

No. 711,232.

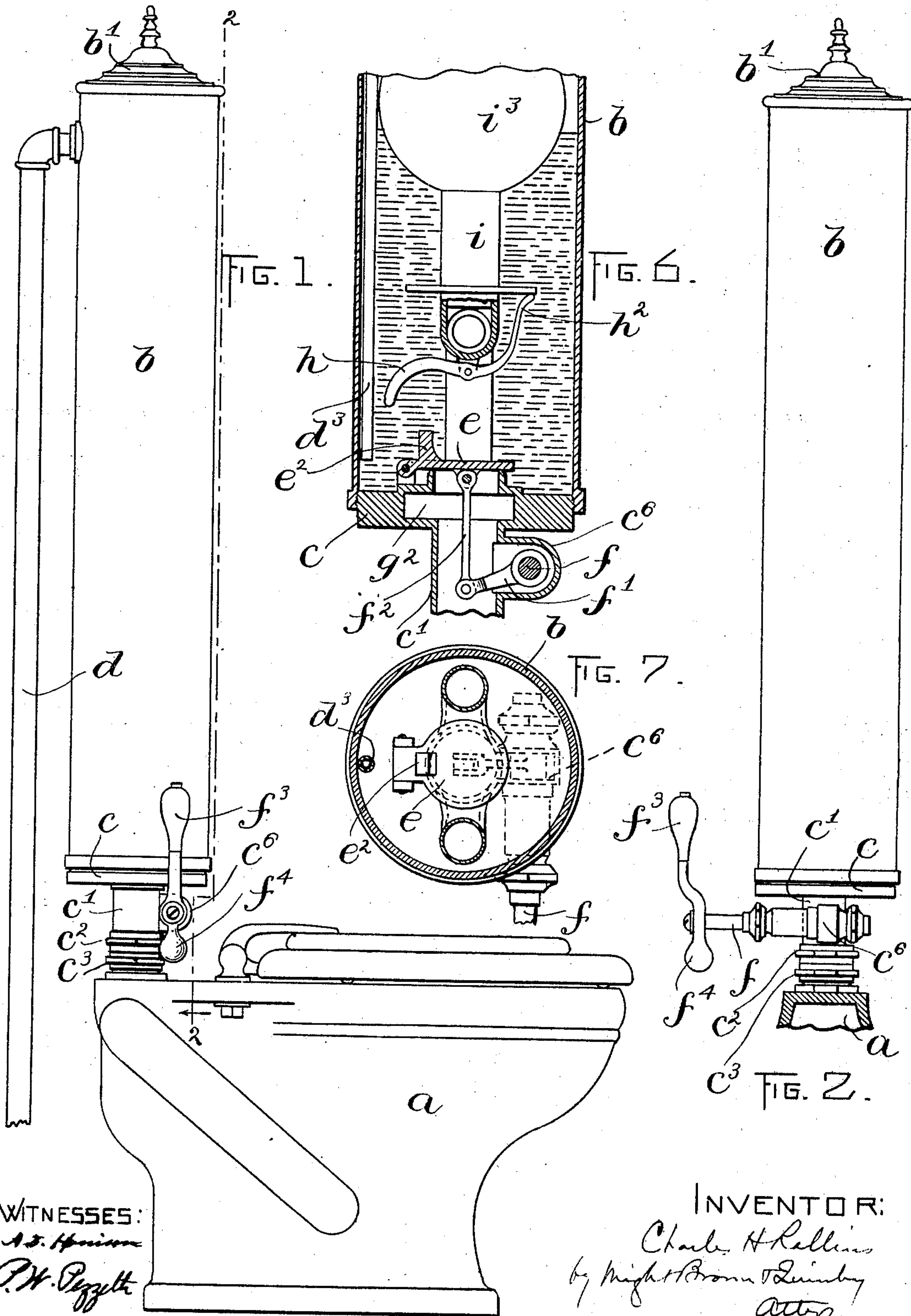
Patented Oct. 14, 1902.

