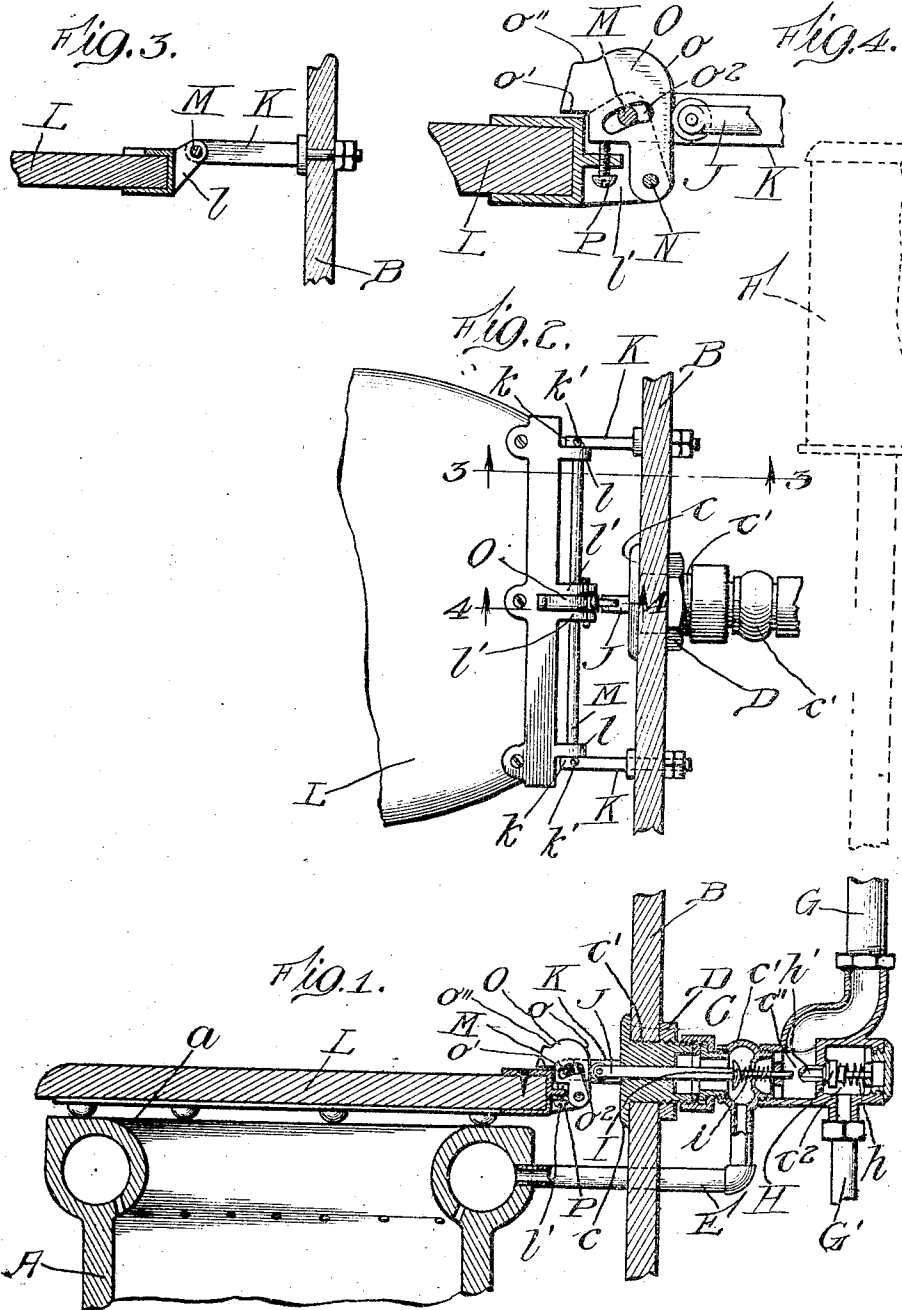


P. J. MADDEN.
WATER CLOSET.
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931,938.

Patented Aug. 24, 1909.



Witnesses:
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UNITED STATES PATENT OFFICE.

PATRICK J. MADDEN, OF CHICAGO, ILLINOIS.

WATER-CLOSET.

931,938.

Specification of Letters Patent. Patented Aug. 24, 1909.

Application filed May 28, 1908. Serial No. 319,104.

To all whom it may concern:

Be it known that I, PATRICK J. MADDEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Water-Closets, of which the following is a specification.

