

(No Model.)

G. B. HOWELL.
WATER CLOSET RESERVOIR.

No. 520,358.

Patented May 22, 1894.

FIG. 1.

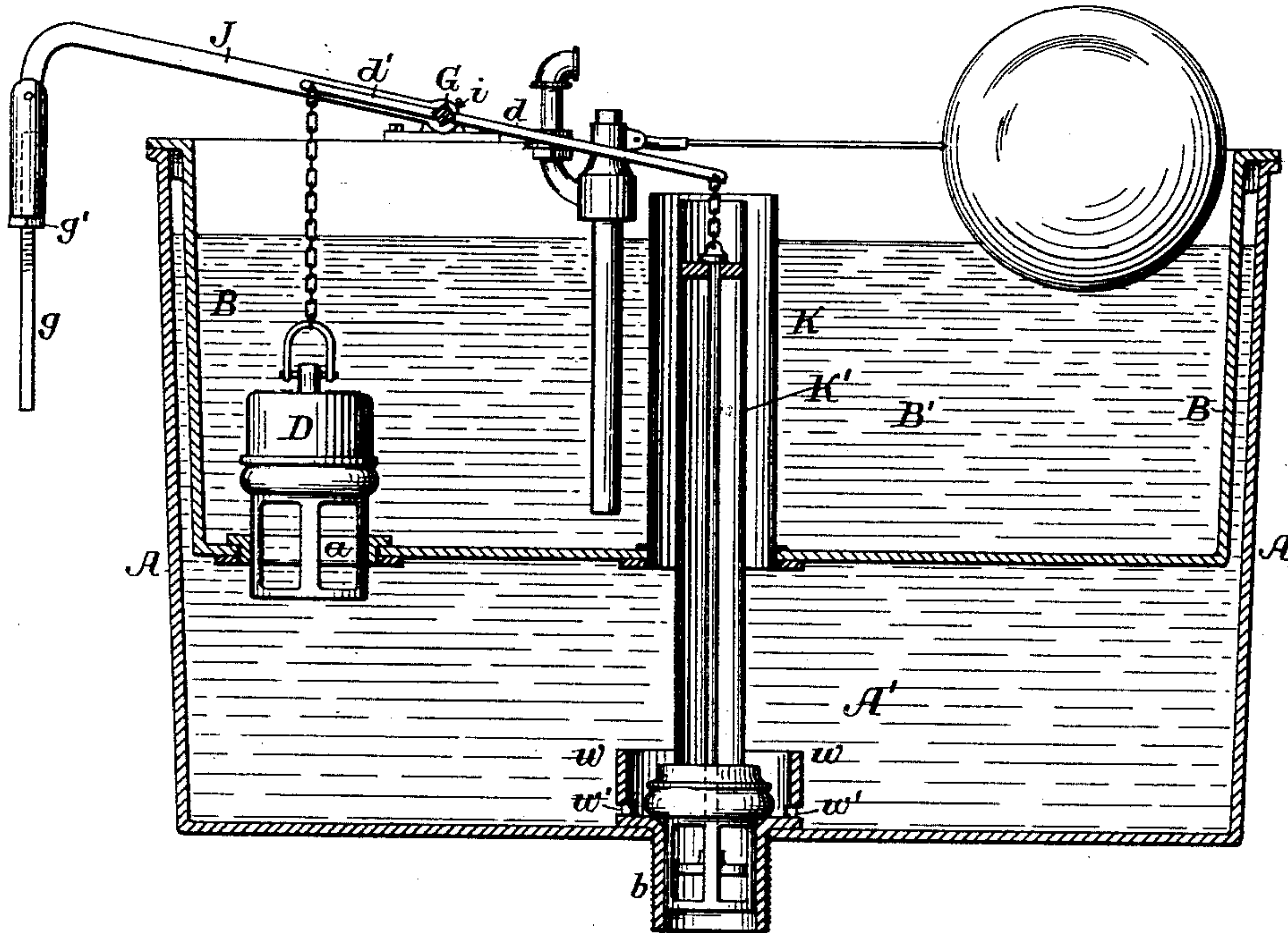
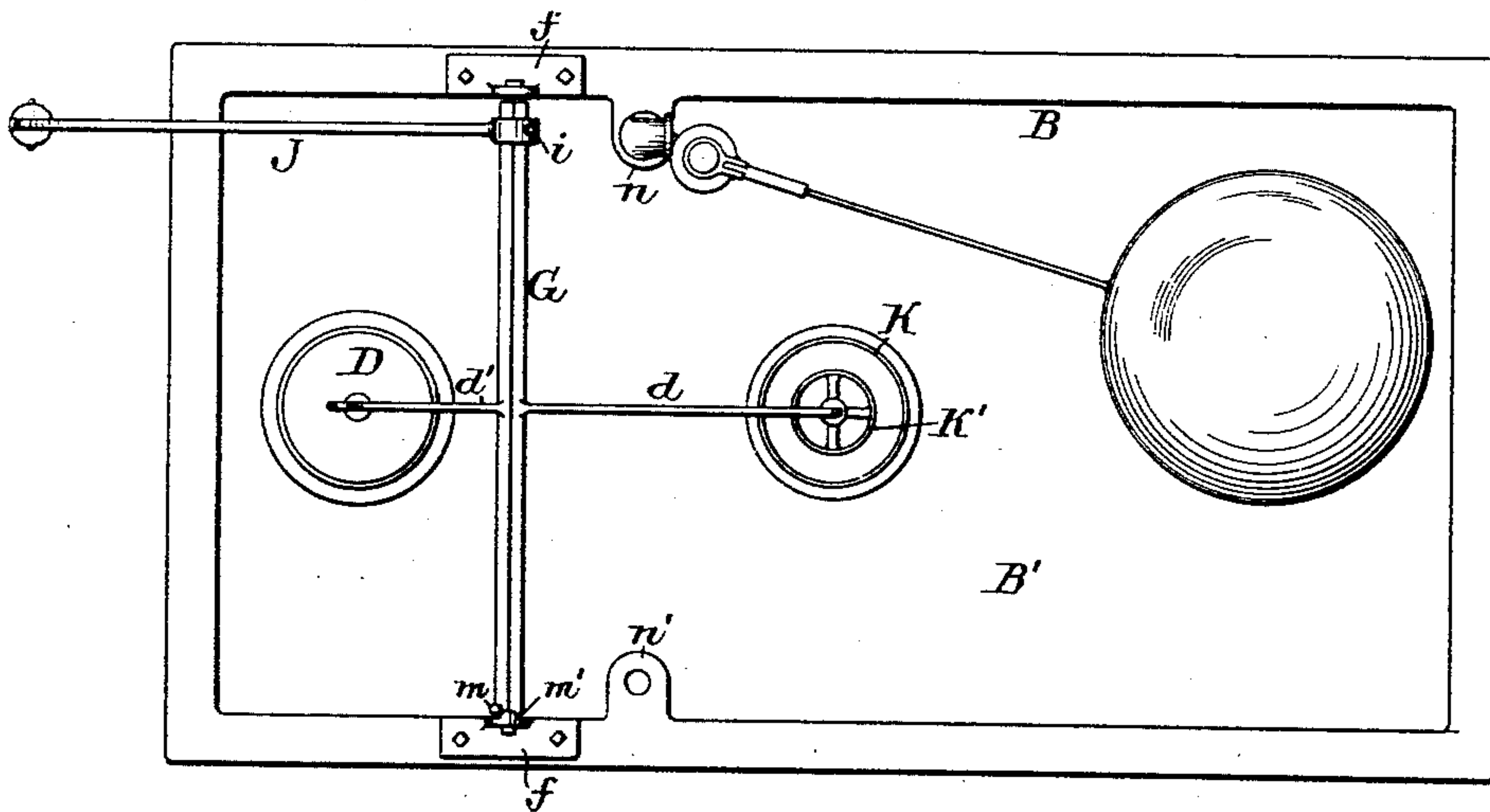


