

W. A. FRASER.
WATER CLOSET.
APPLICATION FILED APR. 11, 1910.

1,017,044.

Patented Feb. 13, 1912.

2 SHEETS—SHEET 1.

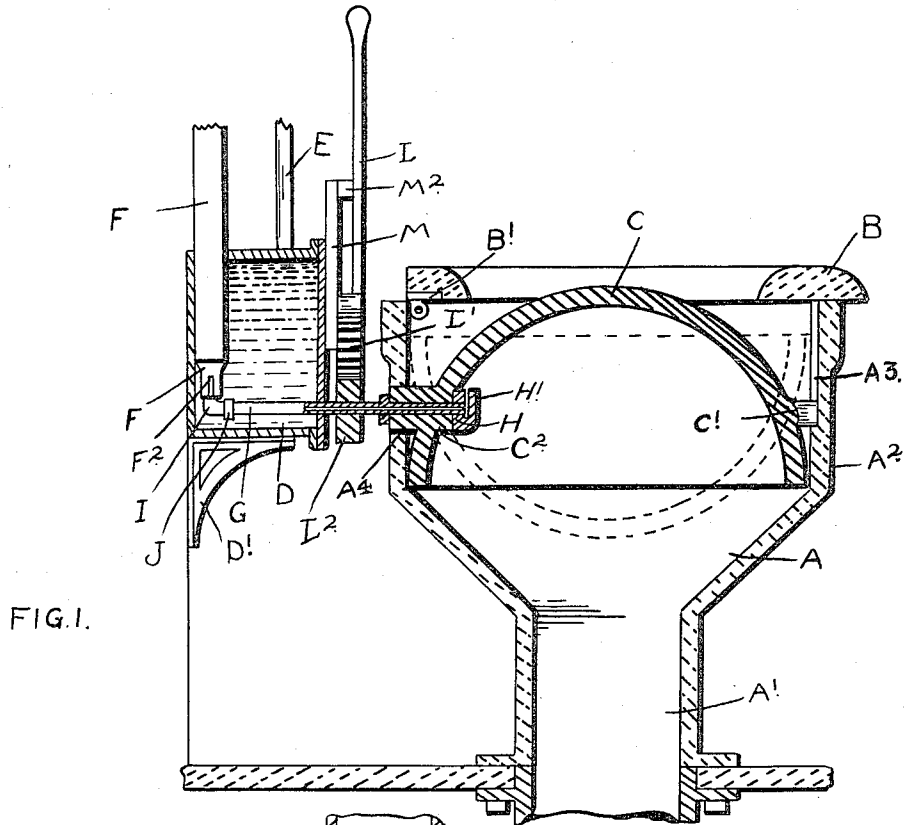


FIG. 1.

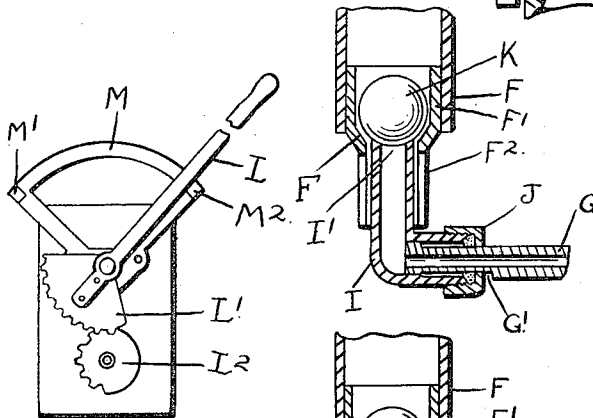


FIG. 2.

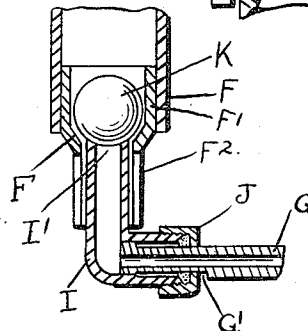


FIG. 3.

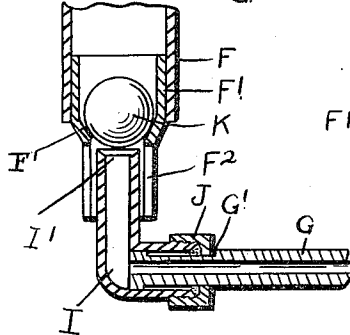


FIG. 4.

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2 SHEETS—SHEET 2.

