

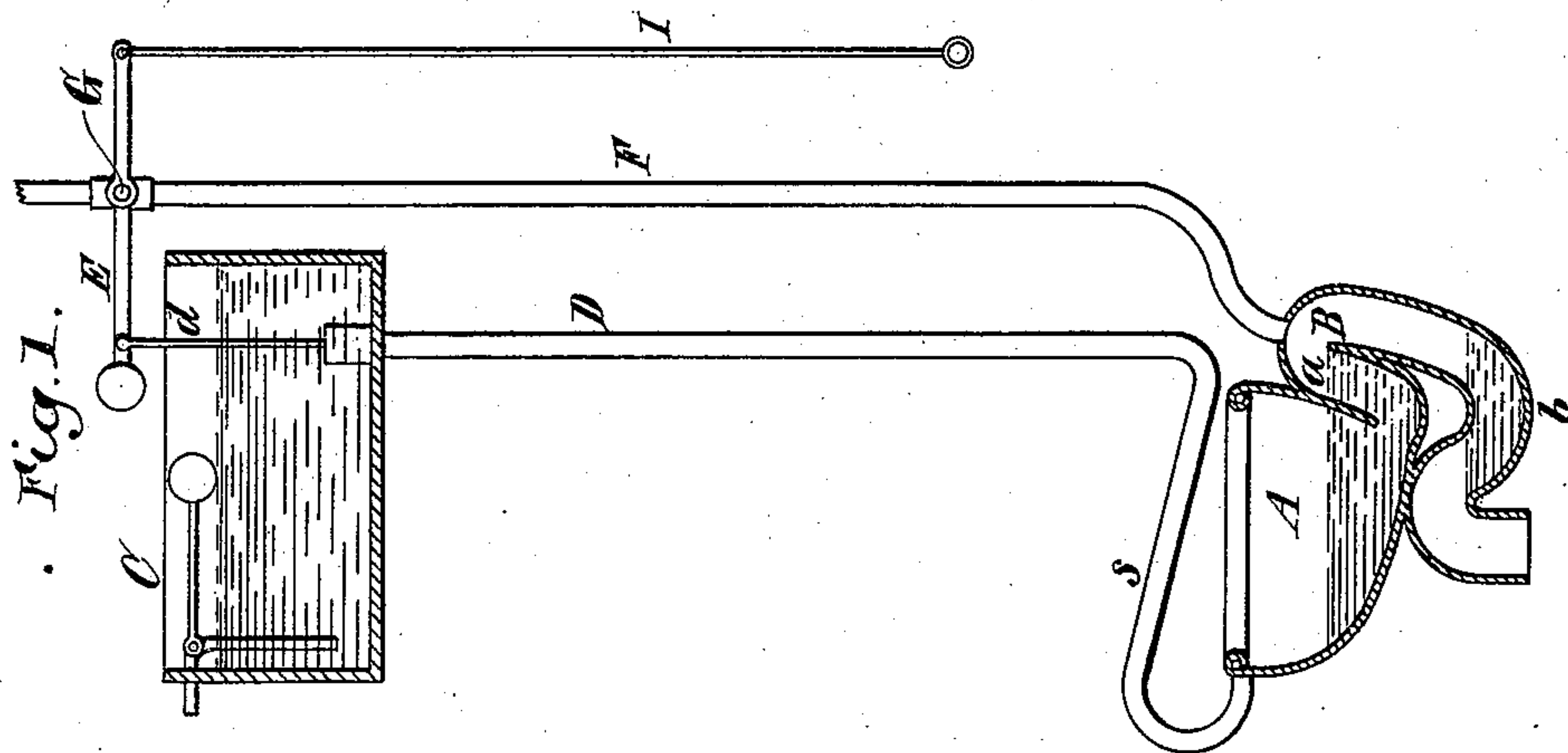
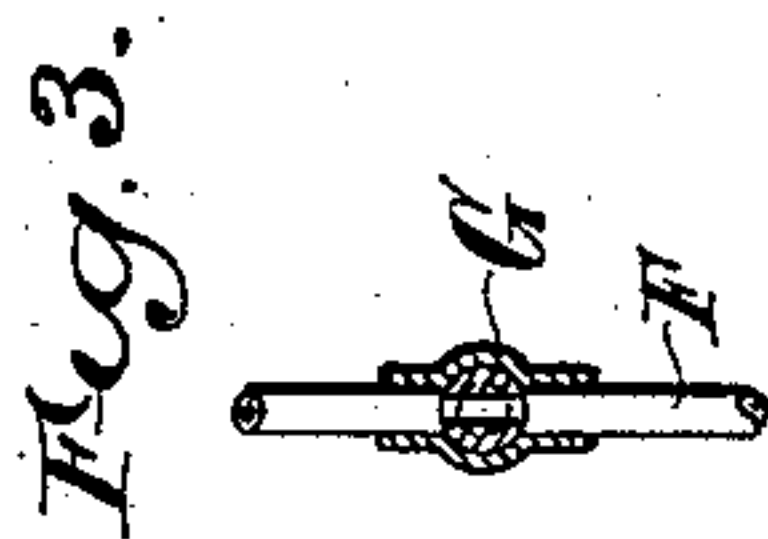
