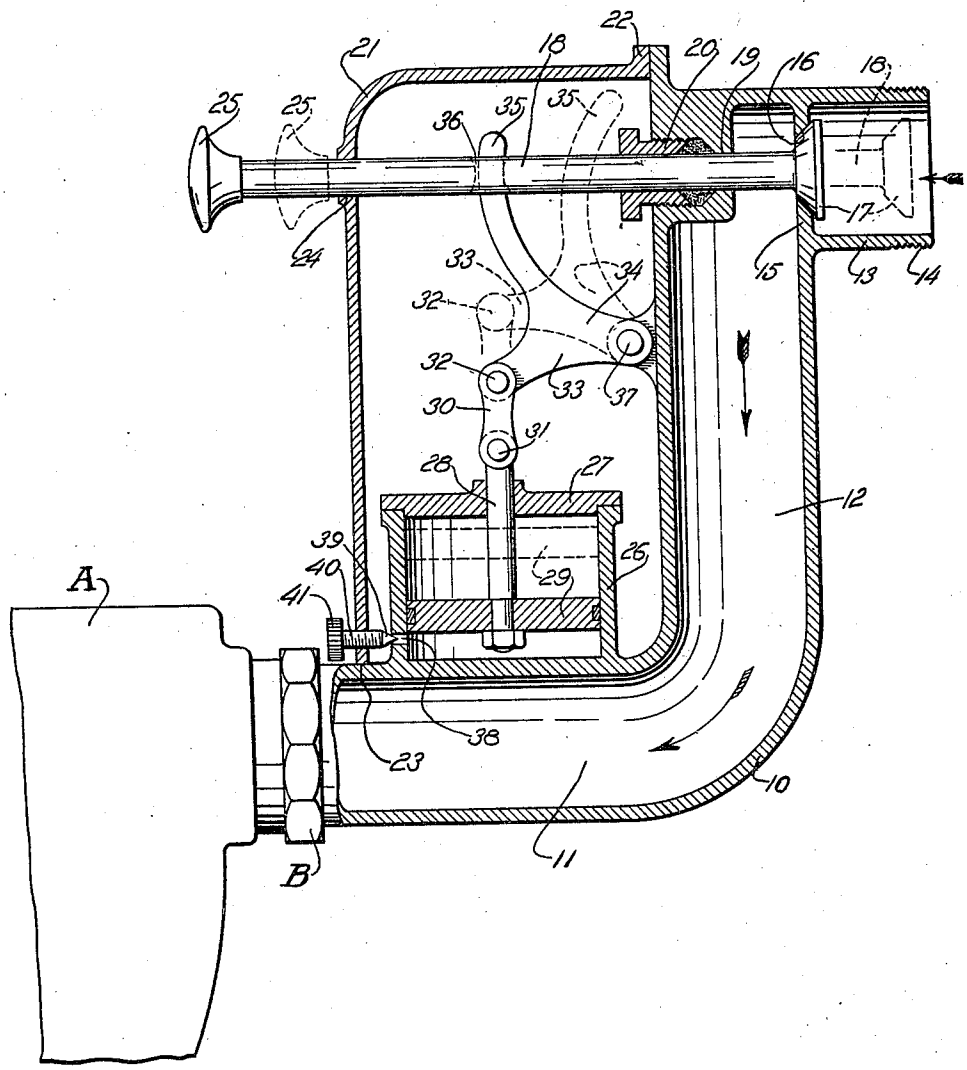
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S. A. BERG

FLUSHOMETER

Filed June 4, 1921



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UNITED STATES PATENT OFFICE.

STEEN A. BERG, OF BRIDGEPORT, CONNECTICUT.

FLUSHOMETER.

Application filed June 4, 1921. Serial No. 475,046.

To all whom it may concern:

Be it known that STEEN A. BERG, a citizen of the United States, and resident of Bridgeport, in the county of Fairfield and State of Connecticut, has invented certain new and useful Improvements in Flushometers, of which the following is a specification.

The object of this invention is to provide a novel and improved flushometer which will be extremely simple in construction and cheap to manufacture, and will be dependable and efficient in operation.

With the above and other objects in view, the construction, arrangement and combination of parts which constitutes the invention will now be fully described and will hereinafter be specifically claimed.

The figure of the accompanying drawing forming a part of this specification is a sectional view of mechanism constituting the flushometer.

Referring to the drawing, A represents a bowl of ordinary or preferred construction which has connection, as denoted at B, with a fitting 10 the lower portion 11 of which is preferably horizontally arranged and the upper portion 12 of which is preferably vertically arranged.

The upper portion 12 of the fitting 10 merges into a preferably horizontally arranged cylindrical valve casing 13 having a threaded end 14 adapted to be secured to a water supply system (not shown).

