

E. G. WATROUS.
 OPERATING CONNECTION FOR WATER CLOSET VALVES.
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975,812.

Patented Nov. 15, 1910.

Fig. 1.

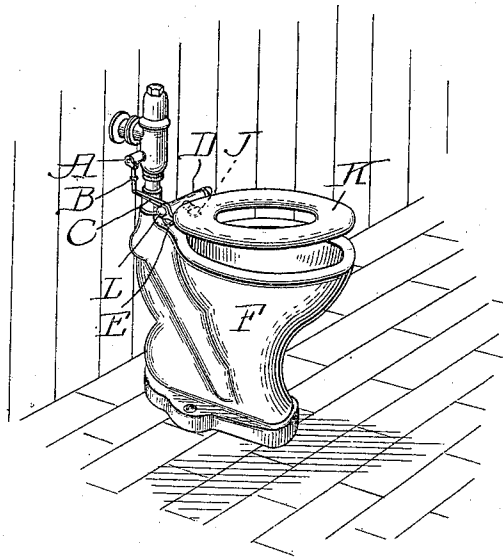


Fig. 2.

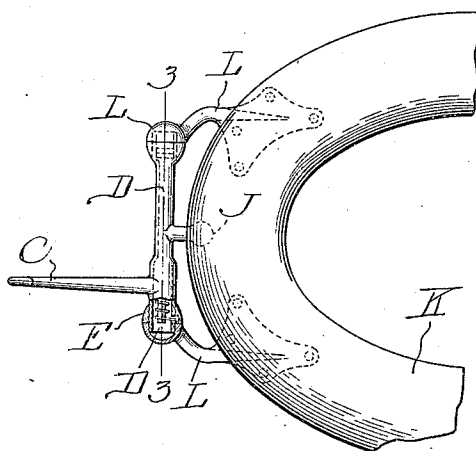
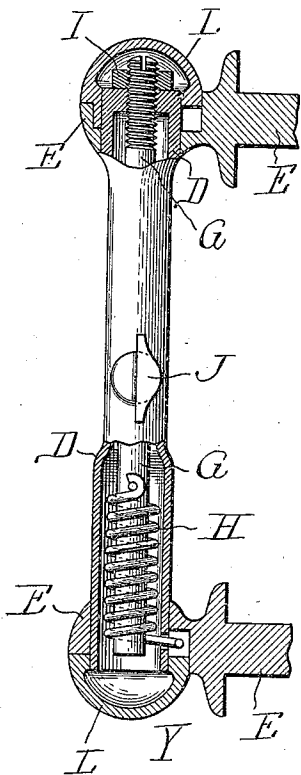


Fig. 3.



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UNITED STATES PATENT OFFICE.

EARL G. WATROUS, OF CHICAGO, ILLINOIS.

OPERATING CONNECTION FOR WATER-CLOSET VALVES.

975,812.

Specification of Letters Patent.

Patented Nov. 15, 1910.

Original application filed June 21, 1899, Serial No. 721,330. Divided and this application filed May 12, 1910. Serial No. 560,886.

To all whom it may concern:

Be it known that I, EARL G. WATROUS, a citizen of the United States, residing at Chicago, in the county of Cook, in the State of Illinois, have invented certain new and useful Improvements in Operating Connections for Water-Closet Valves, of which the following is a specification, reference being had to the accompanying drawings, forming part of this application, this application being a division of an original application filed on June 21, 1899, Serial No. 721,330, for improvement in water-closet valves.

My present invention has for its object the provision of a compact, simple, slightly and efficient connection for operating the valve mechanism of a flushing device for water closets through the depression of the seat of the closet, and consists in the novel construction and combinations of parts hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings Figure 1 is a perspective view of a closet provided with a valve arranged to be automatically operated by the seat; Fig. 2 a detail top plan of the rear portion of the seat and its hinges and coöperating devices; and Fig. 3 an enlarged sectional detail on the line 3—3 of Fig. 2.