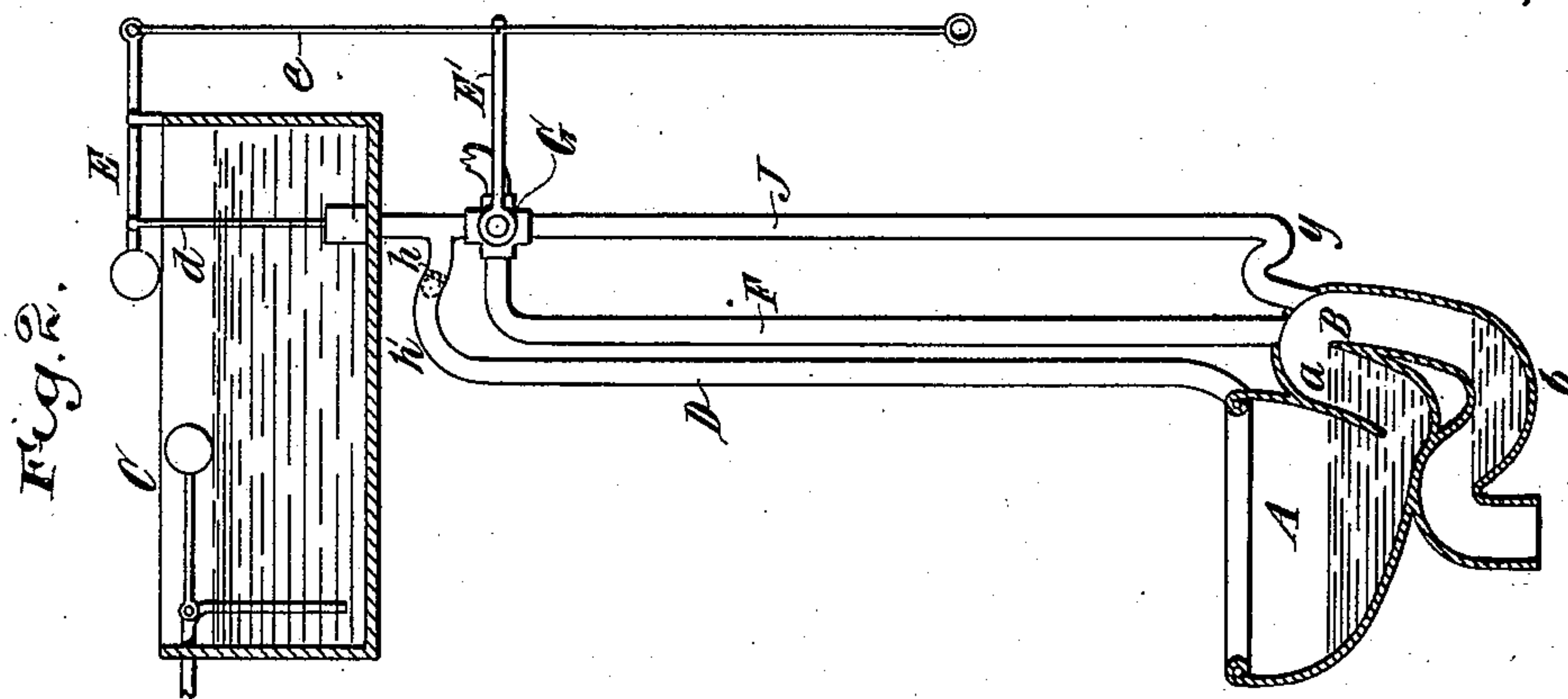
(No Model.)

