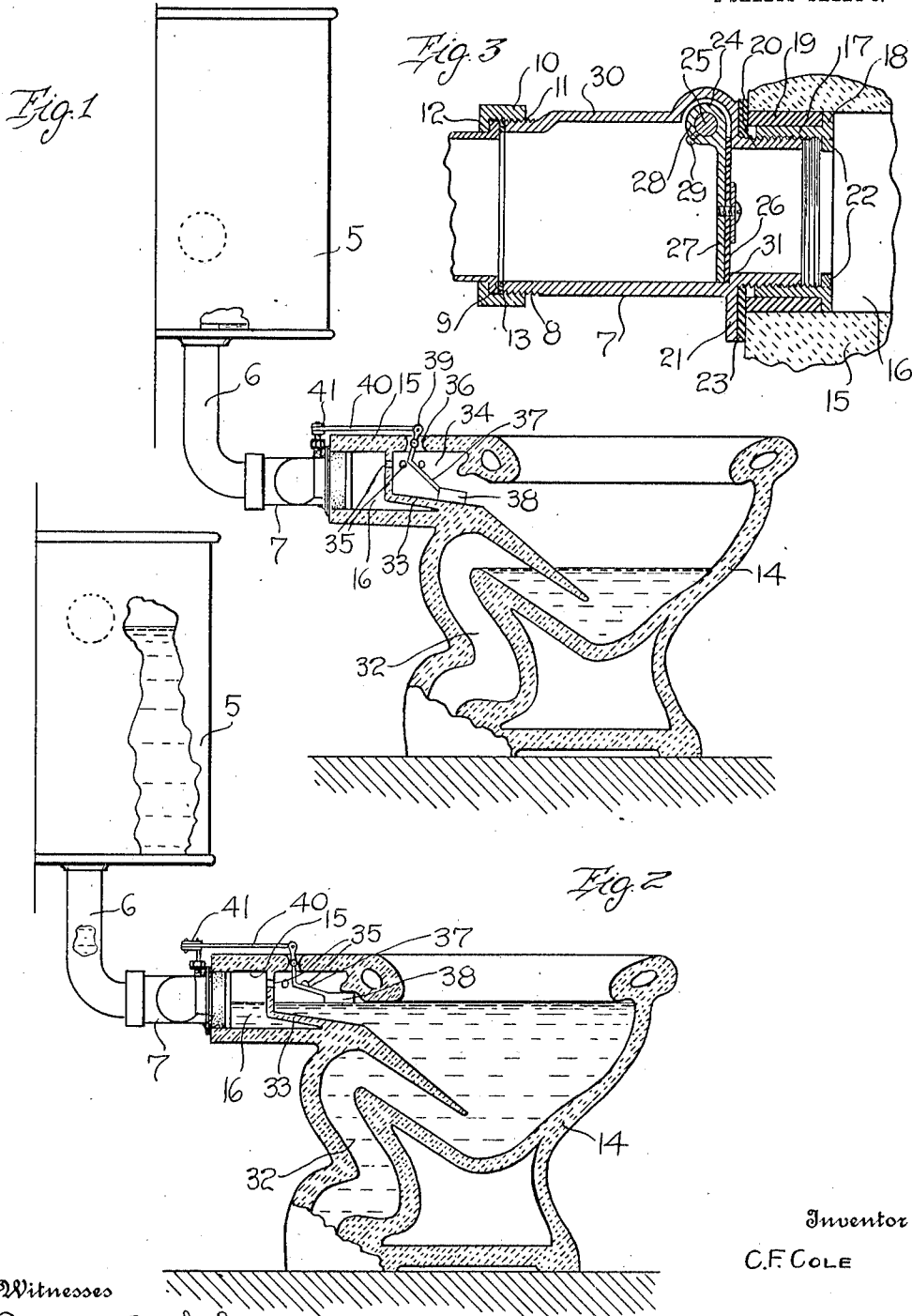


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WATER CLOSET.
APPLICATION FILED NOV. 21, 1913.

