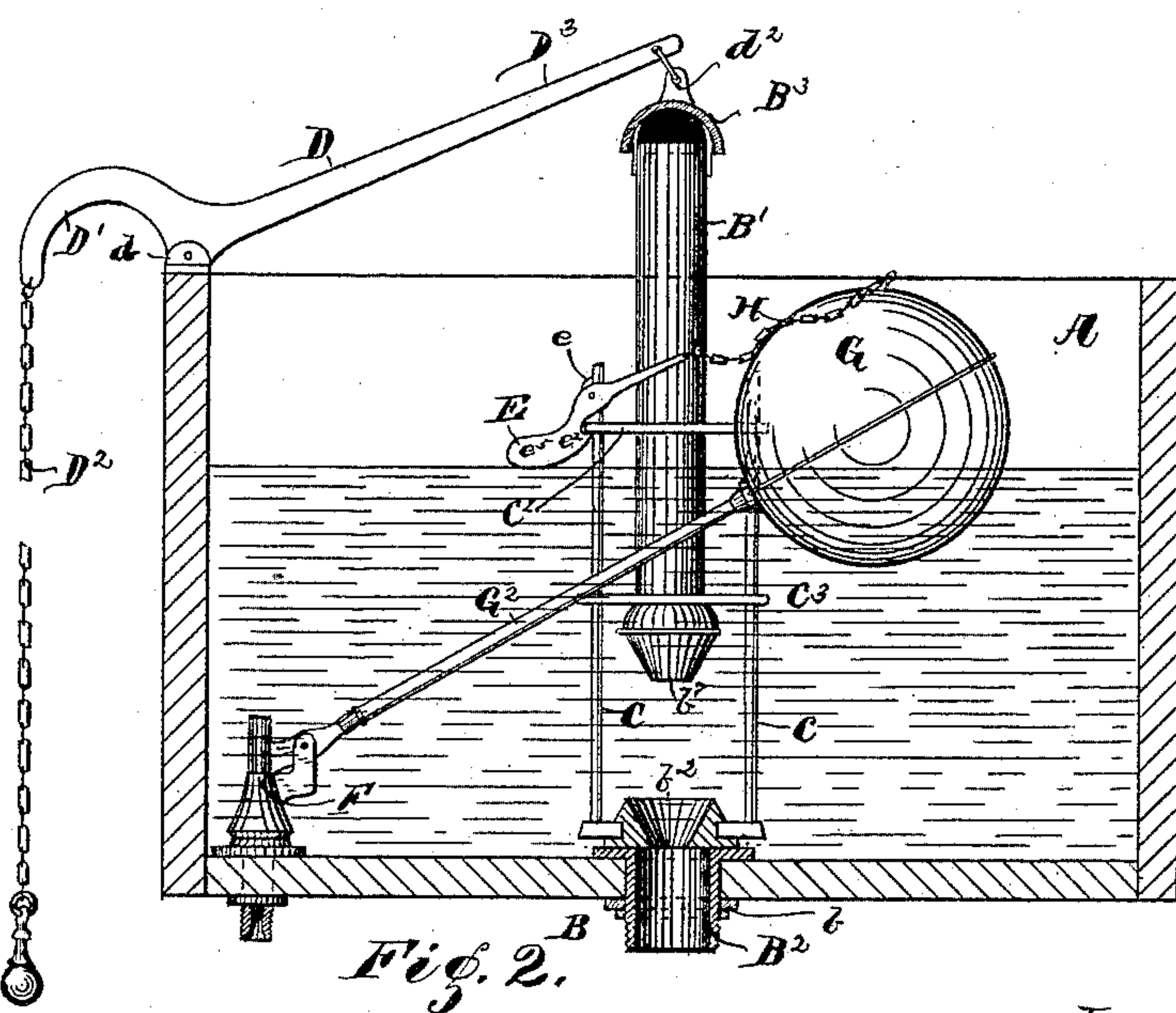
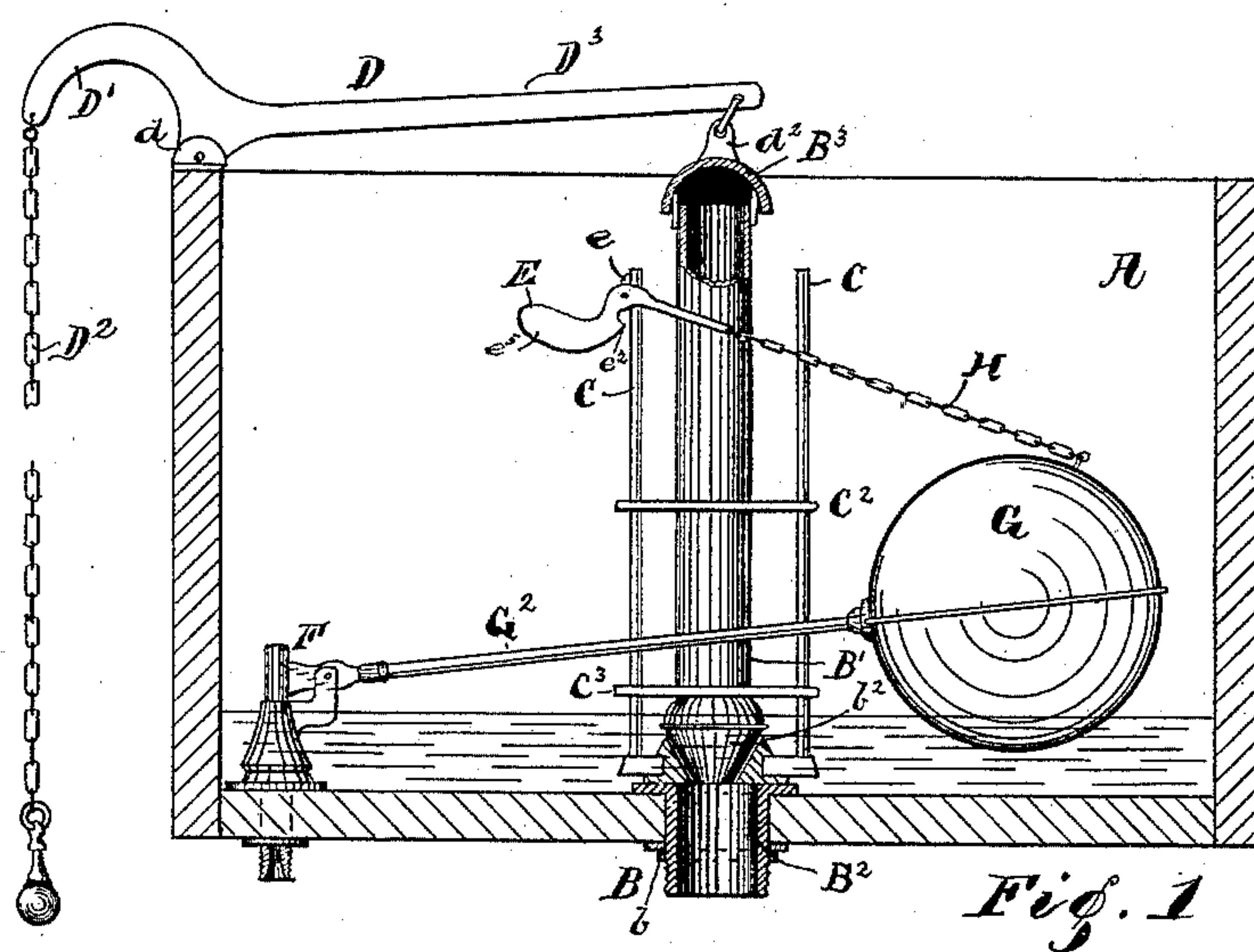


