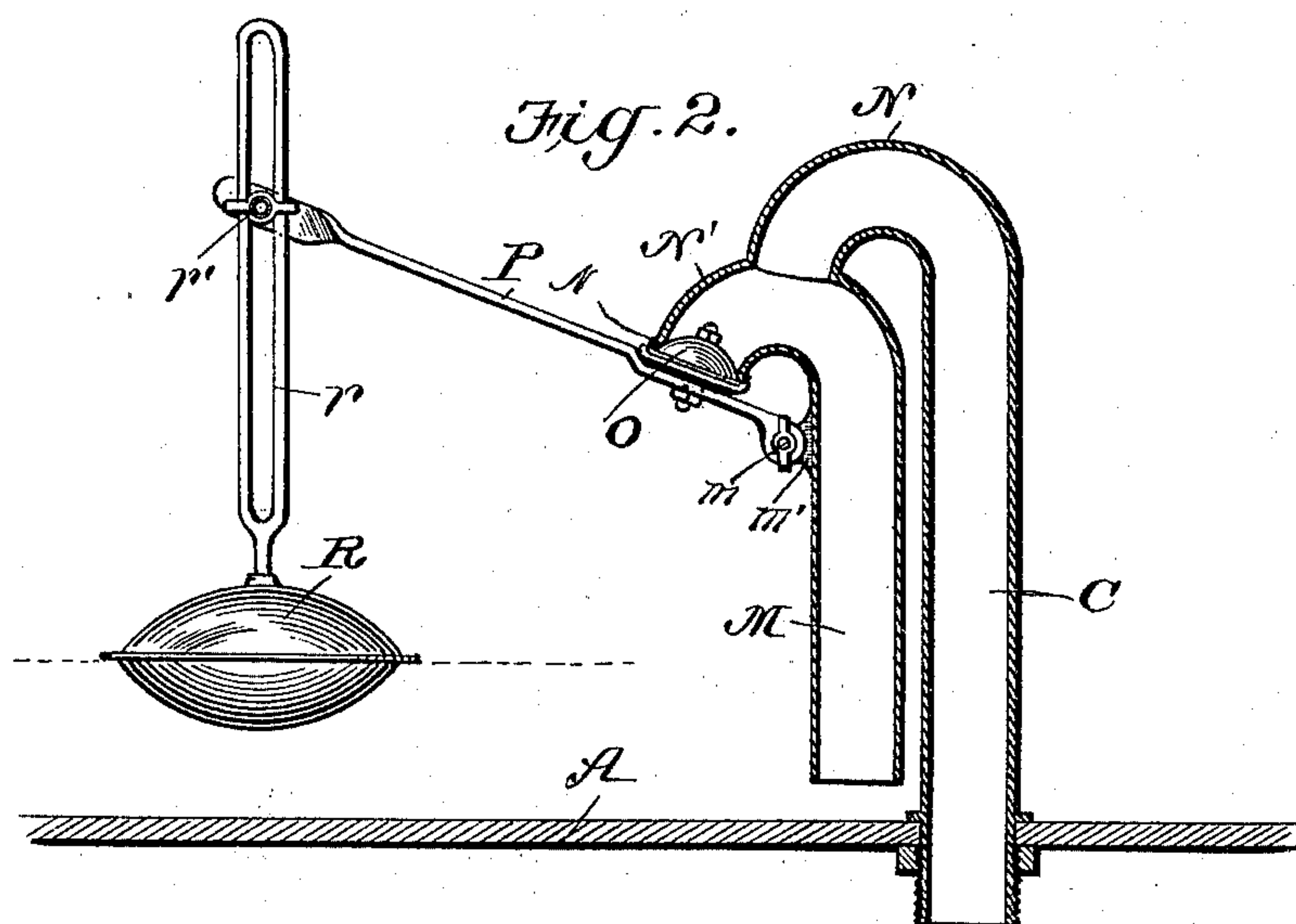
