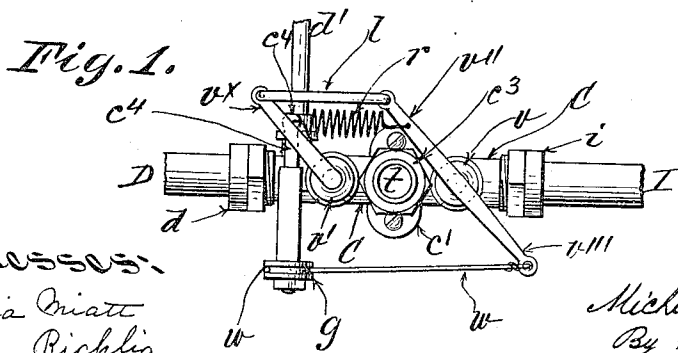
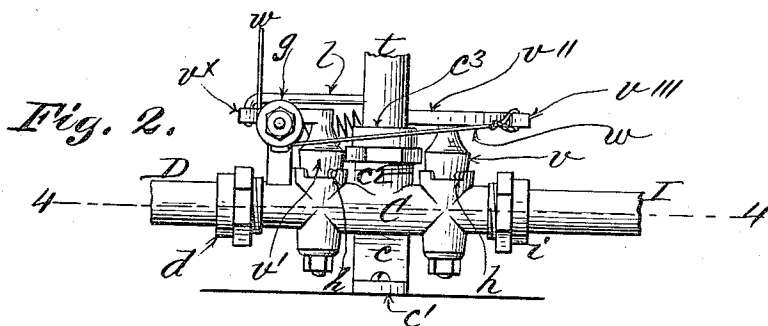
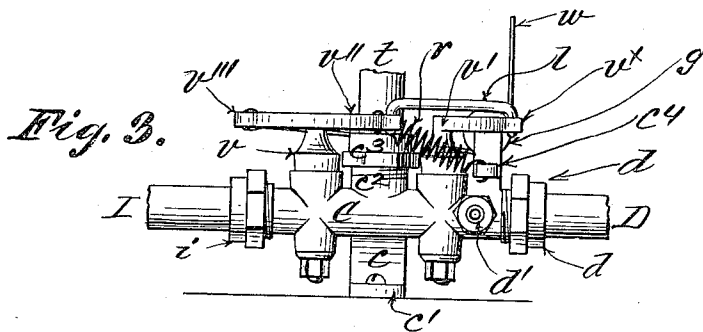
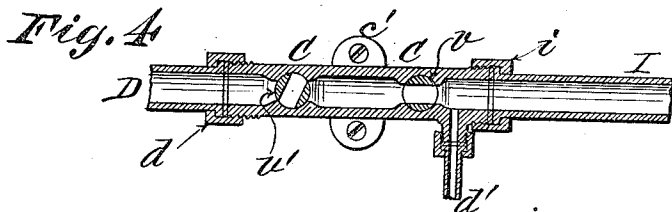


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Patented Aug. 5, 1913.