FIG. 2.



Witnesses:
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Inventor
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UNITED STATES PATENT OFFICE

GEORGE B. HOWELL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE
MCCAMBRIDGE & COMPANY, LIMITED, OF SAME PLACE.

WATER-CLOSET RESERVOIR.

SPECIFICATION forming part of Letters Patent No. 520,358, dated May 22, 1894.

Application filed February 12, 1892. Serial No. 421,241. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. HOWELL, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Water-Closet Reservoirs, of which the following is a specification.

The object of my invention is to so construct the supply reservoir of a water closet bowl and the valve operating mechanism used in connection therewith, and to so combine the two, that the valve operating rod or chain can be disposed in any position which the location of the bowl of the closet may suggest as the most convenient, and this object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1, is a longitudinal section of a water closet supply reservoir with valves and valve operating mechanism constructed in accordance with my invention; and Fig. 2, is a plan view of the same.

A represents the main or outer casing of the reservoir and within the upper portion of this casing is a supplementary casing or box B, so that the interior of the reservoir is divided into two chambers, namely, the receiving chamber B' contained within the upper box B and the supply or service chamber A' contained within the casing A outside of the box B. The two chambers communicate with each other through an opening *a* provided with a valve D and the service chamber A' discharges through a branch *b*, the inlet to which is controlled by a valve F, suspended from one arm *d* of a rock shaft G, the valve D being suspended from another arm *d'* of the latter. The ends of said rock shaft G are adapted to suitable bearings in brackets *f* secured to the upper flanges of the box B, hence when the shaft is moved in one direction, the valve F will be opened to permit discharge of the water from the service chamber A', the valve D being at the same time closed to cut off communication between the chamber A' and the chamber B', while, on the reverse movement of the rock shaft, the valve F will be closed and the valve D opened, so as to permit of the re-filling of the service chamber A' from the receiving chamber B'. The rock

shaft G and its arms *d d'* thus constitute a valve lever, and it is manifest that the arms might be mounted on the shaft instead of being integral therewith as shown, without departing from my invention.

The rock shaft G is provided with an operating arm J, and to the outer end of the latter is connected the depending rod *g* or equivalent valve operating device, which extends down to such a distance as to be within convenient reach of the person occupying the seat of the closet, or said rod may be directly or indirectly acted on by the seat of the closet, in such manner that when the seat is occupied the rod will be raised, as shown in Fig. 1, and the filling of the service chamber of the reservoir thereby permitted, the rod being depressed when the occupant of the seat rises, thereby permitting the discharge of the water from the service chamber into the bowl of the closet. The rod *g* is threaded and provided with a jamb nut *g'* to permit of its proper adjustment.

In order that the arm J may project from either the right hand side or the left hand side of the reservoir, as circumstances may suggest as the most convenient location, the discharge outlet and its valve occupy a central position in the casing A so that the rock shaft G may be located either on the right hand side or on the left hand side of the valve, the valve box B being capable of being turned end for end in the casing A to permit of such change in the location of the rock shaft. In the present instance the shaft G is square, but it may be round if desired.

The hub of the arm J can be adjusted to different circumferential positions on the rock shaft G and can be secured in position after adjustment by means of a suitable set screw *i*, and said arm J is also adjustable longitudinally on the rock shaft so that it may assume any position between the end of said shaft and the central valve operating arms.

It is generally advisable that the operating arm J shall occupy a position at the back part of the box, that is to say, the part nearest to the wall against which the reservoir is usually placed, and in order that this may be permitted whether the rock shaft is at the right or left hand side of the central valve, the

arms $d d'$ are at the center of the shaft so that the latter may be turned end for end, without disarranging the arms in respect to the valves the reversal of the shaft end for end also reversing it as well as the arms $d d'$ vertically. 5 The rock shaft has near the front end a lug or projection m which, by contact with a lug m' on the adjacent bracket f , serves to limit the swinging movement of the shaft in one 10 direction and thus prevents contact of the arm d with the tops of the overflow tubes $K K'$.

The box B has, at the opposite sides, lugs $n n'$ for receiving the chest of the supply valve, hence the said chest may be mounted 15 close to the wall in either position of adjustment of the box B in the outer casing A.

Surrounding the valve F is a low casing w with openings w' of limited area near the bottom, hence when the water has fallen in the 20 service chamber A' to the level of the top of the casing w , further flow will be through the openings w' , thus providing for a slow "after flow" in limited volume for filling the traps of the bowl after siphon action has ceased.

25 Having thus described my invention, I claim and desire to secure by Letters Patent—

1. A water closet reservoir having an outer casing, with centrally located discharge valve

adapted to a horizontal seat on the casing, a supply box mounted in said casing so as to be 30 reversible end for end therein, a valve for closing an opening in the bottom of said box, a lever having opposite arms one connected to one valve and the other to the other valve, and a projecting operating arm for said lever, 35 substantially as specified.

2. The combination of the outer casing having a central discharge valve adapted to a horizontal seat on the casing, the receiving box mounted in said casing so as to be re- 40 versible end for end therein, a valve for closing an opening in the bottom of said box, a rock shaft mounted on the box so as to be reversible end for end, oppositely projecting lever arms centrally located on said rock shaft 45 and connected one to one valve and the other to the other valve, and a projecting operating arm for said rock shaft, substantially as specified.

In testimony whereof I have signed my 50 name to this specification in the presence of two subscribing witnesses.

GEO. B. HOWELL.

Witnesses:

EUGENE ELTERICH,
HARRY SMITH.