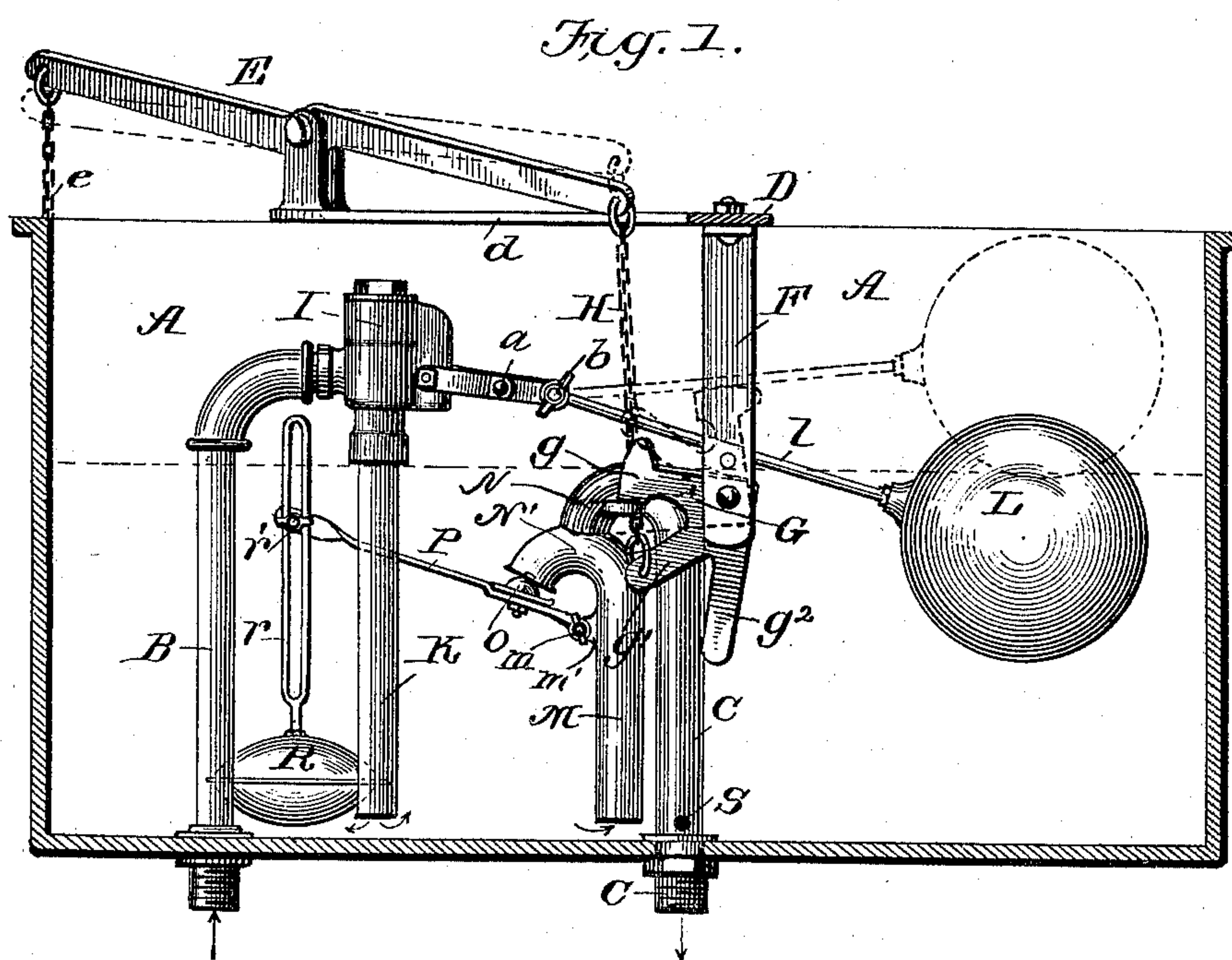


