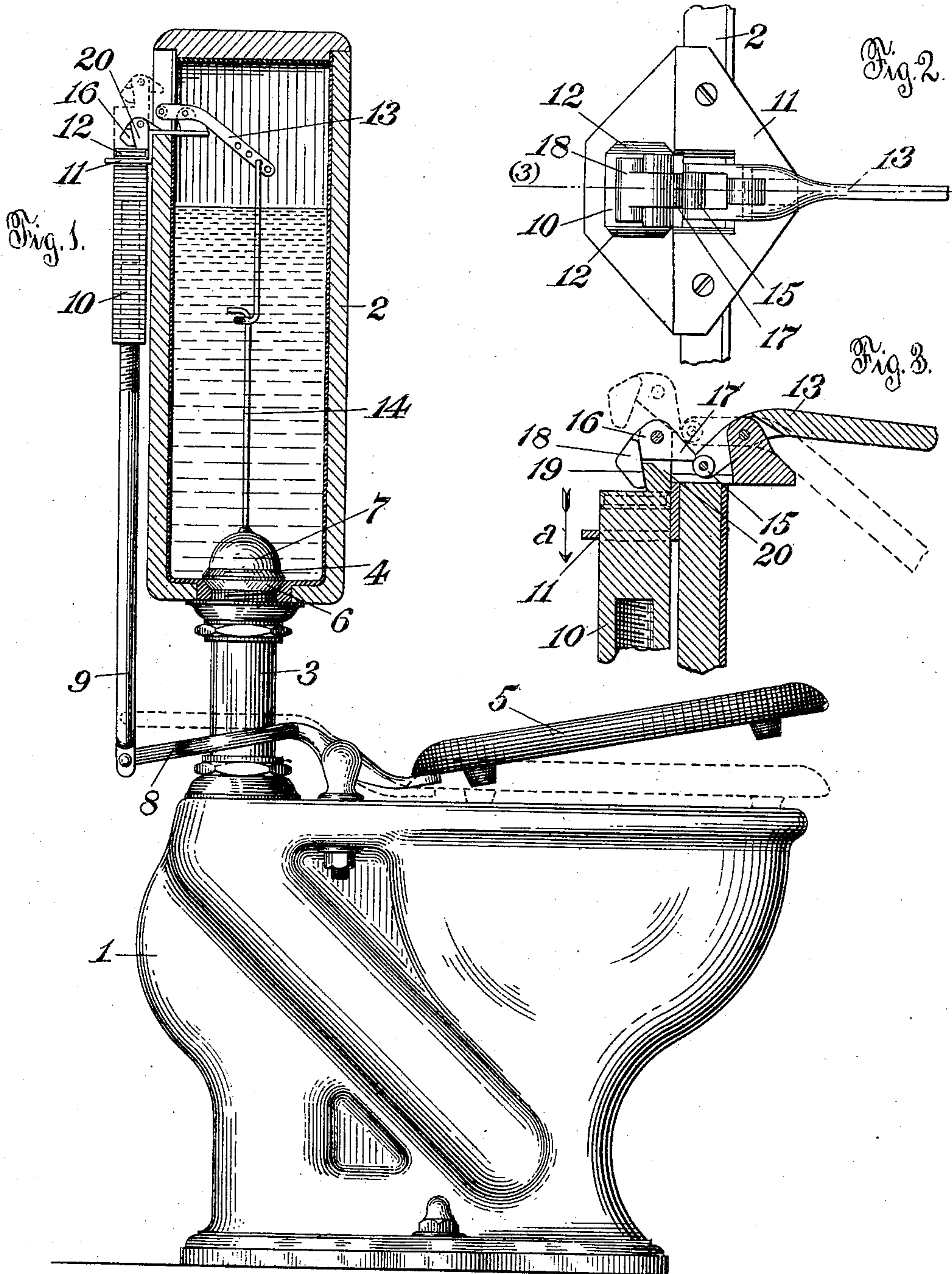


M. H. HENESEY.
VALVE OPERATING MECHANISM.
APPLICATION FILED DEC. 4, 1905.

898,472.

Patented Sept. 15, 1908.



WITNESSES

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MICHAEL H. HENESEY, OF SYRACUSE, NEW YORK.

VALVE-OPERATING MECHANISM.

No. 898,472.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed December 4, 1905. Serial No. 290,080.

To all whom it may concern:

Be it known that I, MICHAEL H. HENESEY, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Valve-Operating Mechanism, of which the following is a specification.

My invention relates to valve operating mechanism for water-closets and more particularly to that class in which the flush-pipe is opened by the lifting of the seat, which is normally held in a raised position, and its objects are to provide an apparatus of an exceedingly simple, cheap and durable construction, which will be positive in its action and in which the moving parts will operate with a minimum amount of friction. A further object of my invention is to provide an apparatus, the parts of which can be easily assembled and one which can be readily adjusted after it has been placed in position for operation. These objects and other advantages which will hereinafter appear, I attain by means of the construction illustrated in preferred form in the accompanying drawings, wherein—

Figure 1 is a side view, partly in section, of a water-closet bowl and tank having my improvement applied thereto; showing in full lines the parts in normal position and in dotted lines their relative positions when the seat is depressed.