In the particular embodiment of my invention illustrated in the drawings, I have shown my new operating connection for water closet valves applied to a slow-closing valve of the type shown and described in my pending application for patent filed June 21st, 1899, Serial Number 721,330, in which the valve is operated by the upward movement of a short arm A projecting from a rock shaft which is suitably connected with the parts inside the valve casing so that by such upward movement a traverse of the main valve is caused without an appreciable amount of water passing through the valve, the flushing operation occurring during the retarded closing movement of such main valve. The short arm A is connected by a depending adjustable link B with the rear end of an arm C, Fig. 2, formed upon and projecting rearwardly from a sleeve D, Figs. 1, 2 and 3, which sleeve has bearings at its opposite ends in vertical supports E secured at their lower ends in the closet F. Extending longitudi-

nally through the sleeve D is a rod G which is surrounded at one end by a coiled spring H connected at one end to the rod and at its opposite end projecting therefrom and confined in a recess in one of the supports E. At its opposite end the rod G is exteriorly threaded and extends through a threaded hole in the otherwise closed end of the sleeve D, and has screwed upon its outer end a lock nut I engaging the end of the sleeve D and by tightening which the rod G and sleeve are locked together. The rod G has a nick formed in its end for the reception of a screw-driver so that by loosening the lock-nut I the rod may be turned in one direction or the other to regulate the tension of the spring H.

As will be understood from the foregoing, the locking of the rod G and sleeve D together by means of the nut I causes the spring H, connected to the rod G to exert its force upon the sleeve D. The latter is provided near its middle with a forwardly projecting arm J, which extends under the rear edge of the seat K. The latter has secured to it hinges L provided at their rear ends with cup-shaped bearings fitting over the opposite ends of the sleeve D, by which the seat is supported and held in place. The spring H tends to turn the sleeve D in a direction to throw the arm J upward, its movement in such direction being limited by any suitable means, in the present instance by the limit of downward movement permitted the parts connected to the rear end of the arm C, Fig. 1. The seat K is free to be swung up and down independently of the other parts described, and in normal position rests upon the arm J and is held slightly elevated thereby as in Fig. 1. When entirely depressed upon the closet F it will rock the sleeve D and thereby throw the rear end of the arm C upward, thereby rocking the shaft F of the valve mechanism and operating the main valve as heretofore described. When the seat is released the spring H will return the parts toward normal position and permit the main valve to gradually close as heretofore described.

While my operating connection is illustrated and described as attached to a slow closing valve such as shown in my before mentioned application yet it will be understood that the arm C may be readily connected to flushing mechanism of other types.

I claim:

1. The combination of the closet F, the spring-pressed rocking sleeve D suitably supported thereon and provided with the forwardly projecting arm J, the hinged seat K resting upon the arm J, and a valve mechanism connected to and operated by the sleeve D, substantially as described.

2. The combination of the closet F, supports E, rocking-sleeve D mounted thereon and provided with the forwardly extending arm J and the rearwardly projecting arm C, a spring operative on the sleeve D to press the arm J upward, the hinged seat K resting upon the arm J, and a valve mechanism connected with the arm C so as to be operated by the seat K, substantially as described.

3. The combination of the closet F, supports E, sleeve D journaled therein, rod G extending through sleeve D and having a threaded engagement therewith at one end, the lock-nut I for locking the rod G to sleeve D, the spring H surrounding rod G and connected thereto at one end and at its opposite end to a fixed point, the seat K

having the hinges L hung at their rear ends upon the opposite ends of the sleeve D, the arm J projecting forward from the sleeve D beneath the seat K, and the arm C projecting rearwardly from said sleeve, and a valve mechanism having a connection with the arm C and automatically operated by the seat K, substantially as described.

4. The combination of the closet F, supports E, sleeve D journaled therein, rod G extending through sleeve D and having a threaded engagement therewith at one end, the lock nut I for locking the rod G to sleeve D, the spring H surrounding rod G and connected thereto at one end and at its opposite end to a fixed point, the seat K having hinges hung at their rear ends upon the opposite ends of the sleeve D and arranged upon its depression to rock said sleeve, and a valve mechanism connected to and operated by the sleeve D; substantially as described.

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