(No Model.)

B. CROWELL.
WATER CLOSET TANK.

No. 590,944.

Patented Sept. 28, 1897.



WITNESSES:

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UNITED STATES PATENT OFFICE.

BEVERLY CROWELL, OF ASBURY PARK, NEW JERSEY, ASSIGNOR OF ONE-HALF TO CLAUDE JAMES WISEMAN, OF SAME PLACE, AND CHARLES HOLLAND KIDDER, OF RIDGEFIELD PARK, NEW JERSEY.

WATER-CLOSET TANK.

SPECIFICATION forming part of Letters Patent No. 590,944, dated September 28, 1897.

Application filed February 19, 1896. Serial No. 579,932. (No model.)

To all whom it may concern:

Be it known that I, BEVERLY CROWELL, a citizen of the United States, and a resident of Asbury Park, in the county of Monmouth and State of New Jersey, have invented certain new and useful Improvements in Flush-Tank Water-Closets; 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, reference being had to the accompanying drawings, which form a part of this specification.

My invention has relation to improvements in flush-tank water-closets; and the object is to provide a flush-tank that will be normally empty and which may be operated to fill and flush the bowl when the closet is in use.

To these ends the novelty consists in the construction, combination, and arrangement of the same, as will be hereinafter more fully described, and particularly pointed out in the claim.

In the accompanying drawings the same reference-letters indicate the same parts of the invention.

Figure 1 is a longitudinal partly-sectional view of my improved tank. Fig. 2 is an enlarged section of the siphon, with its float shown in elevation.

A represents the ordinary rectangular open-top tank; B, the service induction-pipe, provided with a self-closing valve I, having an eduction-pipe K opening near the bottom of the tank.

L represents a ball-float secured to the outer end of the lever *l*, adjustably secured to the bifurcated arm *a* by the thumb-screw *b* and operated to open and close the valve I as it is raised or lowered by the water-level in the tank.

C represents the tank-outlet or flush-pipe, its upper end formed with a gooseneck N, the shorter leg of which communicates with and supports a second pipe M, its lower end terminating within a short distance of the bottom of the tank, while its upper end is formed with a gooseneck N', the shorter leg of which terminates in an opening or valve-seat *n*, adapted to be closed by the valve O, mounted on a valve-lever P, fulcrumed on a thumb-

screw *m*, adjustably secured in an integral bracket *m'* on the pipe M. The outer end of the valve-lever P is provided with a thumb-screw *r'*, which adjustably secures the parallel arms of the standard *r* to said lever, and the lower end of said standard *r* carries a float R, which operates said lever and opens and closes the valve O.

E represents a horizontal lever fulcrumed in a bracket on one end of a diagonal cross-brace *d*, extending across the top of the tank, and the outer end of said lever is provided with the usual chain-pull *e*, while the inner end of said lever E is provided with a short chain H, the lower end of which is connected to the horizontal arm *g'* of a bell-crank lever G, fulcrumed on a bolt *i*, secured to the lower end of the bracket F, depending from and secured to the cross-brace *d* by the bolt D. An arm *g* on the lever G extends underneath and across the path of the float-lever *l*, and when the chain *e* is pulled this arm *g* comes in contact with the float-lever *l* and raises it and its float L. At the same time said arm *g* assumes a vertical position, as shown in dotted lines, so that the weight of the float-lever and float resting upon it will sustain it in this position until the level of the water in the tank reaches the float and raises it from contact with the upper end of said arm *g*.

*g*² represents an integral depending arm on the bell-crank lever G, and it acts as a counterbalance, and it, with the arm *g'*, is raised to an approximately horizontal position when the arm *g* is upright, and consequently the weight of the arms *g'* *g*² is all on one side and immediately restores the bell-crank lever to its normal position when the weight is removed from its arm *g*.

The operation of the tank is as follows: The parts being in the position shown in full lines in Fig. 1, the tank is practically empty, the water having escaped into the flush-pipe C through the orifice S. When it is desired to flush the bowl, the chain *e* is pulled, which raises the bell-crank lever and float L to the position shown in the dotted lines, where it remains for the time being. In the meantime the valve I is opened and the water flows into the tank through the pipe K, and as it rises it raises the float R and closes the valve O,

converting the pipes M C into a siphon, and at the same time that the level of the water in the tank has reached the top of the goose-neck N it has raised the float L to release the arm *g*, which allows the bell-crank lever to resume its normal position. The siphon action then discharges the water through the outlet-pipe C, and the float L in falling closes the valve I, and as the water-level descends in the tank it lowers the float R, operating the valve *n*, and allowing the air to fill the siphon, which permits the remaining water in the pipe C to flow noiselessly down through it to the bowl, and what water is left in the tank escapes through the orifice S, thus avoiding the objectionable gurgling sound which occurs in flushing with that class of tanks which are normally full of water when the closet is not in use.

Although I have specifically described the construction and relative arrangement of the several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as

clearly fall within the scope of my invention without departing from the spirit thereof.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

A closet flush-tank, comprising the valved inlet-pipe B, the float-lever *l* in operative connection with said valved inlet-pipe B and adapted to open said pipe upon the rising of the float, the bell-crank lever G, having an arm *g*, projecting into the path of said float-lever *l*, and an arm *g'*, the chain pull-lever E and the chain II connecting one end of said lever E to the arm *g'* on the bell-crank lever G, in combination with an automatic flushing apparatus, as and for the purpose set forth.

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

BEVERLY CROWELL.

Witnesses:

CHAS. E. KING, Jr.,
DAVID HARVEY, Jr.