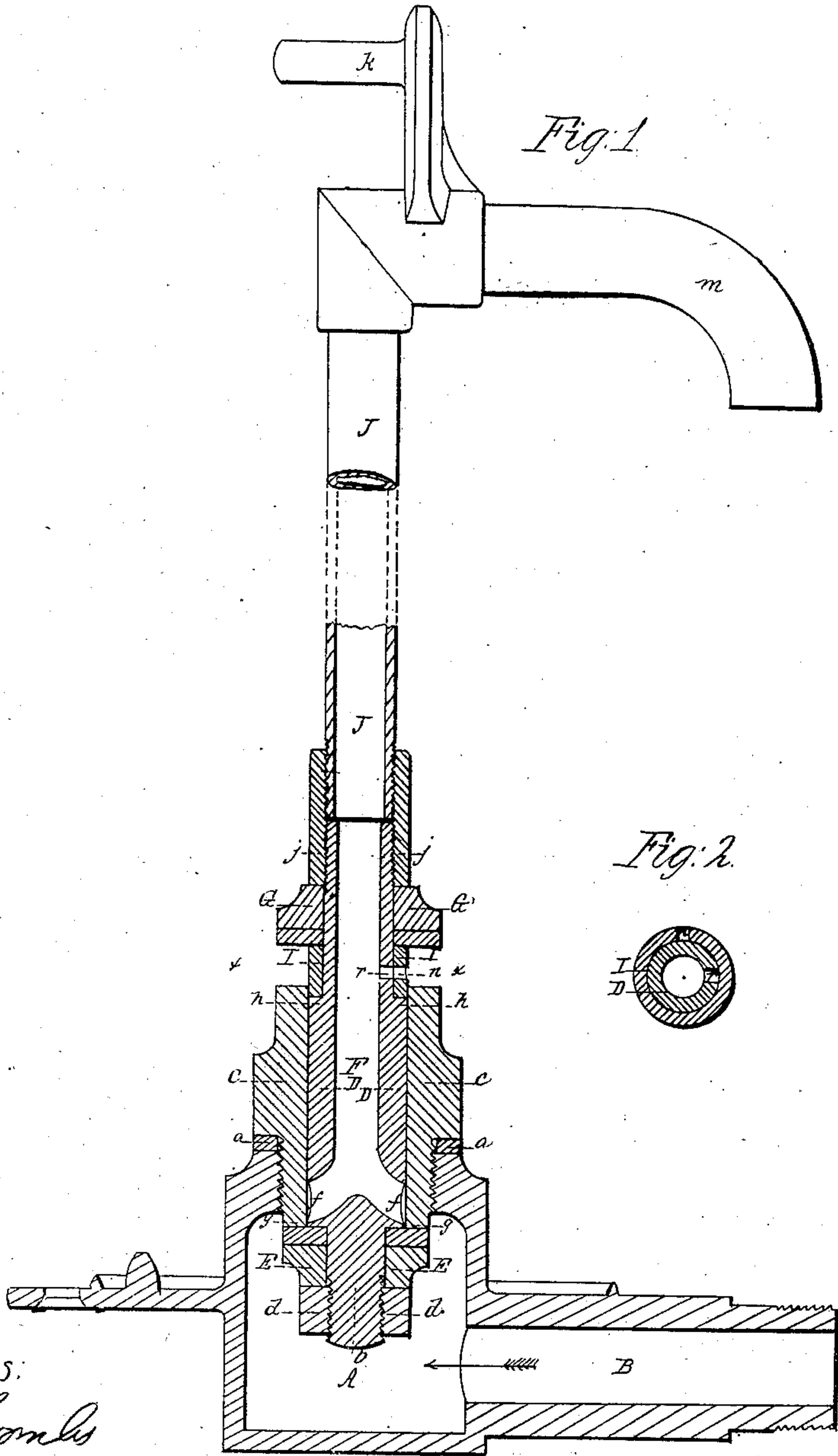


Pixley & Robertson

Hydrant.

N^o 55,782.

Patented June 19, 1866.



Witnesses:

J. W. Cronks
J. B. Cohen

Inventors.

Agnes Pixley
John Robertson

UNITED STATES PATENT OFFICE.

AGUR PIXLEY AND JOHN ROBERTSON, OF BROOKLYN, NEW YORK, AS-
SIGNORS TO ROBERTSON, DOW & CO., OF SAME PLACE.

IMPROVEMENT IN HYDRANTS.

Specification forming part of Letters Patent No. 55,782, dated June 19, 1866.