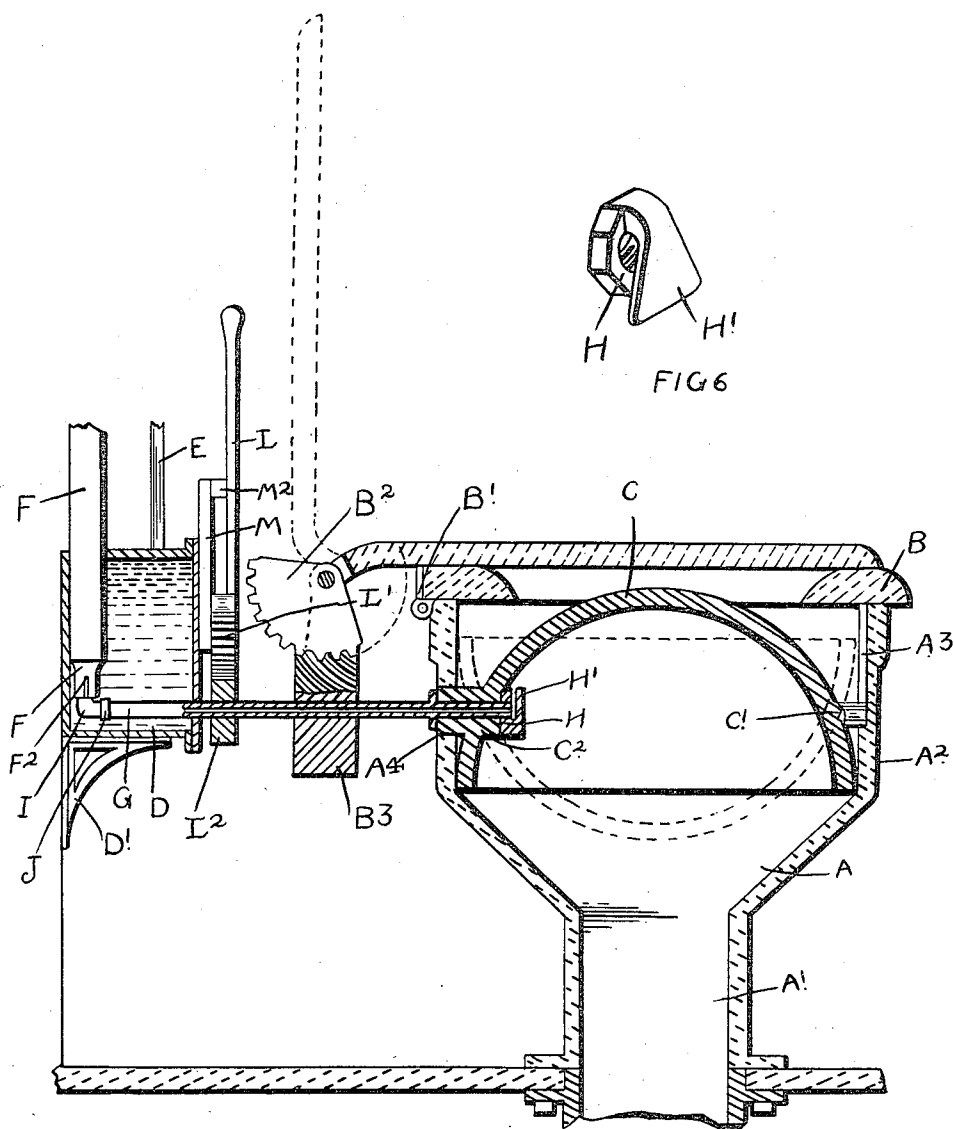


FIG 5.

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UNITED STATES PATENT OFFICE.

WILLIAM ALEXANDER FRASER, OF GEORGETOWN, ONTARIO, CANADA.

WATER-CLOSET.

1,017,044.

Specification of Letters Patent.

Patented Feb. 13, 1912.

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To all whom it may concern:

Be it known that I, WILLIAM ALEXANDER FRASER, of the town of Georgetown, in the county of Halton, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Water-Closets, of which the following is the specification.

My invention relates to improvements in water closets particularly adapted for railway coaches, and the object of the invention is to devise a simple closet, which may be flushed thoroughly with a minimum quantity of water and insure the contents of the bowl being completely discharged, and also prevent the ingress of foul air from the bowl into the room.

A further object is to discharge the contents of the bowl, close the orifice thereof and replenish the tank by one movement.

Still further objects are to make the closet impossible to get out of order, do away with all spring and other complex valves.