1,090,200.

Patented Mar. 17, 1914.

2 SHEETS-SHEET 1.



Witnesses
Robert M. Sutzbach.
A. L. Fried.

Inventor
C. F. COLE

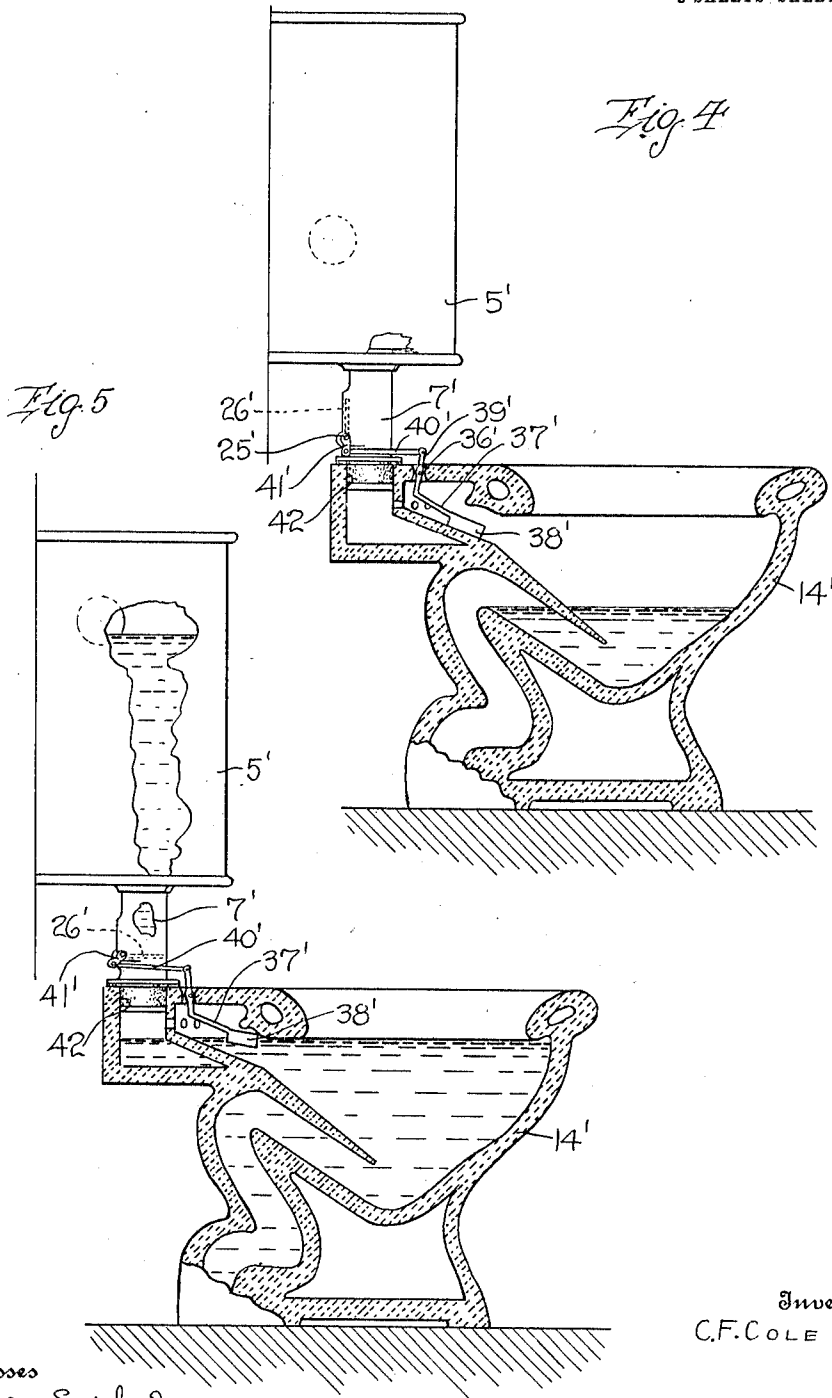
By *Watson E. Coleman*
Attorney

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UNITED STATES PATENT OFFICE.