C. H. ROLLINS.
FLUSHING APPARATUS FOR CLOSETS.

(Application filed Nov. 13, 1899.)

(No Model.)

3 Sheets—Sheet 1.



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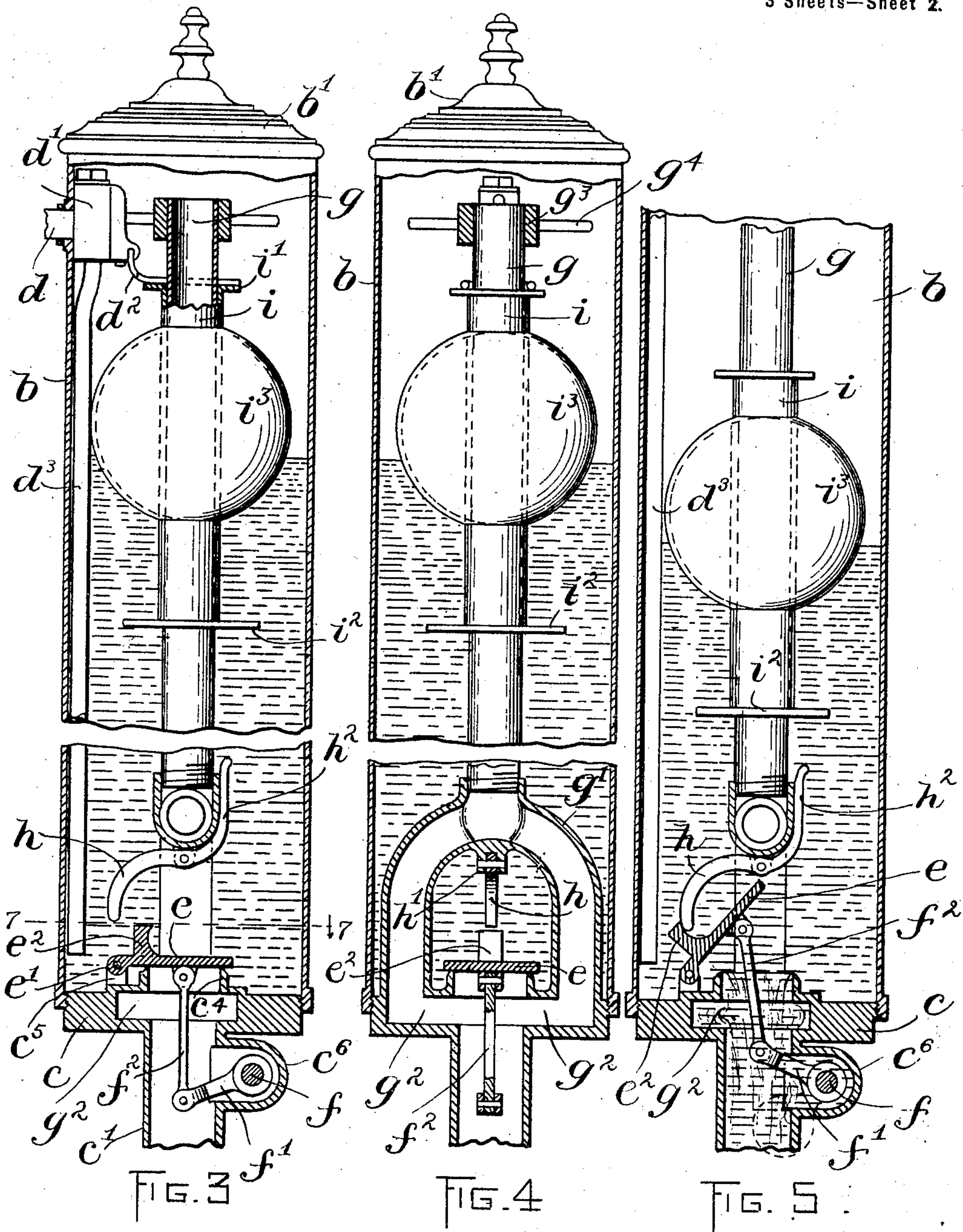