To effect these objects my invention consists of a main bowl, a reversible bowl journaled in trunnions at the upper end of the main bowl, a tank located at any suitable point preferably behind the main bowl, a supply pipe extending down into the tank, a pipe leading from the tank through one of the trunnions of the reversible bowl, means in which it is secured, means for turning the pipe, a ball valve located at the lower end of the main pipe on a suitable seat, an elbow having the horizontal portion located on the inner eccentric cut-away portion of the pipe leading to the bowl and the top thereof designed to form a supplemental seat for the ball when the elbow is raised in order to provide for the replenishing of the tank, the parts being otherwise constructed and arranged in detail as hereinafter more particularly explained.

Figure 1, is a vertical section through my improved closet. Fig. 2, is an end view of the tank showing one means of operating the valves and bowl. Fig. 3, is a sectional detail showing the double acting valve in the position to replenish the tank. Fig. 4, is a similar view showing the double-acting valve in the position which it assumes to flush the bowl. Fig. 5, is a sectional detail of an alternative manner of operating the valve and bowl. Fig. 6, is a detail of the spreader for the flushout.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the main bowl, which has a contracted lower portion A' and flares outwardly to an enlarged substantially cylindrical portion A².

B is the seat, which is suitably hinged at B' at the upper portion of the bowl.

C is the reversible bowl, which is provided with trunnions C' and C². The trunnion C' fits into the bottom of a slotted way A³ and the trunnion C² fits into a hole A⁴ diametrically opposite the way A³.

D is a tank, which is supported on a bracket D' or in any other suitable manner. In the drawing I show it located with the bottom substantially flush with the bottom of the trunnions.

E is an air vent for the top of the tank.

F is a main supply pipe, which is provided with a seat F' at the bottom preferably substantially conical and fitted within or forming part of the pipe F. The seat F' extends downwardly in alinement with the upper portion of the pipe and is provided with the side slots F².

G is a pipe extending through an orifice in the trunnion C² being suitably secured therein. The outer end of the pipe has screwed on to it a specially formed nut H having a deflecting lip H' forming part of it, whereby the water is spread into the reversible bowl as will hereinafter appear. The inner end of the pipe G is turned or otherwise formed with the portion G' eccentric to the pipe.

I is an elbow, which extends over the inner end of the pipe G and is provided with a gland J forming a suitable packing and fitting closely the eccentric portion G'. The upper portion of the elbow I is recessed to form a seat I'.

K is a ball, which is designed to rest at one period upon the seat I' and at another period upon the seat F'.

L is a lever provided with a toothed quadrant L', which meshes with the toothed pinion or quadrant L² on the pipe G.

M is a quadrantal frame provided with the end stops M' and M².

Having now described the principal parts involved in my invention I shall briefly describe its operation and utility. By throwing the lever in one direction the pipe G is turned in its bearings and at the same time turns the reversible bowl C with the concave portion uppermost and at the same time throwing down the elbow I and allowing the water in the tank D to pass into the

bowl C through the slots F² and upper end of the elbow I and pipe G (see Fig. 4.) The closet is now ready for use. By throwing the lever L in the opposite direction the bowl is again reversed and the elbow thrown upwardly causing the ball to rest on the seat I', thereby shutting off the water from passing into the bowl C and allowing the water to pass from the pipe F around the ball through the seat and slots F² into the tank, thus filling up the tank.

It will, of course, be understood that the vent E would extend beyond the level of the upper tank in the coach from which the water supply is derived.

In Fig. 5, I show a helical gear B² attached to the rear end of the seat B, which meshes with a corresponding pinion B³ on the pipe G. This modification is, of course, worked from the seat alone by raising and lowering the seat, but the remaining parts operate in the same manner as hereinbefore described.

Although my invention is particularly adapted to railway coaches it will, of course, be understood that it may be adapted for house use. In this case it would, of course, be possible to flush the bowl when it is in the reverse position by simply setting the

quadrant gear and the gear on the pipe in the proper relation to each other.

What I claim as my invention is:

The combination with a main bowl, of a reversible bowl, trunnions formed on said bowl and journaled in the walls of the main bowl, of a pipe extending through one of the trunnions and provided with an eccentric outer end, a nut having a deflecting lip attached to its inner extremity, a pinion located upon said pipe, and a quadrant meshing with the pinion for turning the pipe, a water supply tank into which the outer end of the pipe extends, a main water supply pipe provided with a tapered seat at the lower end having side slots formed in the lower part thereof, an elbow extending up into the seat and having the horizontal portion provided with a gland fitting onto the eccentric outer end of the trunnion pipe, and a ball located at the bottom of the main water supply pipe and designed to be seated alternately on the main seat and on the seat at the top of the elbow, as and for the purpose specified.

WILLIAM ALEXANDER FRASER.

Witnesses:

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