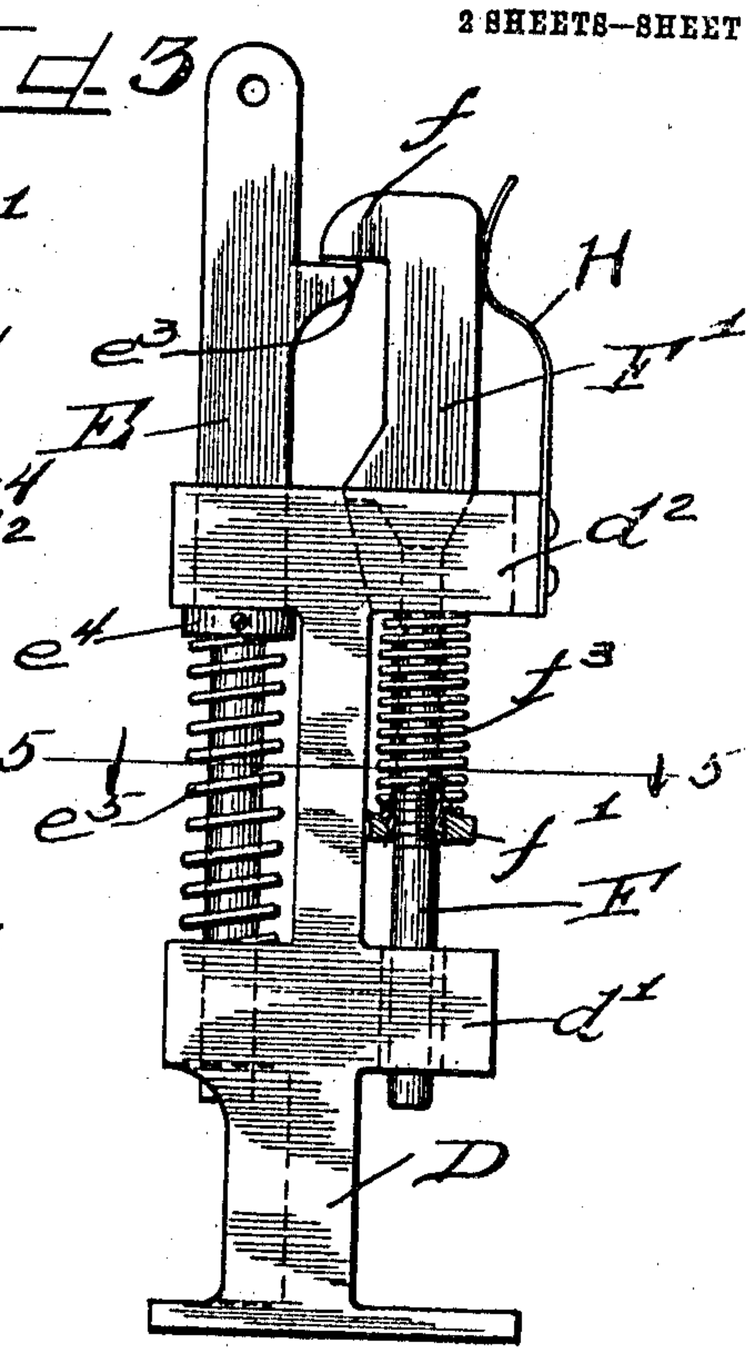


Fig. 4

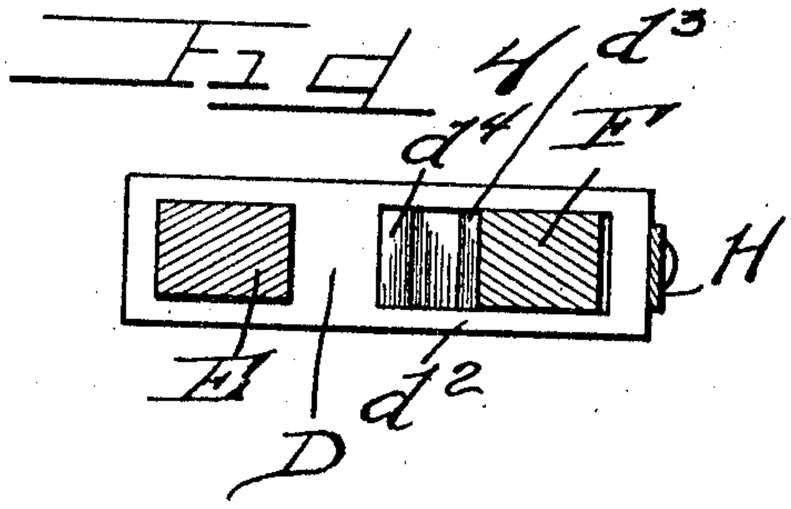
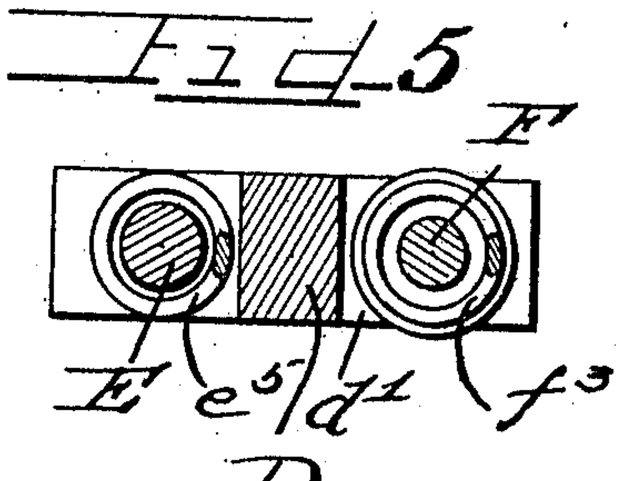