2 SHEETS—SHEET 1.



Witnesses:  
 Lillia Briatt  
 Wm. Richlia

Inventor:  
 Michael Marino  
 By his Attorney  
 Geo. W. Minto

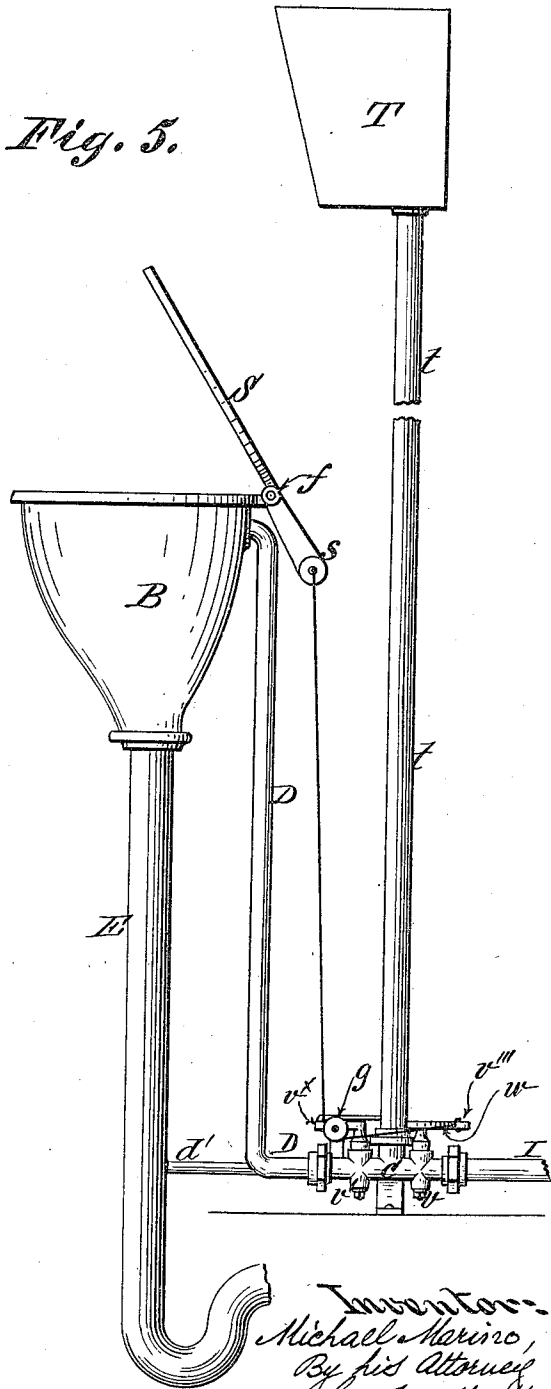
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2 SHEETS—SHEET 2.

*Fig. 5.*



*Witnesses:*  
*Lillia Oratt*  
*Wm. Richlia*

*Inventor:*  
*Michael Marino,*  
*By his Attorney*  
*Geo. W. Meigs*

# UNITED STATES PATENT OFFICE.

MICHAEL MARINO, OF NEW YORK, N. Y.

VALVE FOR WATER-CLOSETS.

1,069,559.

Specification of Letters Patent.

Patented Aug. 5, 1913.

Application filed August 3, 1912. Serial No. 713,065.

To all whom it may concern:

Be it known that I, MICHAEL MARINO, a citizen of the United States, residing in the borough of Brooklyn, city of New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Valves for Water-Closets, of which the following is a specification.

My invention relates to valves for effecting and controlling the flushing of water closets, and particularly to those actuated by the depression of the water closet seat.

The object is to avoid the use of complicated valves and apparatus, and to afford simple and cheap as well as effective and durable means for accomplishing the desired result; and the invention consists in the specific construction and arrangement of parts hereinafter set forth.

In the accompanying drawings; Figure 1, is a top view of duplex valve mechanism made in accordance with my invention; Fig. 2, a front elevation thereof; Fig. 3, a rear elevation thereof; Fig. 4, a central longitudinal section taken upon plane of line 4-4, Fig. 2, except that in this case the inlet valve is represented as open and the discharge valve as closed; Fig. 5, is a diagrammatic view illustrating the practical use of my duplex flushing valve.

C, represents a valve casing in which two conical plug cocks or valves  $v$ ,  $v'$ , are seated, said casing C, being formed with a central standard  $c$ , and base  $c'$ , for securing it in position. Intermediate as related to the valve seats, the casing C, is formed with a lateral branch  $c^2$ , threaded externally for engagement with a pipe coupling  $c^3$ , by which the tank pipe  $t$ , is connected with the passage between the valves  $c$ ,  $c'$ ,—said pipe opening into the bottom of the sealed tank T, and constituting essentially a stand pipe.

I, is the inlet or supply pipe connected to one end of the casing C, by the pipe coupling  $i$ ; and D, the discharge or flush pipe connected to the other end of the casing C, by the coupling  $d$ , and communicating with the upper part of the closet basin B.