CHARLES F. COLE, OF HUNTINGTON, WEST VIRGINIA.

WATER-CLOSET.

1,090,200.

Specification of Letters Patent.

Patented Mar. 17, 1914.

Application filed November 21, 1913. Serial No. 802,230.

To all whom it may concern:

Be it known that I, CHARLES F. COLE, a citizen of the United States, residing at Huntington, in the county of Cabell and State of West Virginia, have invented certain new and useful Improvements in Water-Closets, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to water closets, and more particularly to valves for water closets which will cut off the flow of water to the closet bowl should the water therein reach a predetermined height because of obstructions in the drain pipe.

An object of this invention is the provision of a water closet consisting of a bowl, a water tank and a flush pipe connecting them, the bowl having a float therein which is adapted to operate a safety valve positioned in the connecting pipe when the water reaches a certain height in the bowl.

A further object of this invention is to provide a closet bowl with a float chamber in which a float is arranged, the bowl being provided with a water chamber communicating with the float chamber whereby the float chamber will be flushed when water is admitted to the bowl, so that the float chamber will be kept clean.

With these and other objects in view, my invention consists in certain novel constructions, arrangements and combinations of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section through the bowl showing the float in its lowermost position; Fig. 2 is a vertical section through the bowl showing the float in its raised position; Fig. 3 is a longitudinal section of the coupling showing the valve in closed position; Fig. 4 is a vertical section of an alternative form of the water closet showing the valve in its lowermost position; and Fig. 5 is a vertical section of an alternative form of the water closet showing the valve in raised position.

Referring more particularly to the drawings, the numeral 5 designates a water tank from the lower edge of which a flush pipe 6 extends, the pipe being curved horizontally at its lower end and connected to one end of the coupling 7. The coupling is threaded on one end as at 8, and the extremity of the horizontal portion of the pipe 6 is

formed with an outstanding annular flange 9 which is adapted to bear against the extremity of the coupling 8, and a ring 10 is slidably disposed on the pipe 6, the ring being interiorly threaded as at 11, and being provided on one end with an inwardly extending flange 12. The flange 12 is adapted to bear against the outstanding flange 9, and the ring is threadedly connected with the exterior threads 8 of the coupling to secure the coupling and the extremity of the horizontal portion of the pipe 6. A gasket 13 is disposed between the flange 9 of the pipe and the opposing end of the coupling 7 to provide a tight joint therebetween.

The bowl 14 is provided in its upper end with a rearwardly projecting inlet extension 15 which is formed with a water receiving chamber 16, and disposed within the opening is an interiorly threaded collar 17 which is provided on one end with an outstanding annular flange 18, the diameter of the flange being substantially the same as the diameter of the opening. Mounted on the collar 17 is a flexible sleeve 19 which is of substantially the same thickness as the distance between the periphery of the collar and the wall of the opening 16, and which bears at one end against the flange 18 and projects beyond the opposite end of the collar.

The outer end of the coupling 7 is formed with a reduced exteriorly threaded extension 20, and the coupling is formed inwardly of the extension with an outstanding annular flange 21 which is adapted to bear against the wall of the bowl adjacent the opening therein. The extension 20 is adapted to project within the opening into threaded engagement with the collar 17 and to facilitate turning of the collar to connect the same to the extension 20, a pair of diametrically opposed inwardly extending lugs 22 are formed on the inner face of the collar for connection with a suitable tool. A gasket 23 is preferably disposed between the flange 21 and the bowl, and when the collar 22 is turned, it will be seen that the projecting portion of the flexible sleeve 19 will be forced against the gasket 23 whereby the flexible sleeve will be compressed longitudinally to expand the same to frictionally engage the wall of the opening and the periphery of the collar 17 whereby a tight joint is formed therebetween. A transversely extending recess 24 is formed in the