Fig. 5



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN G. HODGSON, OF MAYWOOD, ILLINOIS.

MEANS FOR ACTUATING FLUSH-VALVES AND OTHER DEVICES.

945,166. Specification of Letters Patent. Patented Jan. 4, 1910.

Application filed January 28, 1909. Serial No. 474,690.

To all whom it may concern:

Be it known that I, JOHN G. HODGSON, a citizen of the United States, and a resident of the village of Maywood, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Means for Actuating Flush-Valves and other Devices; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention belongs to that class of devices set forth in my application for patent for seat operated mechanism for actuating flushing devices, filed on the 14th day of November, 1908, Serial No. 462,739 and in which the operation or the movement of the toilet closet seat effected the operation of the flushing valve in flushing the bowl. In said application for patent, the actuating device was shown in connection with a flushometer or other stationary flushing valve other than the ordinary tank float valve.

The object of this invention is to afford means for actuating in a similar manner the flush valve in elevated tanks or the like.

It is also an object of the invention to afford an exceedingly strong, simple and durable device not likely to get out of order and capable of working practically without adjustment for indefinite periods.

It is also an object of the invention to afford a device of the class described which is wholly out of action and wholly disengaged from any connection with the tank until the previously depressed seat of the toilet closet is released.

It is also an object of the invention to afford a device of the class described capable of being engaged upon the rear of the toilet closet or upon the flush pipe leading from the tank or any suitable device.

The invention consists in the matters hereinafter described and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 is a side elevation of a device embodying my invention illustrating its application to an overhead tank valve. Fig. 2 is an enlarged side elevation of the actuating means showing the same detached from the closet. Fig. 3 is a similar view showing the parts about to engage for the purpose of actuating or elevating the flush valve. Fig. 4 is a section on line 4—4 of Fig. 2. Fig. 5 is a section on line 5—5 of Fig. 3. Fig. 6 is an enlarged fragmentary detail section taken alongside of the actuating element for the valve. Fig. 7 is an enlarged view of the seat lever.

As shown in the drawings: A, indicates the closet to be flushed, B, the overhead tank provided with the usual valve, and C, is the flush pipe extending downwardly from the tank and into the closet at the flushing rim. Supported on the rear of the closet, as shown, is the actuating means for the valve. This, as shown, comprises an upright or standard D, adapted to be bolted on the horn or tail of the bowl, as shown in Fig. 1, or constructed in any suitable manner to permit the same to engage on the flush pipe or any suitable or convenient support, as shown. Said standard, as shown, is provided on its rear side with oblong slots extending therethrough adapted to slidably receive therein the actuating bar or pull E, which as shown, is provided at its upper end with an aperture e, to receive the end of the chain or cord e', engaged to the flushing lever e^2, of the tank, as shown in Fig. 1. On the forward side of said bar E, is a finger or projection e^3, the top of which affords a right angle with the axis of the bar. The lower end of the bar E, is turned to cylindric form and secured thereon is a collar e^4, beneath which and on said rod is provided a strong pushing spring e^5, which tends always to hold said bar elevated and in position not to bring any stress of any kind whatsoever upon the flushing cord or chain until actuated.

On the opposite side of the standard D, is provided forwardly extending arms d'—d^2, which also are provided with apertures therethrough in alinement, the upper aperture of which is provided with parallel sides d^3, and the inner wall of which d^4, as shown in full lines in Figs. 4, and 6, and in dotted lines in Figs. 2 and 3, is inclined upwardly and rearwardly or is angularly directed. Slidably engaged in said apertures is the actuating bolt. This, as shown, comprises a stem F, cylindric in form and at its upper end integrally or otherwise attached to the bolt F′, which, as shown in Fig. 3, is substantially rectangular in cross section and is provided at its upper end with a laterally directed hook or finger f, adapted to engage over the stop or detent e^3, to pull the same down, and as shown, a collar f', is adjustably

secured on said stem to vary the throw of the bolt and engaged between said collar and the arms d^2, and pressing downwardly on said bolt is the pushing spring f^3. Said bolt is normally held at the lowest limit of its movement by the action of the spring f^3, and the bolt or bar E, is held at the upper limit of its movement by the action of the spring e^5, on said frame.