The conical valve plug  $v$ , which controls the inlet is provided with a lever arm  $v''$ , and the conical valve plug  $v'$ , which controls the discharge is provided with a lever arm  $v^*$ ,—these two lever arms being pivotally connected by means of a link  $l$ . The valve plugs  $v$ , and  $v'$ , are so timed with relation to each other that one is open when

the other is closed, and they are held in their normal positions with the inlet valve  $v$ , closed and the discharge valve  $v'$ , open, by retractile means, such for instance as a spring  $r$ , interposed between the lever arm  $c''$ , and a stud or post  $c^4$ , on the casing C. The lever arm  $v''$ , of the inlet valve  $v$ , is formed with an extension  $v^{111}$ , on the other side of the valve plug constituting the operating arm, and this operating arm  $v^{111}$ , is connected by a wire  $w$ , or other flexible means, with a rear extension  $s$ , of the water closet seat S,—one or more guiding pulleys  $g$ , being used to direct and hold the flexible connection  $w$ , taut. The rear extension  $s$ , of the seat S, constitutes the short arm of the lever of which the seat is the long arm,  $f$ , being the fulcrum, and the short arm or extension  $s$ , being made sufficiently heavy to act as a counterweight to the seat S, so that when the latter is not forcibly depressed the seat is held normally open by said counterweighted short arm or extension  $s$ , as shown in Fig. 5.

When the seat is depressed the flexible connection  $w$ , acting on the operating arm  $v^{111}$ , of the inlet valve plug against the resistance of the retractile spring  $r$ , opens the inlet valve  $v$ , and closes the discharge valve  $v'$ . As a result the water flows upward through the pipe  $t$ , to the sealed tank T, in a manner well known in the art, affording a suitable supply for the flushing of the closet bowl B, when the seat S, is released. As the seat resumes its normal, raised, position, owing to the action of the counterweight  $s$ , the retractile means  $r$ , returns the valve arms  $v''$ , and  $v^*$ , to their normal positions, closing the inlet valve  $v$ , and opening the discharge valve  $v'$ , under which condition the water flows from the tank T, through the stand pipe  $t$ , valve  $v'$ , and flush pipe D, into the bowl B, from which it passes to the waste pipe E,—the stand pipe  $t$ , valve casing C, and flush pipe D, being finally drained after the flush by a drain conduit  $d'$ , interposed between the casing C, and the waste pipe E, as is customary in similar cases.

The usual stops  $h$ , (Fig. 2) on the valve plugs  $v$ ,  $v'$ , contacting with shoulders on the casing, limit the motion of the said valves in either direction.

By my construction and arrangement of parts complicated valve mechanism and washers are dispensed with, and cheap, sim-

ple and durable parts substituted which are not liable to get out of order or need repair,—the retractile spring being the only part needing renewal until the valve plugs  
5 are actually worn out by long service. Furthermore the operation is comparatively easy because there is but slight resistance to be overcome; and the parts are all “outside” and conveniently accessible.

10 What I claim as my invention and desire to secure by Letters Patent is,

A valve casing, a plurality of rotatable valves mounted in said casing in alinement with each other and intermediate the inlet  
15 and outlet to said casing, a connection for a tank, said connection being interposed between said valves, an arm connected with one of said valves, an operating arm connected with the other valve and extending  
20 in opposite directions from its connection

with the valve in a straight line and substantially parallel with the first-named arm, a link connecting the adjacent ends of said arms, a spring connected at one end to the operating valve arm between its connection  
25 with the valve and the link and extended parallel with the casing and having its other end attached adjacent the end of the casing opposite the valve to which the operating  
30 arm is connected, and a flexible ligament connected with the other end of said operating arm for connection with an operating device and extending substantially parallel  
35 with said link and a support exterior of and supported by the casing and carrying a support for said ligament.

MICHAEL MARINO.

Witnesses:

GEO. WM. MIATT,  
LILLIA MIATT.

Copies of this patent may be obtained for five cents each, by addressing the “Commissioner of Patents, Washington, D. C.”