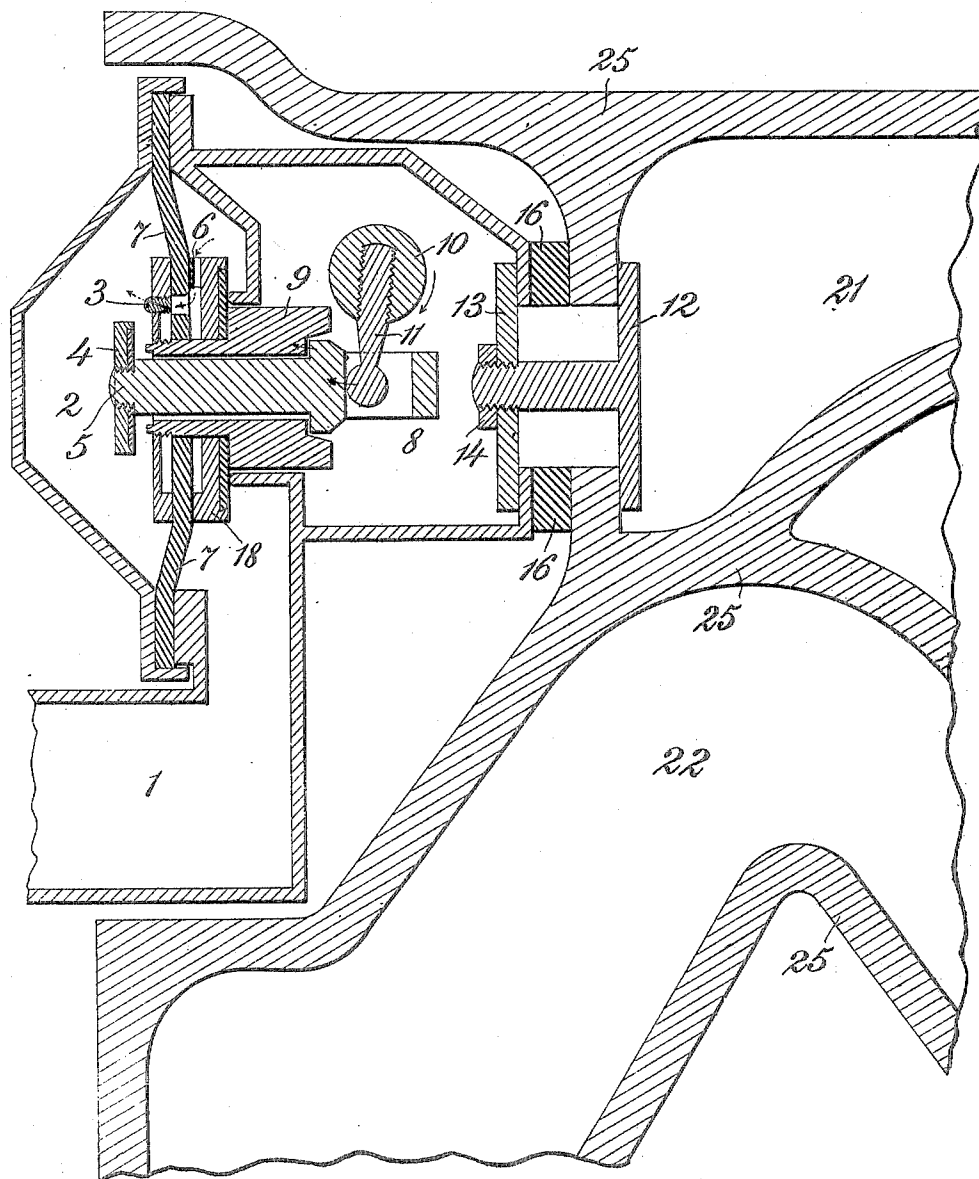


No. 804,650.

PATENTED NOV. 14, 1905.

R. E. CRANE.  
WATER CLOSET.

APPLICATION FILED NOV. 25, 1904.