The wall 15 between the portion 12 and the valve casing of the fitting has an opening providing a valve seat 16 for a valve 17 arranged in the casing 13 and carried by a stem 18 slidably mounted as indicated at 19 in the portion 12 of the fitting near the upper end thereof and extending forwardly of said portion 12 to be parallel with the portion 11. Numeral 20 denotes a stuffing box for rendering the portion 12 of the fitting watertight, as will be understood.

21 is a hood removably secured upon the fitting in any preferred manner to cover and protect mechanism of the flushometer presently to be described, 22 denoting the upper, rearward extremity of said hood engaging the upper extremity of the portion 12 and 23 denoting the lower forward extremity thereof resting upon the portion 11 and located closely adjacent the connection B.

The hood 21 is provided wiith an opening 24 to slidably receive the stem 18, and said stem has thereon and arranged without the hood an ordinary handle 25.

A piston cylinder 26, preferably integral with the fitting 10, is mounted upon the portion 11 to be located beneath the hood 21, 27 denoting the cover plate of said cylinder 26 slidably receiving a plunger rod 28 having a piston-head 29 fixed upon its lower end and reciprocatable in the piston cylinder.

A link 30, pivoted upon the upper end of the rod 28 as at 31, is pivoted as at 32 to the short arm 33 of a lever 34 the long arm 35 of which is freely positioned in a horizontal slot 36 through the stem 18, said lever being itself pivoted, as at 37, upon the portion 12 of the fitting.

The wall of the piston cylinder is ported as at 38, said port being located closely adjacent the bottom of said cylinder and being preferably arranged upon the front side thereof. A needle valve 39 the stem 40 of which is threadably received in the lower extremity of the hood 21 is for the purpose of regulating the port 38, the preferably knurled head 41 of said needle valve projecting outside of said hood.

The manner in which the flushometer functions is apparent. When the bowl A is to be flushed, the handle 25 is pressed from the full line position in the drawing to the dotted line position therein, removing the valve 17 from its seat and to the dotted line position shown, and swinging the lever 34 upwardly on its pivot to move the piston-head to the upper end of the piston cylinder. The pressure of the water, which will now flow in the direction denoted by the arrows, will push the valve 17 back against its seat 16, the return movement of said valve being impeded by the cushion of air trapped in the piston cylinder and beneath the piston-head. It is obvious that any desired adjustment of the needle valve 39 can be made to impede the return movement of the valve 17 to any preferred extent. The needle valve can, in fact, be made to completely close the port 38 to hold the valve 17 away from its seat for an indefinite period.

Particular attention is called to the fact that while all of the mechanism of the flushometer is concealed and protected, only the valve 17 and a small portion of its stem come into contact with the water of the system in which the device is installed, the piston-head and its associated parts being protected from water. The head of the needle

valve is conveniently accessible for adjustments, and the hood can be readily removed should repairs of the mechanism be required. The flushometer can as a unit be easily installed.

Having thus fully described the invention, what I claim and desire to secure by Letters Patent is:

1. A flushometer comprising a fitting, a valve casing therein, a valve stem slidable in the fitting and carrying a valve, a piston chamber associated with the fitting, a piston-head in said chamber, and an operative connection between said valve stem and piston-head, the connection including a plunger rod secured to the piston head, and a lever secured to the plunger and slidably engaging said valve stem.

2. A flushometer comprising a one-piece fitting including a valve casing, a valve within said casing, a valve stem slidably mounted in said fitting and carrying said valve, a piston chamber associated with said fitting, a piston-head therein, and a connection between said valve stem and piston-head, said connection consisting of a plunger rod secured to the piston head, a link pivoted to the plunger rod, and a lever pivotally supported upon the fitting, the lever having pivotal engagement with the link and slidable engagement with the valve stem.

3. A flushometer comprising a one-piece fitting including a valve casing, a valve within said casing, a valve stem slidably mounted in said fitting and by which said valve is carried, a piston chamber upon said fitting, a piston-head therein, a connection between said valve stem and piston-head, and a hood enclosing said piston chamber and connection.

4. A flushometer comprising a one-piece fitting including a valve casing, a valve within said casing, a valve stem slidably mounted in said fitting and by which said valve is carried, a ported piston chamber upon said fitting, a piston-head therein and above the port thereof, a connection between said valve stem and piston head, a hood detachably supported upon said fitting to enclose said piston chamber and connection, said hood slidably supporting said valve stem, and a needle valve adjustable in said hood to control the port of said piston chamber.

Signed at Bridgeport, in the county of Fairfield, and State of Connecticut this 31st day of May, A. D., 1921.

STEEN A. BERG.