W. Johnson,

Hydrant.

No. 85,309. Patented Dec. 29, 1868.

Fig. 1

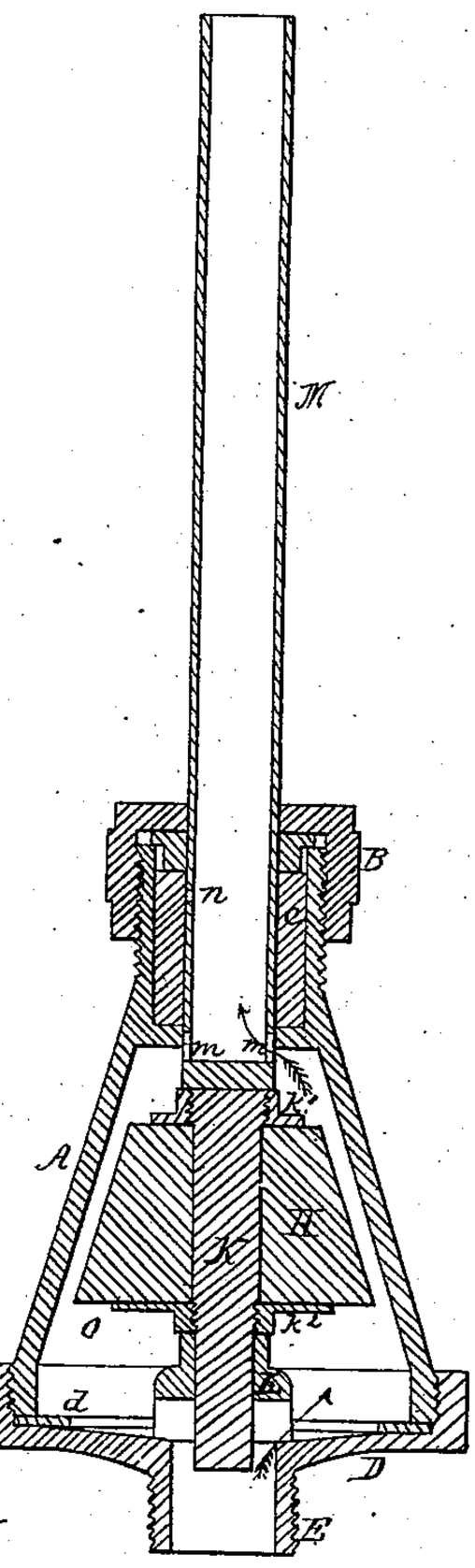
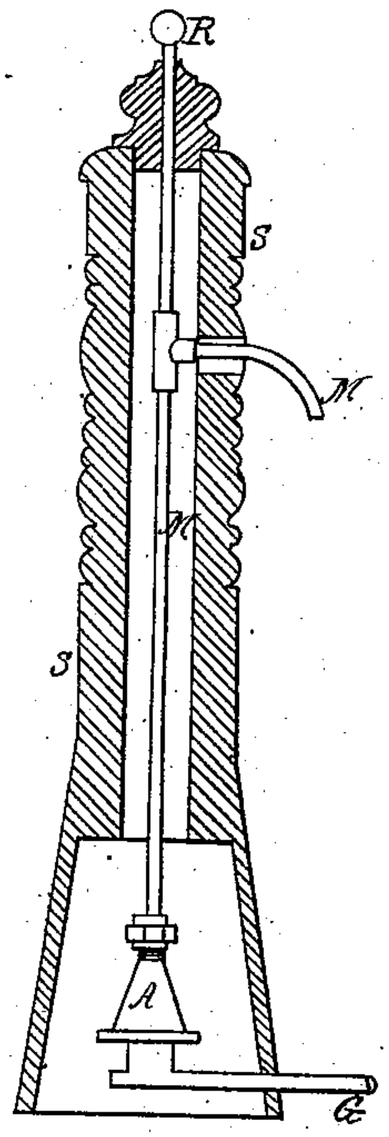


Fig. 2



Witnesses:
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WILLIAM JOHNSON, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 85,309, *dated December* 29, 1868.

IMPROVEMENT IN COCKS FOR WATER-PIPES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM JOHNSON, of Philadelphia, State of Pennsylvania, have invented a new Cock for Water-Pipes; and I do hereby declare the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in constructing the valve of thick India rubber, having a tapering surface bearing against the interior of the cock; and also in passing the water through the interior of the stem which operates the valve; and also in the provision made for the escape of water.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 is a section through the cock.

Figure 2 shows the adaptation of the cock to a hydrant.

A is the main body of the cock, with tapering sides.

The smaller end terminates in a screw, covered by a nut, B, which encloses a stuffing-box, C.

To the other end is screwed the cap D, having on it the screw E, by which it is attached to the water-pipe G. (See fig. 2.)

This cap D forms, with the body A, a taper box, in which works the rubber valve H.

This valve is of India rubber, from one to one and a quarter inch thick. The sides of it are bevelled, to fit the interior of the body A.

Through this valve H passes the short spindle K, and by nuts, K^1 K^2, the rubber is secured in its place.

The lower end of spindle K slides in a guide, L, cast upon the cap D.

A ring, of leather, *d*, serves to make a tight joint.

M is the hollow stem, passing through the stuffing-box C, and abutting against the end of spindle K.

There are two holes, *m*, close at the lower end of the stem, for the passage of the water from the chamber O to the interior of the stem M.

A small hole, *n*, answers as a self-acting valve, for the discharge of water which may remain in the stem M after the valve is closed.

The operation of the valve is in this manner: The water enters at E, and its pressure against the rubber valve H keeps it closed against the taper body A, at which time the inlet-holes *m* are up in the packing-box C, and the waste-hole *n* is above the packing.

To draw water, the stem M must be depressed, so as to force the valve H away from the body A. The holes *m* will then be below the packing-box C, and the water will pass the valve H, and through the holes *m* up the stem M. When the pressure on the stem M is released, or it is drawn up, the valve H resumes its former position, closing the exit of water.

By making the valve H of such deep conical sides, it insures a tight valve, and a very durable one.

When the valve is closed, the hole *n* is above the packing C, and consequently the water remaining in the stem M will be discharged.

Fig. 2 shows the application of the cock to a hydrant.

G is the water-pipe from the main.

A, the cock.

M, the stem, passing out with a goose-neck, from which the water is drawn for domestic purposes.

The stem terminates with a rod, R, and ball, by which the stem is depressed, or the goose-neck might curl over the top of the pillar S, and be operated by the hand at once; or a lever might be used for depressing the stem.

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

1. The hydrant-water-cock, made by the thick conical rubber valve H upon the sliding stem K, the said valve bearing against the interior of the conical body A, and being operated by the hollow stem M, through which the water passes, the parts being combined in the manner substantially as set forth.

2. The combination of the bottom cap D, body A, conical valve H, hollow stem M, and stuffing-box B, arranged in relation to each other, substantially as shown and described.

WILLIAM JOHNSON.

Witnesses:

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