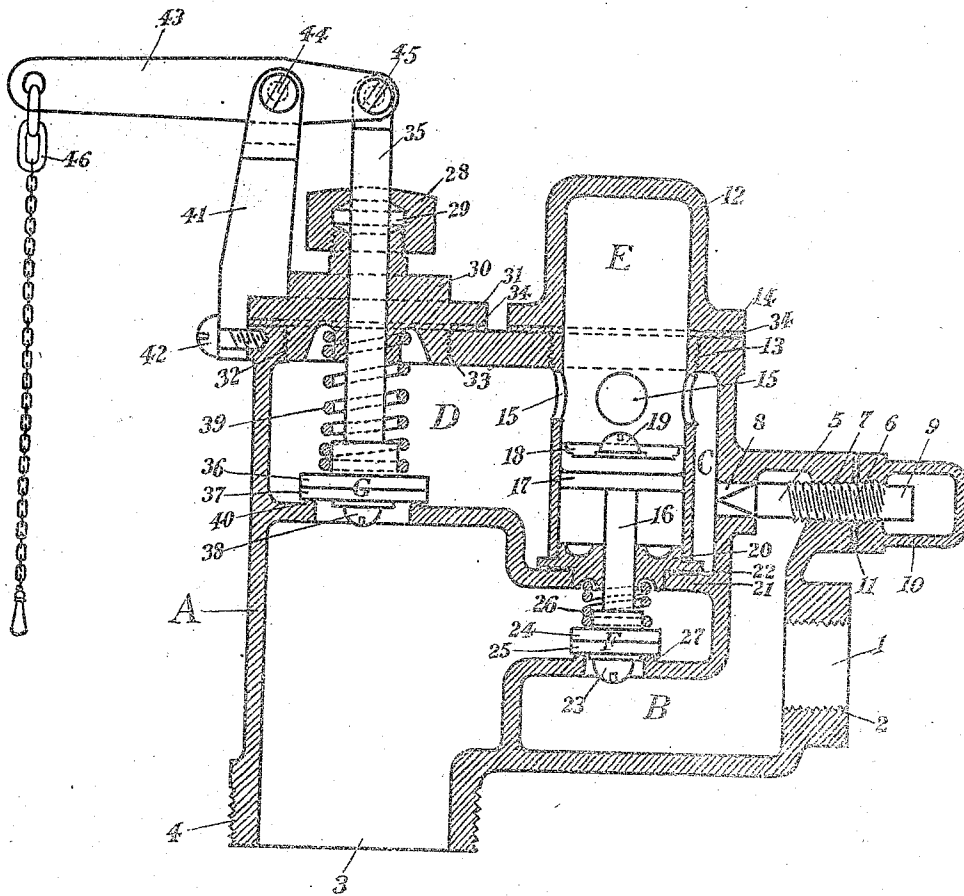


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PATENTED JUNE 25, 1907.

C. A. PARKS.
FLUSHING VALVE.
APPLICATION FILED JAN. 7, 1907.



Witnesses

John F. Schulz
E. Walton Brewington.

Charles A. Parks, Inventor

Henry J. Brewington,
his

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Attorney

UNITED STATES PATENT OFFICE.

CHARLES A. PARKS, OF BALTIMORE, MARYLAND.

FLUSHING-VALVE.

No. 857,896.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES A. PARKS, a citizen of the United States, residing at Baltimore city, and State of Maryland, have invented certain new and useful Improvements in Flushing-Valves, of which the following is a specification.

My invention relates to an improvement in flushing valves as pertaining to closets and the like, the object being to dispense with the tank which usually forms a part of an apparatus of this character, and, at the same time, I have provided a device in which the body of water used in flushing the closet can be regulated to such an extent and in such a manner that a single device can be used to supply a series of closets as effectively as applied to a single closet.

In the construction of my device the durability, cost of manufacture, as well as the effectiveness of purpose, have not been lost sight of, and with these objects in view my invention consists in certain other new and novel features of construction and combinations of parts, which will be hereinafter described and pointed out in the claims.

I do hereby declare the following to be a full, clear and exact description of the device, as invented by me, such as will enable others skilled in the art, to which it appertains to make and use the same.

The accompanying drawing shows a vertical sectional view of my invention.

A is a cast body portion; B, C, D and E are reservoir chambers within the casting; 1 is the inlet, inwardly threaded at 2; 3 is the outlet exteriorly threaded at 4; 5 is a tapered needle valve stem threaded at 6, and adapted to screw within the threaded bored portion 7, with the tapered point within the opening 8, the exterior end 9 of the stem is made square or hexagon for the purpose of being engaged by a wrench or other suitable tool, whereby the needle valve is regulated; 10 is a packing cap, and 11 is a packing; 12 is a cylinder, threaded at 13, and provided with a shoulder 14; within the cylinder are provided the circular openings 15; 16 is a valve stem; 17 is a stem disk; 18 is a leather cup washer secured on the upper end of the valve stem 16 by means of the screw 19; 20 is a collar fitted around the valve stem and seated upon the shoulder 21; between the shoulder 21 and the collar is a packing 22;