(No Model.)

G. W. KEYSER.
FLUSHING TANK.

No. 473,882.

Patented Apr. 26, 1892.



Witnesses,
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UNITED STATES PATENT OFFICE.

GEORGE W. KEYSER, OF INDIANAPOLIS, INDIANA.

FLUSHING-TANK.

SPECIFICATION forming part of Letters Patent No. 473,882, dated April 26, 1892.

Application filed September 28, 1891. Serial No. 407,085. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. KEYSER, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Flushing-Tanks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in flushing-tanks for water-closets; and the object of the invention is to condense and simplify and thereby cheapen the cost of construction of tanks of this character without lessening their effectiveness or durability.

The object, also, is to make a tank with few parts to get out of order and to so arrange the mechanism in the tank that it may be easily examined and the defective parts replaced with little trouble and expense.

The object, further, is to construct a tank that will discharge the full volume of water and that will be noiseless in so doing, that will be positive in its action, and also capable of simple adjustment to regulate the volume of water discharged.

These objects are accomplished by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section through the tank and shows the position of the float, valves, &c., as they appear at the end of a discharge immediately after the valve communicating with the outlet has closed. This view shows the top of the overflow-pipe sectioned to illustrate the construction and arrangement of the cap. Fig. 2 is a like view of same with a change in the position of float, valve, &c., to that assumed when the tank is full of water and immediately after the outlet-valve has been opened by pulling down on the chain.