Witnesses:

Louis H. Reiser  
Herbert G. Owen.

Inventor:

R. E. Crane.

# UNITED STATES PATENT OFFICE.

RAYMOND E. CRANE, OF MONTCLAIR, NEW JERSEY.

## WATER-CLOSET.

No. 804,650.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed November 25, 1904. Serial No. 234,214.

*To all whom it may concern:*

Be it known that I, RAYMOND E. CRANE, a citizen of the United States, residing at Montclair, county of Essex, and State of New Jersey, have invented a new and useful Improvement in Water-Closets, of which the following is a specification.

My invention relates to that style of water-closets where a valve is used to regulate the supply of water to the closet-bowl.

The objects sought after in my invention are to produce a water-closet combination which shall leave as little metal uncovered by earthenware as practicable, and thus a more sanitary closet; also, to produce a fixture which will appear slightly and which will rough in at figures which will be considered favorable. I attain these objects in the manner shown in the accompanying drawing, in which 25 represents the rear part of a common form of water-closet bowl with a recess of a shape which will accommodate a flushing-valve made with the design of being fitted to the said bowl.

12 and 13 are cross-bars by means of which the nut 14 clamps the valve-body to the closet-bowl with the gasket 16 to make a water-tight joint.

10 is the axle of a lever which projects to the outside of the bowl and is so arranged that the weight of the lever aids in closing the valve. Raising this lever opens first the relief-valve 4 and then the main valve 18 by means of the relief-valve stem 5 and the small lever 11. When the valve is opened in this manner, the water is flowing from the inlet-pipe 1, through the discharge-chamber of the valve, and out into the inlet portion of the bowl. From there it flows into the basin of the bowl and out through the trap 22 in the usual manner. In the closing movement the weight of the lever first closes the small relief-valve. The water-pressure on the right-hand side of the diaphragm 7 prevents the main valve from closing until the water has time to flow through the small opening 6 and through the regulating-screw, which is slitted in the usual manner to provide regulation means. When sufficient water has seeped through this passage to fill the chamber 2, the water-pressure is balanced on each side of the diaphragm and the weight of the lever will slowly close the main valve. This same application of combining the valve and bowl can

also be used in other kinds of closet-bowls than the kind shown. It can also be applied to urinals by placing the valve in place before the urinal is fastened to the wall.

I am aware that prior to my invention water-closets have been used in connection with flushing-valves and do not broadly claim such a combination; but

What I do claim as new, and desire to secure by Letters Patent, is the following:

1. The combination with a water-closet bowl having a recess in the rear of sufficient size to receive a flushing-valve mechanism, the supply-pipe leading to said recess, and an outlet from said recess to the flushing-chamber of the closet-bowl, of a flushing-valve mechanism located in said recess, substantially as described.

2. The combination with a water-closet bowl having a recess in the rear of sufficient size to receive a flushing-valve mechanism, the supply-pipe leading to said recess, and an outlet from said recess to the basin of the closet-bowl, of a flushing-valve mechanism in which the valve operates horizontally located in said recess, substantially as described.

3. The combination with a water-closet bowl having a recess in the rear vertical wall of sufficient size to receive a flushing-valve mechanism, the supply-pipe leading to said recess, and an outlet from said recess to the basin of the closet-bowl, of a flushing-valve mechanism located in said recess substantially as described.

4. The combination with a water-closet bowl having a recess in the rear vertical wall of sufficient size to receive a flushing-valve mechanism, the supply-pipe leading to said recess, and an outlet from said recess to the basin of the closet-bowl, of a flushing-valve mechanism comprising a diaphragm located in said recess, substantially as described.

5. The combination with a water-closet bowl having a recess in the rear of sufficient size to substantially accommodate a flushing-valve mechanism, the supply-pipe leading to said recess, and an outlet from said recess to the basin of the closet-bowl, of a flushing-valve mechanism located in said recess, substantially as described.

R. E. CRANE.

Witnesses:

CHARLES HUBBARD,  
LYMAN J. FISHER.