Figure 2 is a plan view, on an enlarged scale, of the operating lever and its connections, and

Figure 3 is a vertical section through the same on the line (3) of Figure 2, showing in full lines the relative positions of the parts when the seat is ascending and the pivoted dog descending, in the direction of the arrow *a* and about to release the operating lever, after the flush valve has been opened, and in dotted lines their positions when the pivoted dog is passing the operating lever during the upward movement of the dog and the lowering of the seat.

As illustrated in the accompanying drawings, I employ an ordinary closet-bowl 1 and tank 2, having the usual flush-pipe connection 3, controlled by a valve 4, operated through the medium of my improved mechanism in a manner to be presently described, by the movement of the pivoted seat 5. The valve 4 may be of any preferred form as for example, it may consist of a body portion 6

and a float 7, designed to hold it in suspension when it has been raised from its seat, but not in itself of sufficient buoyancy to rise after it has been seated by gravity when the tank has been emptied and again filled. Any other suitable form of valve can however be used without departing from the nature and scope of my invention.

The pivotal connection of the seat 5 is provided with a rearwardly extending arm 8, which is pivotally connected at its outer end to the lower end of a vertically reciprocating weighted rod 9, of sufficient weight to keep the seat normally raised from the bowl as illustrated in Figure 1. The upper end of the rod 9 is attached by means of a screw thread, for the purpose of adjustment, to a vertically reciprocating block or member 10, passing through a bracket 11 upon which it is supported by means of shoulders or projections 12 formed upon the block 10 at or near its upper end. The bracket 11 is secured to the rear wall of the tank 2 at any desired height by means of screws or in any other suitable manner, and extends into the same a sufficient distance to form a support for the valve-operating lever 13, which is pivotally mounted thereon. The lever 13 has its inner end connected to the valve 4 by a telescopic rod 14 and its outer end is bifurcated for the reception of an anti-friction roller 15, as illustrated in Figures 2 and 3. The roller 15 can also be mounted upon the nose 17 of the dog, to be presently described, instead of in the lever if desired.

Upon the upper end of the block or member 10 is pivotally mounted a dog 16, provided with an inwardly extending nose 17, and a weight 18 extending at an angle from the nose and adapted to engage with shoulders 19 upon the supporting lugs 20, in such a manner that the dog will be normally held in position to engage the roller 15, but will be free to swing back out of such operative position when the block 10 is raised.

In the operation of my device the parts will be normally held in the position shown in full lines in Figure 1, with the valve 4 closed and the tank full of water. When the seat 5 is depressed, the rod 9 will be raised and in so doing will bring the nose 17 of the dog 16 into contact with the roller 15, causing the dog to swing into the position shown in dotted lines in Figure 3, when it will be free to pass by the roller without disturbing the latter. Upon the continued upward

movement of the parts the force of gravity acting through the weight 18 will cause the dog to assume its original position as shown in dotted lines in Figure 1.

5 As soon as the seat 5 is free it will be caused to rise by reason of the weighted rod 9 and at the same time the dog 16 will descend until it comes into contact with the roller 15 upon the lever 13 and as the dog is prevented from
10 swinging by reason of the weight 18 bearing against the shoulders 19 the lever will be rotated around its pivot until the roller 15 is free of the nose 17, as illustrated in full lines in Figure 3, when the parts will return to
15 their original positions.

When the end of the lever 13 carrying the roller is depressed the opposite end will rise and unseat the valve 4, which will then be free to rise still further and remain open un-
20 til the tank is emptied by reason of the telescopic connecting rod 14 and float 7. As soon as the tank is emptied the valve 4 will seat itself by gravity and remain so after the tank is filled and until the seat is again de-
25 pressed and raised. Any suitable mechanism may be employed for controlling the flow of water into the tank, but such does not form any part of the present invention.

From the foregoing it will be seen that in

my improved construction the valve will al- 30
ways be operated to its fullest extent irrespective of the speed at which the seat is depressed and raised. Other advantages of the device will readily occur to those familiar with the art.

35 Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent, is the following:

In combination in a valve operating mechanism, a vertically reciprocable member, a vertical lug thereon, a dog pivoted in the lug and comprising a substantially horizontally projecting operating nose and a depending substantially vertical weight adapted to abut 40
against the vertical rear portion of the lug, and a trip lever movably mounted adjacent the dog for engagement therewith and adapted to be operated by the movement of
the dog in one direction but not in the other. 50

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

MICHAEL H. HENESEY.

Witnesses:

F. E. GAITHER,
J. C. BRADLEY.