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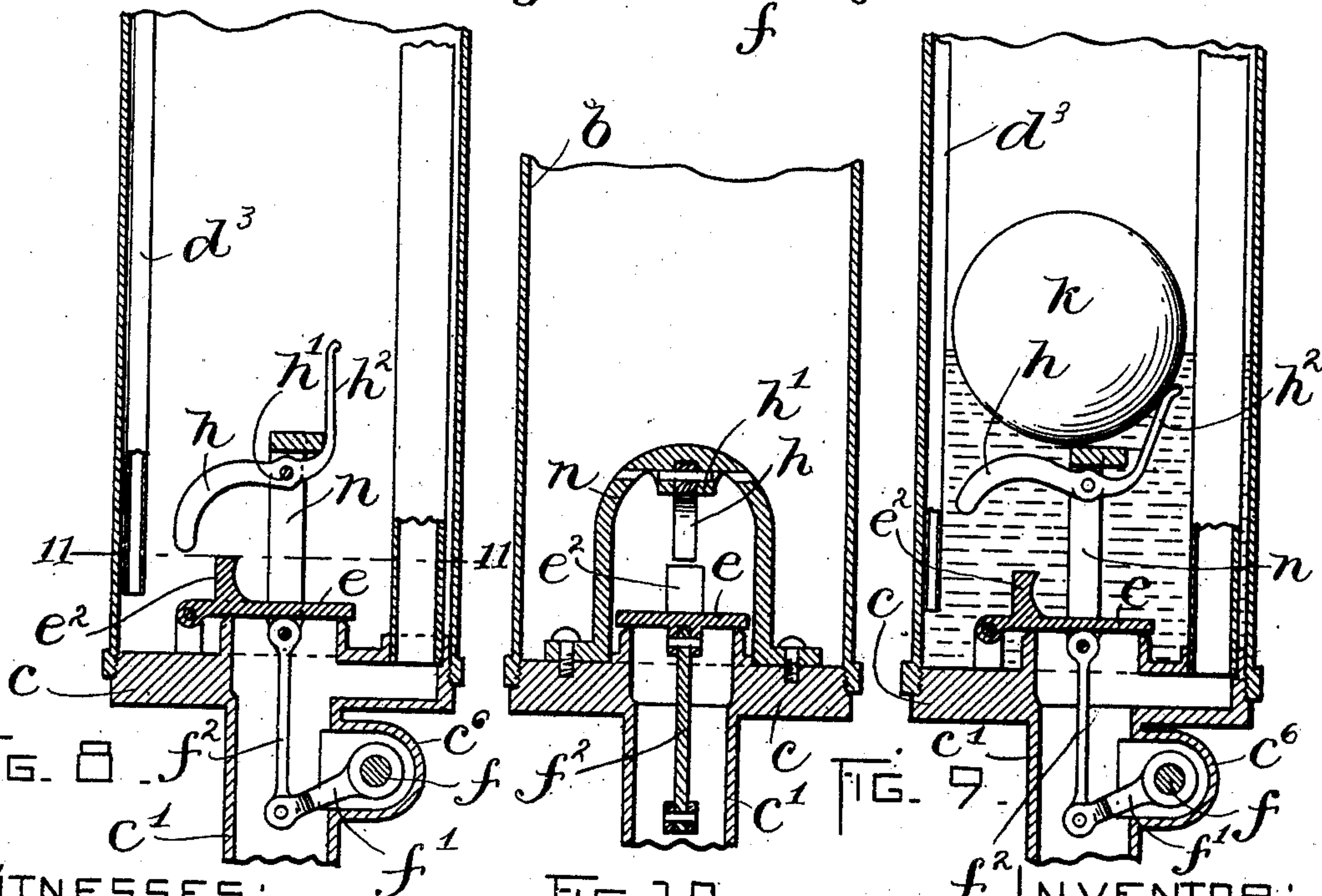
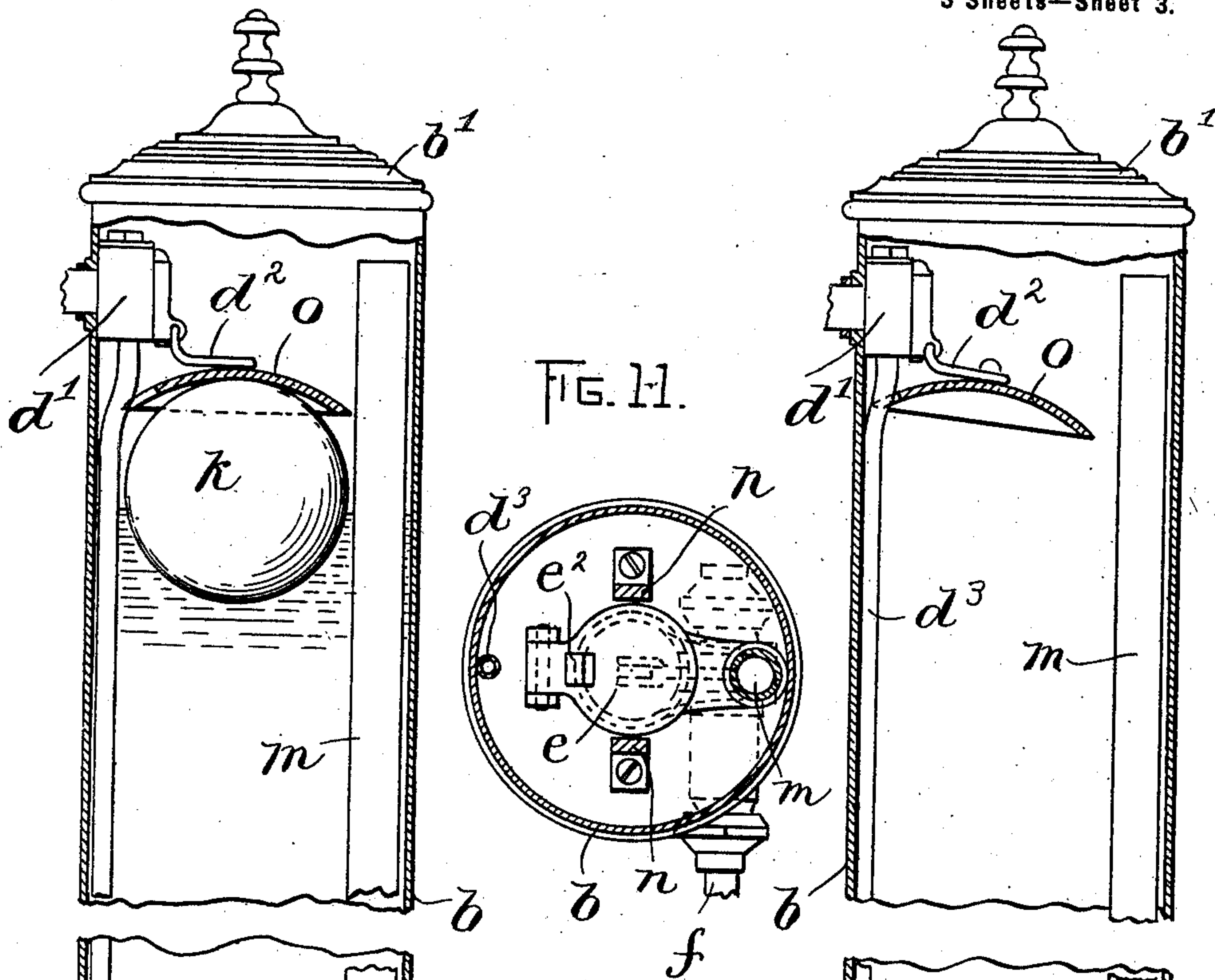


