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PATENTED DEC. 22, 1903.

A. M. MORRISON.
FLUSHING RESERVOIR FOR WATER CLOSETS OR THE LIKE.

APPLICATION FILED JAN. 26, 1903.

NO MODEL.

Fig. 1.

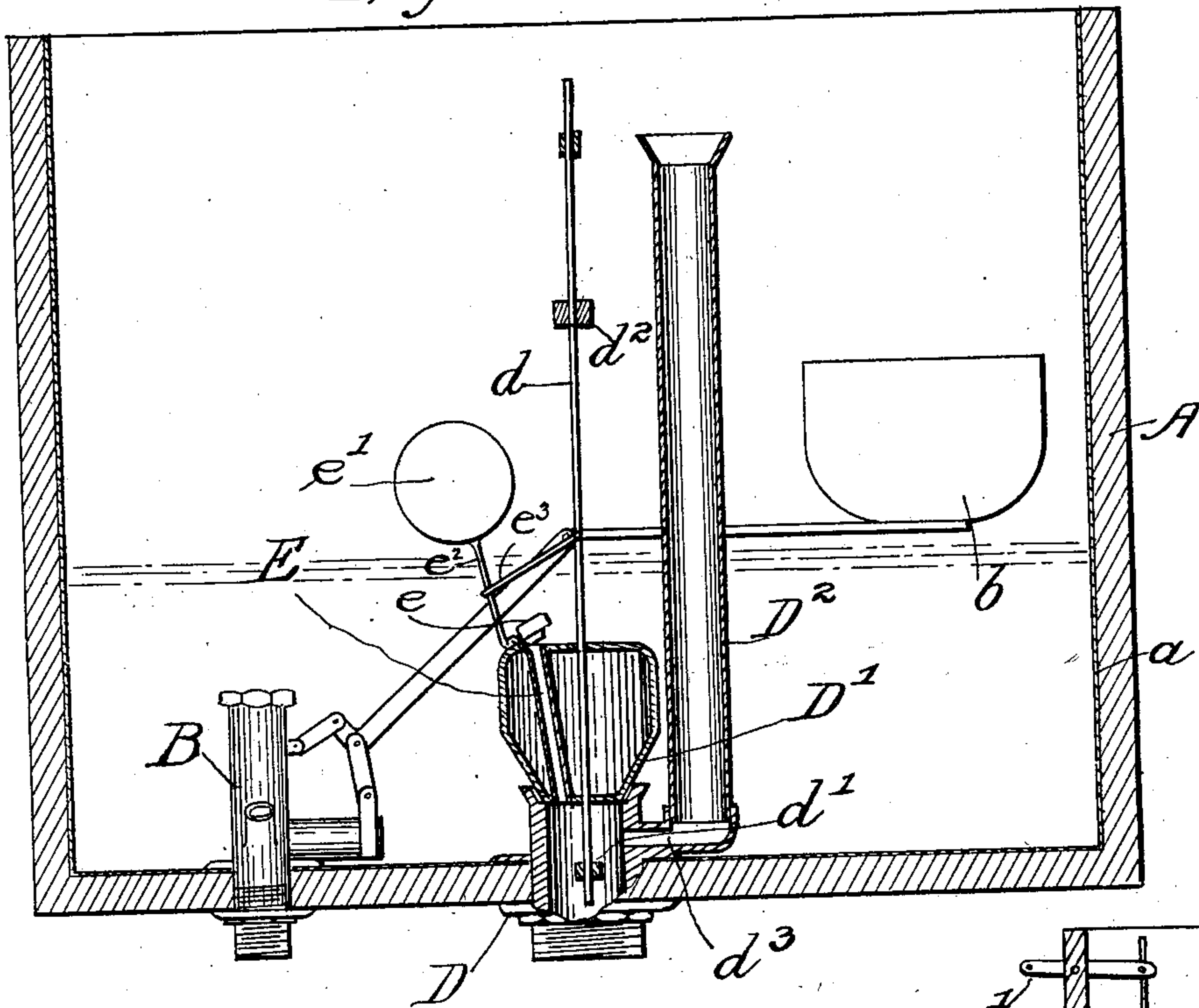
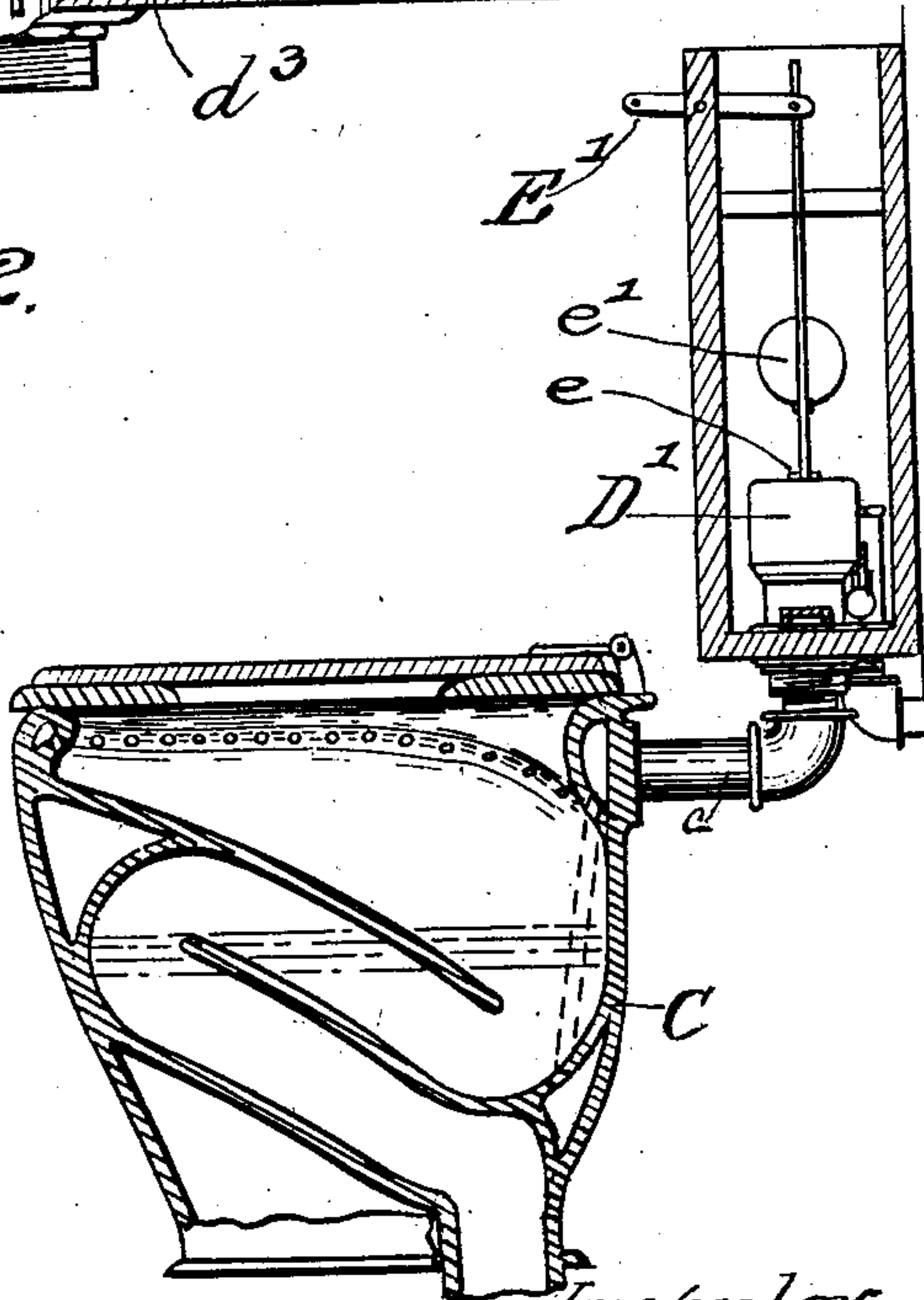