The invention consists in the features of novelty that are hereinafter described with reference to the drawing, which is made a part hereof and in which;

Figure 1 is a vertical section of the upper part of a water closet embodying the invention. Fig. 2 is a plan view of the rear portion thereof with the flushing tank omitted. Figs. 3 and 4 are vertical sections on the lines 3—3 and 4—4, respectively, Fig. 2.

A represents the bowl which may have a seat fashioned on its hollow rim as shown at a.

B is a wall or other fixed support located at the back of the bowl.

C is a valve device, which is securely fixed to the wall B by any suitable means.

As shown in the drawing, the wall has an opening through which one member of the composite branch *c'* of the casing of the valve device passes, said member having at its forward end a flange *c* which bears against the front side of the wall, and having its rear end threaded for the reception of a clamping nut D, so that by tightening the nut the wall is clamped between it and the flange *c*, and the valve device thereby firmly supported independently of the bowl. From the outlet opening of the branch *c'* of the casing a pipe E of any necessary shape or construction leads to the bowl so as to discharge thereinto.

In the valve device shown in the drawing a second branch *c''* of the casing is connected by a pipe G with a flushing tank F (shown by dotted lines) which is preferably air tight and a pipe G' leading from any suitable source of water supply communicates with a third branch *c''* of the casing. Communication between the branches *c''* and *c'* of the casing is controlled by a valve H which seats with the pressure in the branch *c'* and is held normally seated by a spring *h* while communication between the branches *c'* and *c''* is controlled by a valve I seating against the pressure in the branch *c''* and held normally unseated by a spring *i*. The valve I is carried by a stem J which projects through the end wall of the casing in posi-

tion to be engaged and operated and the rear end of the stem J is in position to engage the forward end of the stem *h'* of the valve H, so that the seating movement of the valve I is transmitted to the valve H for unseating it. The operation of this valve device is fully understood by those skilled in the art.

K is a pair of rigid supporting arms firmly secured to and supported by the wall B or other suitable supporting device which is wholly independent of the bowl. These arms form the direct support for the mechanism for operating the valve stem J, and here it may be observed that while the valve operating mechanism shown in the drawing and now to be described is preferred, still, in its broadest aspect the invention is not limited thereto. On the contrary the construction of the valve-operating mechanism is susceptible of modification without departing from the spirit of the invention. Its essential novel characteristics are that it is supported by means independent of the bowl and that it reacts in one direction against its supporting means and in the other direction against the valve stem of a valve device which also is supported independently of the bowl so that the bowl is wholly relieved of strains incident to operating the valve.

As shown in the drawing a part L, which may be regarded either as a seat of customary construction, or as a cover, but which is in mechanical effect a lever, is fulcrumed or hinged to the supports K. To this end it is provided with lugs *l* perforated for the passage of a shaft M which occupies eyes *k* in the ends of the arms K and is held in place by screws *k'*. The lever L (as it will hereinafter be called) is provided also with a pair of perforated lugs *l'* through which, also, the shaft M passes. These lugs *l'* are provided also with perforations for the passage of a fulcrum or pivot pin N which supports an eccentric cam O located in such position that it turns about the axis of movement of the lever and has a surface *o* which engages an anti-friction roller carried by the forward end of the valve stem J. The cam has a shoulder *o'* which is engaged by the lever L so that as the lever is moved about the shaft M as a fulcrum or axis, the cam surface *o* will force the valve stem inward, thereby seating the valve I and unseating the valve H. When the lever has reached the limit of its upward movement the anti-

friction roller carried by the stem J will have arrived at a depression o'' on the cam and thereby lock the cam in place as against the tendency of the valve stem J to return it to its normal position.

As shown in the drawing the shaft M passes also through an opening o^2 in the cam, the opening being elongated in order to permit a slight movement of the cam about its pivot pin N for adjusting it by means of a set screw P.

I do not claim, broadly, in this application, the general construction and arrangement of the parts, including the eccentric cam carried by the lever L and directly engaging the valve stem J for operating the said valve stem, this being a part of the subject matter of my application of even date herewith bearing Serial No. 319,102, the invention of the present application so far as this mechanism is concerned being limited to the shaft M passing through an elongated

slot in the cam and to the supports independent of the bowl for the lever.

What I claim as new and desire to secure by Letters Patent is:

In a device of the class described, the combination of a bowl, a valve device having a projecting valve stem, a lever, a shaft forming a fulcrum for the lever, a support for said shaft, an eccentric cam carried by the lever and engaging the valve stem, said cam being directly interposed between the lever and valve stem and so located that it turns about the axis of movement of the lever, and means for adjusting said cam about an axis at one side of the axis of movement of the lever, said cam having an elongated slot through which the shaft passes.

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Witnesses:

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