FIG. 8.

FIG. 9.

FIG. 10.

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UNITED STATES PATENT OFFICE.

CHARLES H. ROLLINS, OF WATERTOWN, MASSACHUSETTS, ASSIGNOR OF
ONE-HALF TO EDGAR W. ANTHONY, OF BROOKLINE, MASSACHUSETTS.

FLUSHING APPARATUS FOR CLOSETS.

SPECIFICATION forming part of Letters Patent No. 711,232, dated October 14, 1902.

Application filed November 13, 1899. Serial No. 736,756. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. ROLLINS, of Watertown, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Flushing Apparatus for Closets, of which the following is a specification.

This invention has relation to water-closets, and more particularly to flushing apparatus therefor.

It has for its object to provide an apparatus which may be used in places where there is a lack of head-room, where an overhanging tank cannot be used, and, further, to provide automatic mechanism for causing a predetermined quantity of water to be carried through the hopper or basin before it is shut off.

To these ends the invention consists of an apparatus embodying certain features of construction and relative arrangement of parts, all as illustrated upon the accompanying drawings, now to be described in detail, and finally pointed out in the claims hereto appended.

Of the drawings, Figure 1 represents my invention in side elevation. Fig. 2 represents a front elevation of the same, partially in section, on the line 2 2 of Fig. 1. Fig. 3 represents a section through the tank, with the valve closed. Fig. 4 is a transverse vertical section through the same. Fig. 5 represents a section similar to Fig. 3, except that the valve is raised and is locked in that position by a trigger or latch. Fig. 6 represents a similar section, the parts being in the position which they assume immediately after the valve has been released from the trigger. Fig. 7 represents a horizontal section on the line 7 7 of Fig. 3. Fig. 8 represents a longitudinal section through another embodiment of the invention. Fig. 9 represents a similar section with the float at the lowest extreme of its movement. Fig. 10 represents a section in a plane at right angles to the plane of the sections on which Figs. 8 and 9 were taken. Fig. 11 represents a horizontal section on the line 11 11 of Fig. 8.

Referring to the drawings, A indicates a closet of the variety known as "siphon-jet," although it may be in the nature of a "wash-out" closet, if desired.

b represents an elongated cylindrical tank, reservoir, or stand-pipe, which is preferably closed at its upper end by a cylinder head or cap b' . Its lower end is threaded to receive a cylinder head or bottom c , which is cast with a flushing-pipe c' , adapted to rest upon the rear portion of the bowl a , being connected to the inlet therein by couplings c^2 c^3 , as shown in Figs. 1 and 2. The weight of the tank and the water therein is sustained by the bowl a , the tank remaining upright thereon; but, if desired, the tank might be supported on a bracket, so as to relieve the bowl of its weight. It will be noticed from Fig. 1 that the tank is comparatively small in cross-diameter and is not very tall compared with the bowl, so that it contains just enough water to thoroughly flush the bowl once. A supply-pipe d leads into the upper portion of the tank and communicates with a suitable valve-casing d' , the valve of which is controlled by a lever d^2 . The pipe d^3 leads from said casing d' inside of the tank to the lower end thereof, so as to muffle the sound of the water when it is delivered thereinto. The cock comprising the valve in the casing d' and the valve-lever d^2 may be of the ordinary construction employed in connection with floats, the supply being cut off by raising the lever d^2 and being opened by allowing it to drop. The cylinder-head or bottom c of the tank is formed with a valve-seat c^4 , on which is adapted to rest a valve e , pivoted at e' on a lug c^5 , projected upward from said bottom. The valve is raised by means of a rock-shaft f , extending through an offset c^6 in the flushing-pipe c' . This shaft has an arm f' , connected by a link f^2 with lugs in the under side of the valve, and on the projecting end of the shaft is a lever or handle f^3 , maintained in a vertical position by a weight f^4 , as clearly illustrated in Fig. 1. By rocking the handle or lever f^3 the valve is raised into position shown in Fig. 5 to permit the flow of water through the flushing-pipe into the bowl.