Fig. 2.



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FLUSHING-RESERVOIR FOR WATER-CLOSETS OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 747,628, dated December 22, 1903.

Application filed January 26, 1903. Serial No. 140,682. (No model.)

To all whom it may concern:

Be it known that I, ANDREW M. MORRISON, a citizen of the United States, and a resident of the city of Dubuque, county of Dubuque, and State of Iowa, have invented certain new and useful Improvements in Flushing-Reservoirs for Water-Closets or the Like; 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 relates more particularly to a reservoir adapted to flush water-closets or other sanitary fixtures and to provide an afterfill for the closets after thoroughly flushing the same. Heretofore many different devices have been used for the purpose, many of which are expensive of construction and frequently get out of repair.

The object of this invention is to provide a cheap, simple, and durable construction adapted to operate under all conditions and to insure, first, the thorough flushing of the closet or other part to be flushed; second, to secure an afterfill or water seal for the flushed fixture to prevent the escape of noxious gases therefrom.

The invention embraces many novel features; and it consists in the matters hereinafter described, and more fully pointed out and defined in the appended claims.

In the drawings, Figure 1 is a vertical longitudinal section taken centrally through a reservoir embodying my invention. Fig. 2 is a transverse section taken through the reservoir and a closet connected therewith.

As shown in said drawings, A indicates a tank of the usual or any desired construction comprising a bottom, side, and end walls, and, if preferred, a cover which for more convenient illustration is omitted in the drawings. Said tank is provided with an interior lining *a*, of sheet-metal or other suitable material, in the usual manner and also with the usual or any desired inlet float-valve B, operated automatically in the usual manner by means of the float *b*. Located centrally in the bottom of said tank is the discharge-orifice, provided with the usual fitting for connecting the closet therewith. Secured in said tank

and registering with the discharge-opening is the fitting D, comprising a sleeve externally threaded at its lower end adapted to extend downwardly through the bottom of the reservoir and to afford connection with the pipe *c* in the usual manner leading to the closet. Said fitting at its upper end is ground or fitted to provide a seat for the float-valve D', which at its lower end is conical to engage in said seat and fits closely therein, tightly closing the discharge-orifice when seated. Extending through said float-valve D' is a rod *d* in the usual manner, adapted to slide through guides *d'* *d*² and which permits the float-valve to be raised upwardly from the seat in flushing and acts to guide the same into register with the seat as the valve closes. Connected in said sleeve D by means of the integral pipe *d*³ is the overflow-pipe D² of the usual construction, the upper end of which extends to near the top of the tank and through which any excess of water admitted from the float-valve B is permitted to escape into the closet or other fixture.

Extending through the float-valve D' and opening into the discharge-orifice is the comparatively small pipe E. The upper end of said pipe is shaped to afford a seat for the valve *e*, which is hinged on the float-valve D' in position to close said pipe and is operated by the float *e'*, connected therewith, by means of the rod or arm *e*², which is bent at its lower end and rigidly secured upon the valve *e*. Said float is limited in its movement by means of the supporting-rod *e*³, in which the rod *e*² is movably engaged in any desired manner, and acts to open said valve *e* with the fall of the water in the reservoir and after the float-valve D' is seated permits water to flow through said pipe to provide the afterfill for the fixture.

The operation is as follows: When the closet is full, the water-line therein is of course determined by the adjustment of the valve B and the escape-pipe D². Ordinarily the level of the water in the reservoir or tank is approximately coincident with the top of said discharge-pipe. When it is desired to discharge the water from the reservoir, a float-valve D' is lifted by means of any convenient external attachment of the usual or any desired type, permitting the escape of the

water from said reservoir into the closet or other fixture through the discharge-orifice and pipe *c*. With the fall of the level of the water in the reservoir or tank the float *b* descends, opening the inlet when the flushing operation is complete. The float-valve *D'* registers with the seat of the fitting *D*, as shown in Fig. 1, with the floats *b* and *e'* in their lowermost positions or, in other words, in position to open the respective valves controlled thereby, in one case admitting a fresh supply of water to the tank and in the other permitting a flow of water through the pipe *E* into the closet or other fixture to afford the afterfill. As the level of the water rises in the tank, however, the float-valve *e* soon closes the passage through the float-valve *D'*, holding the same closed until the water is again discharged from the tank. Obviously while the valve providing the afterfill is shown seated to close the pipe *E*, leading to the float-valve *D'*, said valve might be otherwise located to permit a flow of water through the discharge pipe or orifice after the seating of said float-valve *D'*. It is advantageous, however, to carry the afterfill-valve on said float-valve *D'*, inasmuch as it economizes very greatly in the construction, installation, and repairs of the device, such a construction enabling the float-valve *D'*, together with the rod *d* and the afterfill-valve, to be simultaneously lifted and removed from the tank.

Obviously features of construction may be varied without departing from the principles of this invention.

I claim as my invention—

1. A flushing-tank for the purpose specified embracing in combination the tank, an automatically-operated inlet-valve, a discharge-passage leading to the fixture to be

flushed, an automatically-closing float-valve arranged to close the discharge-passage after the flushing operation, a pipe extending therethrough and a float-valve seated to admit a flow of water into the discharge-passage through said pipe after the valve has seated.

2. A tank for the purpose specified embracing the combination with a tank, of an automatically-operating inlet-valve, a discharge orifice or passage adapted to be connected with the fixture to be flushed, a hollow float-valve, a guide-rod therethrough slidably engaged in the discharge-passage and above the valve, a pipe extending through said valve and connecting the discharge-passage with the tank, a float-valve hinged at the upper end of said pipe and adapted to admit of a flow of water into the discharge-passage after the float-valve is closed.

3. In a flushing-reservoir for the purpose specified the combination with a hollow float-valve, of a pipe extending therethrough, an afterfill-valve hinged at the upper end thereof and a float connected therewith adapted to gradually close said valve after the afterfill thereby completely closing the float-valve.

4. In a device of the class described the combination with a flush-valve, of a closure therefor comprising a float, a passage leading through said float and an automatically-operating float-valve carried on the float and acting to provide an afterfill therethrough.

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

ANDREW M. MORRISON.

Witnesses:

C. E. MULLIN,
C. J. YOUNG.