Similar letters refer to like parts throughout the several views of the drawings.

Referring to the drawings, A is the tank, of usual construction, and B the outlet-pipe formed in upper and lower sections B' and B², respectively. The lower section of the outlet-pipe B² is stationary. It extends through the bottom of the tank, to which it is secured by

the water-tight couplings *b*, of usual construction, and communicates with the bowl of the closet located below. The upper end of the pipe B² terminates in the valve-seat *b*². The upper section of the outlet-pipe B' is provided with a suitable packing on its lower end, preferably in the shape of a truncated inverted cone and constructed of rubber, and forms a valve *b*⁷, the seat for which is the valve-seat on the upper end of the section B². The upper end of the pipe B' is open to form an overflow for the water in case the tank should be supplied with too much water through a defect in the supply-valve, as sometimes happens.

B³ is a cap surmounting the open end of the pipe B'. It is to keep the water from being thrown out of the tank by the sudden raising of the pipe in making the discharge. I have found by experience that some check of this character is needed, and the construction as here described performs the required duties in this respect in a satisfactory manner. To insure a perfect register of the pipes forming the discharge-valve, the guide-rods C, fastened in any substantial manner at their lower ends to the bottom of the tank, are introduced.

Arms C² and C³, fixed rigidly to the pipe B', are provided with openings, through which the guide-rods C are projected, and thus the rods C act as guides to insure the perfect register between the discharge-valve and its seat.

D is a lever having its fulcrum in the ears *d*, attached to the end of the tank. To the short arm D' the chain D², for operating the discharge mechanism of the tank, is attached. This chain extends down within easy reach of the operator. The long arm D³ of the lever is connected at its outer end with the top of the discharge-pipe B', or rather with the lug *d*², projected up from the top of the cap over the end of the tube. A hinged joint is secured by means of a link connection, as shown.

Near the upper end of one of the rods C is an ear *e*, to which the lever E is pivotally secured. This lever is notched at *e*² close to the fulcrum, and a continuation *e*⁵ of the arm is weighted, so as to hold the notch in close proximity to the rod C, so the purposely-pro-

jected end of the upper arm C^2 will engage the notch in the lever when the pipe B^2 is raised and hold the pipe up and the valve open, as is shown in Fig. 2 of the drawings.

5 G is a float of usual construction and is attached to the supply-valve F by means of the rod G^2 . The valve F is also of usual construction and is opened and closed by the float. In my construction, as shown in the
10 drawings, the float is connected by the chain H with the lever E in such a manner as to raise the weighted end of the lever by the dropping of the float and thereby liberate the arm C^2 , allowing the pipe B' to drop down
15 and close the valve. The amount of discharge will be regulated by the length of the chain connecting the float and lever E . The chain will act as a support to hold up the float.

20 The operation of my improved flushing-tank is as follows: The lever D is operated by pulling down on the chain and the pipe B' raised, which opens the valve and allows the water to discharge through the lower section B^2 . When the pipe B' is elevated by the
25 lever, the arm C^2 is engaged by the notch on the lever E , and the pipe will be held in this elevated position until by the discharge of the water in the tank the float has dropped
30 down and raised the weighted end of the lever E , thus disengaging the arm C^2 and allowing the valve to close by the dropping of the pipe. The tank will fill with water until the
35 elevated position of the float again closes the supply.

It is evident a separate float may be employed to operate the weighted lever E and the supply-valve F , instead of connecting both with the same float, as is shown in the drawings, and as this may be done without departing from the spirit of this invention it is
40 not desired to limit the construction to the use of a single float.

I claim—

In a flushing-tank, the discharge-pipe in
45 two sections, the upper of which will form a discharge-valve and the lower section the valve-seat, the rods C , fixed to the tank and serving as guides to insure a register of the valve with its seat, one of said rods C having
50 a notched and weighted lever pivoted thereto, an arm attached to the valve by being attached to the upper section of the pipe B' and adapted to engage the notch in the lever
55 pivoted to the guide-rod and to be held in an elevated position by said weighted and notched lever, a float attached to the supply-valve and regulating the supply of water by its position and also attached to the notched and
60 weighted lever, preferably by a chain, and a supply-valve, and a lever for operating the discharge, all combined substantially as and for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. KEYSER.

Witnesses:

JOSEPH A. MINTURN,
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