I provide an overflow-pipe g , which is screwed at its lower end into a hollow arch g' , arising from the bottom or cylinder-head c and communicating by ducts g^2 with the flushing-pipe c' . The upper end of the overflow-pipe g is held against lateral vibration

by a collar g^3 , having radially-projected arms g^4 , which bear against the inside walls of the tank. I utilize the overflow-pipe g as a guide for a float i^3 , which automatically cuts off the flow of water through the flushing-pipe when the tank has been emptied and which likewise cuts off the supply when the tank is filled.

h indicates a latch or trigger which is pivoted in lugs h' , projecting from the under side of the arch g' .

In the top of the valve is a locking-lug e^2 , having its inner side curved, as shown in Fig. 3, so that when the valve is raised the lug slips under the end of the latch until the latter drops down into engagement with the front curved edge thereof, as shown in Fig. 5, whereupon the valve is held in a raised position. The latch is comparatively heavy, so as to operate by gravity, and it is provided with an upwardly-extending curved arm h^2 , which is comparatively light, so as not to swing it out of its operative position. By means of this arm h^2 the latch is drawn out of locking engagement with the lug e^2 .

Sliding upon the overflow-pipe g is a sleeve i , having flanges i' i^2 on its ends. The float or hollow sphere i^3 is formed on the sleeve and is almost as great in diameter as the interior of the tank. When the valve is held in the raised position shown in Fig. 5, the water escapes from the tank and the float is lowered until the flange i^2 engages the end of the curved arm h^2 and forces it downward to lift the latch h out of engagement with the lug, as shown in Fig. 3. As the float i^3 is lowered with the water, the valve in the casing e' is opened, and consequently as the tank is filled again through the supply-pipes the float is raised until the flange i' on the sleeve i engages the lever d^2 and lifts it, so as to cut off the supply. Thus it will be seen that the flushing apparatus is automatic—that is to say, when the valve is raised it is automatically locked in its raised position and is held there until the water is exhausted in the tank, after which it is closed and the supply is cut off automatically when the water reaches a proper level in the tank.

The tank itself is in the nature of a stand-pipe and occupies but little space in the rear of the bowl, so that it can be put in rooms where there is a lack of space and where an overhead tank cannot be used. It may be as

highly ornamented as desired and presents a neat and handsome appearance.

It is evident that changes may be made in the apparatus without departing from the spirit of my invention. For instance, in Figs. 8 to 10, inclusive, I have illustrated an apparatus in which the float k consists of a sphere or ball which does not slide in guides, but is guided merely by the walls of the tank. In that event the stand-pipe m is arranged eccentrically of the tank and is close to the walls thereof. An arch n is supported upon the bottom of the tank for the latch and is solid. A concavo-convex plate o is attached to the lever d^2 to operate the valve in the casing d' , said plate being used so that the sphere or float will be obliged to strike against it and to center itself directly under the end of the said lever d^2 .

Having thus explained the nature of the invention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all of the modes of its use, I declare that what I claim is—

1. A flushing apparatus for closets comprising a tank, a vertical guide therein supported on an arch, a flushing-valve at the bottom of the tank below the arch, a valve-holding latch pivoted to the arch and a float movable on said guide and adapted to disengage said latch from the valve.

2. A flushing apparatus for closets comprising a tank, an arched support in said tank, a weighted latch pivoted under said support, and a flushing-valve adapted to be engaged by said latch and held open, said latch and valve being located under said arched support.

3. A flushing apparatus for closets comprising a tank, an arched support in said tank, a weighted latch pivoted under said support, and a flushing-valve adapted to be engaged by said latch and held open, said valve having a lug with which the end of the latch comes in contact, said latch and valve being located under said arched support.

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

CHARLES H. ROLLINS.

Witnesses:

MARCUS B. MAY,
C. C. STECHER.