Hinged to the closet bowl in the usual or any suitable manner is the seat G, and also engaged to the seat if desired by the hinge whereby the seat is engaged to the bowl, is the lever g, the forward end of said lever projects under said seat and may be provided with a set screw for adjustment. The rear end of said lever projects beneath the cylindric stem F, of the bolt F′, so that downward pressure forces the bolt into position to engage the forwardly projecting head or finger e^3, on said bar. When pressure is released from the seat, the bolt previously having been elevated by such downward pressure, the spring f^3, acts to firmly push the bolt downwardly, thus drawing downwardly to the desired extent upon the fingers e^3, the flush valve is released and the water from the tank flushes the bowl. Having completed the downward movement, the inclination on the inner wall of the seat for the actuating bolt forces the head forwardly to release said finger, whereupon the spring e^5, acts to force said finger upwardly to position to again engage should the seat again be actuated.

As shown, a strong pushing leaf spring H, is provided in position to force the head of the bolt F′, into position with the finger on said bar, said leaf spring curving forwardly and upwardly into position for engagement with said bolt to force the same into operative position.

Of course, should breakage occur, which is not likely, or, if for any reason the device should get out of order or should become disconnected with the flushing chain or cord, no inconvenience is suffered for the reason that the tank can be operated as usual by means of the cord only at any time.

Of course, many of the details of this construction may be varied. I therefore do not purpose limiting this application for patent otherwise than necessitated by the prior art.

I claim as my invention:

1. In a device of the class described a standard having parallel arms on each side thereof, an actuating member extending through the parallel arms on one side to reciprocate vertically, a projection on said actuating member, a coiled spring around the member between the arms for returning the same to normal, an actuating bolt vertically reciprocatable in the arms on the opposite side from the actuating member, a projection thereon to engage the projections on the actuating member and a coiled spring on said actuating bolt for returning the same to normal after actuation.

2. In a device of the class described a standard having parallel arms on each side thereof, an actuating member extending through the parallel arms on one side to reciprocate vertically, a projection on said actuating member, a coiled spring around the member between the arms for returning the same to normal, an actuating bolt vertically reciprocatable in the arms on the opposite side from the actuating member, a projection thereon to engage the projections on the actuating member, a coiled spring on said actuating bolt for returning the same to normal after actuation, coacting cam faces on said standard and said actuating bolt adapted to release one projection from the other as the bolt is returned to normal by its spring and a spring for forcing the actuating bolt laterally for its projection to engage the projection of the actuating member.

3. In a device of the class described a standard, a vertically reciprocatable actuating member secured thereto adapted for engagement with a pull cord for a flushing tank, a projection integral therewith having a flat upper face and a lower cam face, an actuating bolt, a projection integral therewith having a flat under face to engage the flat face of the aforesaid projection and an upper cam face, means for forcing the actuating bolt laterally for one projection to engage the other, means for releasing the projections after the cord has been actuated and springs for returning the actuating member and the actuating bolt to normal position.

4. In a device of the class described a standard, a reciprocating member supported thereby adapted for attachment with a cord, an actuating bolt adapted to reciprocate, means tilting the top of the bolt to engage the reciprocating member and a spring for actuating the actuating bolt.

5. In a device of the class described a support, reciprocating members secured thereto, interfitting fingers on said members adapted one to engage the other at one limit of movement of both members, a spring for reciprocating one of the members when said fingers engage the other, thereby simultaneously reciprocating both members, and a spring for elevating the other of said members to normal and supporting the same in said position, and means for adjusting one of the members to shift the fingers out of engagement.

6. In a device of the class described a reciprocating bar, means normally holding said bar elevated, a reciprocating member adapted to depress said bar, means for normally securing said member at its lowest

limit of movement and a leaf spring bearing against one of the bars adapted to force the same laterally to engage the other bar.

7. In a device of the class described a reciprocating bar, a pushing spring normally holding said bar elevated, a reciprocating member adapted to depress said bar, a spring for normally securing said member at its lowest limit of movement, means for elevating the member and a leaf spring yieldingly forcing said member laterally to engage said bar.

8. In a device of the class described a reciprocating bar, means normally holding said bar elevated, a reciprocating member adapted to depress said bar, means for normally securing said member at its lowest limit of movement, means for elevating the member to engage said bar, a spring acting to tilt the member to engage the bar and a cam for forcing the member to release the bar.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

JOHN G. HODGSON.

Witnesses:
C. W. HILLS,
K. E. HANNAH.