secured on the lower end of the valve stem 16, 55 by means of the screw 23, is a valve disk 24 and a fiber washer 25; around the lower end portion of the valve stem 16 between the collar 20 and the valve disk 24 is secured a spiral spring 26, adapted to seat the valve so 60 formed, which we will designate F, on the valve seat 27, under the conditions to be hereinafter explained; 28 is a packing nut into which is secured any suitable packing (not shown) at 29; 30 is a bonnet provided 65 with a shoulder 31, threaded at 32, and adapted to be screwed within a bored opening in the top of the casting A, which is threaded at 33; between the shoulder 31 of the bonnet 30 and the casting A, is placed a 70 packing 34; in a similar manner is the cylinder 12 secured within the opposite side of the casting A, and provided with a similar packing 34, between the shoulder 14 of the cylinder 12 and the casting A; 35 is a valve stem, 75 36 is a valve disk, 37 a fiber disk secured on the lower end of the valve stem 35, by means of the screw 38; secured around the lower end portion of the valve stem 35 and 80 between the bonnet 30 and the valve disk 36 is secured a spiral spring 39 adapted to seat the valve G so formed on the valve seat 40 in the manner to be hereinafter explained; 41 is a vertical arm secured to the casting A by means of the screw 42; 43 is a cross arm 85 pivotally secured on the end of the vertical arm 41 near its end portion at 44, and is similarly secured to the upper end of the valve stem 35 on the end thereof at 45; within the free end of the arm 43 is secured a chain 46 or 90 other suitable means whereby the valve stem 35 is made to reciprocate thereby operating the device in a manner now about to be explained:

My device is operated as follows, water under 95 pressure enters through the opening 1 into the chamber B, the needle valve is adjusted to permit the water to flow into chamber C, thence through the openings 15 in the cylinder it flows into chamber D; by reason 100 of the pressure on the water after chamber D becomes filled the chamber E also becomes filled. By reason of the pressure of the water within the chambers and the spring pressure around the valve stems the respective 105 valves G and F are firmly closed on their respective valve seats; by pulling the chain 46, attached to the end of the lever 43 the valve

stem 35 within the chamber D is raised, thereby lifting the valve G from its seat permitting the water within chamber D to pass out through the outlet 3; the releasing of this pressure also allows the water in the chambers C and E to flow into chamber D and likewise pass therefrom, through the outlet 3; when the pressure is released the pressure of the water in chamber B is such as to raise the valve F and cause the water to flow directly into and out of the outlet 3. The water will continue to flow in this direction and channel until the pressure is again restored, which is accomplished in the following manner: When the chain 46 is released the valve G by reason of the spring pressure will close; the spring on the valve F while not being made strong enough to automatically close the valve F against the pressure, is, however, of sufficient strength to gradually close the valve by reason of the pressure within the chamber B, being lessened by reason of the needle valve, which, of course, must be regulated according to the outside pressure and which relieves the pressure within the chamber B, by permitting the water to flow within chambers C, D and E, until they become filled gradually increasing the pressure on the valves, thereby gradually overcoming the pressure in chamber B, assisted by the springs within the valves thereby closing the valves and shutting off the flow of water until the chain is again pulled when the same action just described will be repeated.

As explanatory of the terms used in the following claims, I desire to call attention to the fact that the portion of the interior of the casing between needle inlet port 8 and valve port 40 constitutes a reservoir passageway, and that the chamber B may be looked upon as the flushing passageway.

In further explanation of the operation of my device, I wish also call attention to the fact that the opening in shoulder 21, which constitutes part of the bottom wall of the reservoir passageway, is proportioned to permit the insertion and removal therethrough of the valve head F. The collar 20 is an embodiment of a member for receiving and guiding the valve stem 16; and I regard the clamping of this collar against the wall of the passageway, so as to close the opening therein, by means of the threaded cylinder E as of distinct novelty and material importance.

Slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit

and scope of my invention, hence I do not wish to limit myself to the exact construction as herein set forth, but,

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

1. In a flush valve, the combination with a casing having an inlet and an outlet, a reservoir passageway communicating by a valve port with said outlet and by restricted opening with said inlet, and a flushing passageway communicating with the inlet and by a valve port with the outlet, of a manually operated valve normally closing the valve port of the reservoir passageway, a reciprocating valve member comprising a valve head normally closing the valve port of the flushing passageway, a stem passing through an opening in the wall of the reservoir passageway, said opening being proportioned to permit the passage therethrough of said valve head, and a piston on the stem within the reservoir passageway within which said piston is received and guided, and a collar loosely but closely encircling said valve stem and closing the opening in the wall of the reservoir passageway.

2. In a flush valve, the combination with a casing having an inlet and an outlet, a reservoir passageway communicating by a valve port with said outlet and by restricted opening with said inlet, and a flushing passageway communicating with the inlet and by a valve port with the outlet, of a manually operated valve normally closing the valve port of the reservoir passageway, a reciprocating valve member comprising a valve head normally closing the valve port of the flushing passageway, a stem passing through an opening in the wall of the reservoir passageway, said opening being proportioned to permit the passage therethrough of said valve head, and a piston on the stem within the reservoir passageway, a cylinder screw threaded through a wall of the reservoir passageway and receiving and guiding said piston, and a collar loosely but closely encircling said valve stem and closing the opening in the wall of the reservoir passageway, being clamped between said wall and the inner end of the cylinder.

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

CHARLES A. PARKS.

Witnesses:

E. WALTON BREWINGTON,
BROWN M. ALLEN.