coupling, and a vertically disposed valve rod 25 projects through the coupling within the recess. A flap valve 26 is arranged in the coupling, the valve being connected to a plate 27 which is formed on one edge with a sleeve 28, the sleeve being mounted on the rod 18 within the recess and maintained in position thereon by a set screw 29. One side of the coupling 7 is offset, as at 30, to form a recess in which the valve 19 is adapted to rest when open, so that the valve will be disposed out of the path of the water flowing through the coupling. The valve when closed is adapted to rest against the shoulder 31 to prevent water from flowing from the tank into the bowl.

The bowl 14 is provided with the usual siphon discharge pipe 32, and formed in the bowl is a wall 33 which separates the float chamber 34 from the inlet chamber 16. The wall 33 is provided with a plurality of openings 35 through which the water flows into the float chamber 34 before entering the body of the bowl whereby the float chamber is always kept clean. Pivotally mounted in an opening 36 in the upper wall of the bowl is a lever, one arm 37 thereof being connected to a float 38 arranged within the float chamber, and the other arm 39 of the lever being pivotally connected to one end of a horizontally extending connecting arm 40. The opposite end of the connecting arm 40 being pivotally connected to one end of a horizontally extending link 41, the opposite end of which is secured to the upper end of the valve rod 25.

In Figs. 4 and 5 of the drawings, I have shown my device as applied to a slightly modified form of bowl, the bowl 14' being formed with an inlet opening 42 in its upper face, in which one end of the coupling 7' is connected in the same manner and in the form hereinbefore described. In this form the coupling 7' is disposed vertically, and the valve 26' is disposed vertically when in open position, the valve rod 25' being disposed horizontally and connected to the connecting rod 40' by means of the link 41. A lever is pivotally mounted in an opening 36' in the upper wall of the bowl, one arm 37' thereof being connected to the float 38' and the other arm 39' being connected to the opposite end of the connecting rod 40'.

In the practical use of my device, the collar 17 is disposed in the inlet opening in the bowl, and the reduced extension 20 of the coupling is connected thereto in the

manner before described whereupon the opposite end of the coupling is connected to the extremity of the horizontal portion of the flush pipe 6 by means of the ring 10. If the discharge pipe is free from obstruction, the water flows from the bowl in the ordinary manner, but should the pipe become clogged the water will rise in the bowl and raise the float which will move the valve 26 against the seat 31 by means of the lever and the connecting rod, thereby cutting off the flow of water to the bowl, before the water can flow over the same.

Having thus fully described my invention, what I desire to claim and secure by Letters Patent is:

1. The combination of a bowl provided with an extension upon its upper edge, said extension having a float chamber formed therein at all times in open communication with the chamber of the bowl, a flush pipe connected to said bowl extension and provided with a flap valve, said valve being normally open, a float in said float chamber provided with a lever having an angular extension pivotally mounted in the wall of the extension on said bowl and projecting above the same, and a connecting rod between said lever arm and the valve whereby the valve is closed when the water reaches a predetermined point in the bowl chamber and raises said float.

2. The combination of a bowl provided with a water inlet chamber and a float chamber, a division wall separating said chambers and having openings therein affording communication between the same, a flush pipe connected with the water inlet chamber, said float chamber being at all times in open communication with the chamber of the bowl, a normally open valve arranged in the flush pipe, a float in the float chamber, a lever connected to said float and having an angularly disposed arm pivotally mounted in one wall of the bowl and projecting above the same, and a rod connecting said lever arm to the valve to automatically close the same when the water in the chamber bowl reaches a predetermined point and raises the float.

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

CHARLES F. COLE.

Witnesses:

M. CARLISLE LYDDANE,
M. ANTOINETTE KOENIG.