A. E. JENNINGS.

Valve for Water-Closets, &c.

No. 212,704. Patented Feb. 25, 1879.

Fig. 1

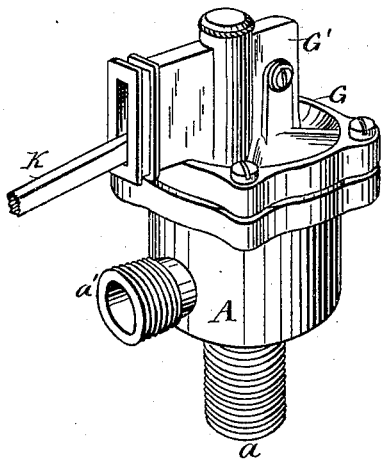
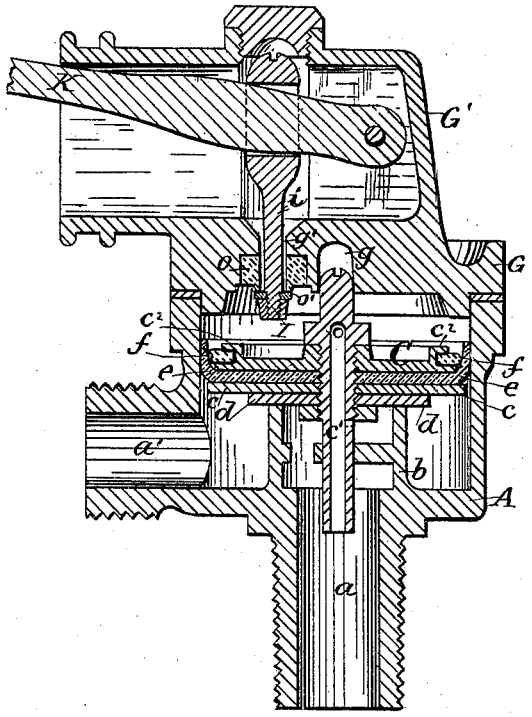


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

ALFRED E. JENNINGS, OF LONDON, GREAT BRITAIN, ASSIGNOR TO ANDREW G. MYERS, OF NEW YORK, N. Y.

IMPROVEMENT IN VALVES FOR WATER-CLOSETS, &c.

Specification forming part of Letters Patent No. **212,704**, dated February 25, 1879; application filed November 16, 1878.

To all whom it may concern:

Be it known that I, ALFRED E. JENNINGS, of London, in the Kingdom of Great Britain, have invented certain new and useful Improvements in Valves for Water-Closets and like Devices, of which the following is a specification:

Figure 1 is a perspective view of the valve. Fig. 2 is a vertical central section of Fig. 1.

The present invention belongs to that class of valves which are in use in water-closets; and the special novelty relates more particularly to particular construction whereby trouble by the wearing of the packing is considerably lessened, and damage of the packing by reason of non-use is very largely diminished, all as will now be more in detail set out and explained.

In the drawings, A denotes the main body of the valve, which has the usual inlet *a* and outlet *a'*. Over the inlet *a* is the cylindrical raised seat *b*, which has about midway of its height the bridge *b'* extending across it, in the central hole in which the spindle c^1 of the plunger or valve-piston C fits. This valve-piston C is composed of a lower metal plate, *c*, fitted on the screw-thread of c^1, and a top metal plate, c^2, also fitted on the screw-thread of c^1. At the under side of the valve is a leather washer, *d*, and between plates *c* and c^2 is a leather cap-washer, *e*. The washer *d* fits over the top of seat *b*, and the cap-washer *e* is large enough to form a tight packing for the valve-piston inside of the main body of the valve. The outer edge of the top plate, c^2, is bent or recessed, so as to afford a seat for a packing-ring, *f*, which is designed to re-enforce the operation of the cap-washer *e*.

The upper end of spindle c^1 is adapted to and moves up and down in the hole or indentation *g* on the under face of the valve-top G. This top is fastened to and upon the main body of the valve by screws, or in any ordinary way. There may be packing between the two parts. In an opening, *g'*, in this top the rod *i*, which moves the small valve I, is operated by means of lever K, which is pivoted in the upper portion, G', of the cap. The seat for the end of the small valve I on the under side of cap G is made by the lead *g*, which is put into a countersink about the lower end of opening *g'*. The end of this valve is made, in any usual way, of metal and leather, and is made to fit tight on the raised lead ring *o'* at the mouth of *g'*.

The stem of the spindle c^1 of the valve-piston is hollow from its lower end to a point above the upper metal plate, where, by an opening, communication is made between the under and upper side of the valve-piston, thus equalizing the pressure of the water above and below the valve, which serves to hold it firm and close upon and over the top of seat *b*, as is now represented in the drawings.

When it is desired to raise the valve, the lever K is depressed, which moves down the small valve I from the mouth of the opening or passage *g'*, and affords an escape for the water from the chamber above valve C, through *g'*, and thus, the pressure being removed from above C, the force of the water in the inlet *a* below will raise said valve from its seat and give a passage for the water to the outlet *a'*. By a reverse movement of the small valve I, the opening *g'* will be closed, and then the water will fill the chamber or space above C, and thus the said valve C will be brought down upon its seat.

By means of the bridge *b'* in the seat *b* below the valve-piston and the hole or indentation *g* in the under side of cap G, the movements of the valve-piston will be exactly straight and without inclination to either side. Also, by the construction of the valve-piston or plunger C, as above described and explained, the valve is almost certain to be kept in usable and perfect working order, even though no water passes through or stands in it, as when kept in the plumber's shop, or when the closet is not supplied with water, since the edges of the capped washer, even if dry or shrunk, are always pressed out snug and firm against the inside of the valve by means of the rubber band. The lead piece *o* at the mouth of opening *g'* in the cap G, with its raised rim *o'*, and in connection with small internal valve, I, gives a detail of construction that is very durable and lasting.

Heretofore there has been constant complaint from the wear and tear where brass and

rubber or brass and leather were used in like positions as are now mentioned; but my combination, in manner and form substantially as shown, of lead or non-corrosive seating, with the packed head of this small valve, in a very large degree overcomes and obviates all the trouble and objection.

Having thus described my invention, what I consider new, and desire to secure by Letters Patent, is—

1. The plunger or valve-piston C, composed of metal plate c c^2, cap-washer e, washer d, elastic band f, and spindle c^1, combined with valve-body A, substantially in the manner and for the purposes set forth.

2. In combination with valve A, having cap G, with upper part, G′, and lever K, the valve-plunger C, as described, and small valve I, substantially as set forth.

3. In a valve, substantially as described, the cap G, having the opening g' and lead packing o o', combined with small valve I, substantially as shown and described.

4. In a valve, as described, the cap G, having indentation g and opening g', with lead seat o o', and upper part, G′, with lever K, combined with small interior valve, I, and spindle c^1 of plunger C, substantially as shown and described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ALFRED E. JENNINGS.

Witnesses:
ORIENT H. COLLIN,
JOHN G. MELLEN.