H. L. GOODWIN.

WATER CLOSET.

No. 352,747.

Patented Nov. 16, 1886.



Witnesses

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Inventor

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UNITED STATES PATENT OFFICE.

HARRY L. GOODWIN, OF NEW YORK, N. Y.

WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 352,747, dated November 16, 1886.

Application filed July 8, 1886. Serial No. 207,428. (No model.)

To all whom it may concern:

Be it known that I, HARRY L. GOODWIN, of New York, in the county and State of New York, have invented a certain new and useful
5 Improvement in Water-Closets, of which the following is a specification.

My improvement relates to water-closets in which the water in the bowl is siphoned out when it is desired to empty the bowl.

10 I will describe a water-closet embodying my improvement, and then point out the novel features in a claim.

In the accompanying drawings, Figure 1 is a vertical section of a water-closet and tank
15 embodying my improvement. Fig. 2 is a similar view of a closet and tank of modified form. Fig. 3 is a detail of certain parts, partly in section.

Similar letters of reference designate corresponding parts in all the figures.

20 A designates the bowl of the water-closet. It may be of any desired shape. It is provided with a goose-neck, B, extending upwardly to near the top of the bowl, and then downwardly
25 and upwardly beneath the bowl, when communication may be made with a waste-pipe. When the bowl is flushed, water will fill that portion of the goose-neck near the bowl, which
30 portion I designate *a*, to the level of the water in the bowl. A trap will also be formed at the bend *b* of the neck. The parts thus far described are not new.

C designates a reservoir or tank from which water is supplied to flush the closet. The supply of water to the tank may be regulated by
35 the usual float or cock, or in any other suitable manner.

In the example of my improvement shown in Fig. 1, D designates a flushing-pipe leading
40 from the tank to the bowl A, and provided near the bowl, as shown, with a bend, as at *s*, whereby the pipe will be maintained full of water when its upper end is closed. Its upper end is closed by a valve, as is usual, affixed to the lower
45 end of a valve-rod, *d*, pivotally connected to a lever, E, near one end of the latter. The lever E is weighted adjacent to the point where the valve-rod is connected thereto. The lever therefore tends normally to keep the valve upon
50 its seat. This valve will preferably be a slow-closing valve, and may be of any well-known or desired construction.

Connected with the goose-neck B of the bowl, and extending upwardly therefrom, is a vent-pipe, F, which pipe communicates with the
55 usual vent-pipe leading to the outside of a building. In this pipe F is arranged a cock, G, provided in this example of my improvement with but a single way. The portion of the plug of the cock which is outside the pipe is rigidly
60 connected to the lever E, and constitutes, in effect, the fulcrum of the lever.

I is a cord or chain, attached to one end of the lever, and provided with the usual pull-piece. When the valve is upon its seat and the bowl
65 is not being flushed, the plug of the cock G is turned in such manner as to afford an open communication through its way, whereby gases may escape freely to the vent-pipe. When, however, the lever E is operated to raise the
70 valve and flush the bowl, the plug of the cock will be so turned as to close the passage in the pipe F. A powerful siphoning action will then take place as soon as the water starts over the bridge in the goose-neck, and the bowl will
75 be effectually cleansed.

In the example of my improvement shown in Fig. 2, I have shown a third pipe, J, which pipe communicates with the flushing-pipe D near
80 the tank, and also with the goose-neck of the bowl below the point of connection of the pipe F. The shell of the cock G is provided with two transverse parts, to which are connected the pipes F and J. The plug of the cock is also provided with suitable ways. When the
85 plug is turned into one position, the pipe F is closed, and passage is opened through the pipe J, whereby water may flow to the neck of the bowl. When the plug is turned in the other direction, the pipe F will be opened and the
90 pipe J closed. Free communication is then had with the vent-pipe. By this arrangement the creation of a vacuum in the goose-neck of the bowl is facilitated. In this case I arrange the plug of the cock below the tank and employ a supplemental lever, E', connected to the
95 lever E by means of a rod, *e*.

I may, if desirable, place a trap, as at *g*, in the pipe J, and may provide the flushing-pipe D with a check-valve, *h*, located in a bend in the
100 pipe, as at *h*'.

It will be seen that by my improvement a very simple and direct means is afforded for opening and closing the passage to the vent-

pipe, and provision made for the siphoning of the bowl.

What I claim as my invention, and desire to secure by Letters Patent, is—

- 5 In a water-closet, the combination, with a tank, of a flushing-pipe leading to the bowl of the closet, a valve for normally preventing the flow of water to the bowl, a lever for operating the valve, a vent-pipe, and a cock in said vent-
10 pipe operating in conjunction with said lever, substantially as described, whereby when the

lever is operated in one direction it will raise the valve and the cock will be operated to close the passage in the vent-pipe, and when it is operated in another direction it will close the 15 valve and the cock will be operated to open the passage in the vent-pipe.

HARRY L. GOODWIN.

Witnesses:

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