To all whom it may concern:

Be it known that we, AGUR PIXLEY and JOHN ROBERTSON, both of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Hydrants; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a central vertical section of a hydrant constructed according to our invention. Fig. 2 is a horizontal section taken in the line *x x* of Fig. 1, and representing a portion of our invention.

Similar letters of reference indicate corresponding parts in all the figures.

This invention consists in a hollow valve-stem carrying a valve upon its lower end and provided with suitable ports, so arranged with reference to the valve-box and water-box of a hydrant that the hydrant is closed by the pressure of water upon the valve, and at the same time be more easily opened when desired than those heretofore constructed.

This invention further consists in a ring placed upon the hollow valve-stem and formed with a small hole or opening, which acts, in connection with a similar hole in the valve-stem, to allow the escape of the water contained in the valve-stem and discharge-pipe when the hydrant is closed, as is desirable in cold weather, to prevent the freezing of the water in the hydrant, the ring being also adjustable to shut off the escape of water through the said holes when desired.

The invention further consists in a collar fixed upon the upper end of the valve-stem in such relation to the valve upon the lower end thereof that the said collar and valve act as stops to limit or determine the up-and-down movement of the valve-stem in opening and closing the hydrant.

To enable others to understand the construction and operation of our invention, we will proceed to describe it with reference to the drawings.

A is the water-box, which communicates directly with the main or pipe B, which conducts the water to the hydrant. A valve-box, C, is firmly screwed into the top of this water-box

A, the joint between them being tightly closed by a packing-ring, *a*. Situated in this valve-box C is a vertical hollow valve-stem, D, which has a limited downward movement therein. The central passage, F, of this hollow valve-stem D terminates at its lowest end in two ports, *f*, immediately above the valve E. This valve E is firmly secured upon the lower end of the valve-stem by means of a bolt, *b*, and nut *d*, and may be faced with leather, india-rubber, or other suitable material, if desired.

When the hydrant is closed the valve E fits upon the valve-seat *g*, and not only serves to prevent the ingress of water into the valve-stem, but acts as a stop to limit the upward movement of the said stem in closing the hydrant. The upper end of the valve-stem is made of less diameter than its lower portion, in order that the ring I may be placed upon it, the circumference of the said ring being the same as that of the lower portion of the valve-stem, so that it can move down into the valve-box C, as required in opening the hydrant. Immediately above this ring I is a collar, G, which rests upon it, and is kept in place by a nut, *j*, screwed upon the upper extremity of the valve-stem, and which also secures the discharge-pipe J, which forms the upper part of the hydrant, to the aforesaid hollow valve-stem.

Formed in one side of the ring I is a small hole or opening, *n*, and another hole, *r*, of corresponding size, is made in the side of the hollow valve-stem D, in such manner that when the said holes are placed opposite each other, as shown in Fig. 1, an outlet is formed, through which the water contained in the discharge-pipe J and in the upper part of the valve-stem when the hydrant is closed is allowed to escape, so that by emptying the said pipe and valve-stem they are prevented from freezing up in winter. In summer, when there is no necessity for emptying them, after using the hydrant the ring I is turned around upon the valve-stem into the position shown in Fig. 2, thus closing or covering the hole *r* in the valve-stem and shutting off the escape of water through the said hole.

The collar G, secured upon the upper end of the valve-stem, as hereinbefore described, is so situated upon the said stem that when the stem is pushed downward far enough to bring

the ports *f* below the valve-seat *g* the said collar *G* will strike the upper end of the valve-box *C* and prevent its further descent, thus acting as a stop to limit its downward movement. This collar may be faced with leather, india-rubber, or other suitable material to prevent slamming, if desired. The valve-stem being pushed downward by pressing upon the handle *k* at the upper end of the discharge-pipe *J*, the water from the water-box *A* rushes upward through the ports *f* into the hollow valve-stem *D*, and thence through the pipe *J*, and is discharged at the upper end thereof through the curved spout *m*. When the downward pressure is removed from the pipe *J* the upward pressure of the water in the water-box *A* upon the under side of the valve *E* forces upward the valve-stem *D* and the parts secured thereto, so that the ports *f* are moved up into the valve-box *C*, and the valve *E* closes upon the valve-seat *g*, and thus prevents the further ingress of water into the valve-stem, and also

acts as a stop to limit the upward movement of the valve-stem. Although the upward pressure of the water in the water-box upon the valve *E* is sufficient to force upward the valve-stem and the discharge-pipe *J* attached thereto, as just herein described, it exerts but little resistance to the downward movement thereof, so that the hydrant may be much more easily opened than those heretofore devised.

What we claim as our invention, and desire to secure by Letters Patent, is—

The ring *I*, formed with a hole or opening, *n*, and arranged upon the hollow valve-stem *D* with reference to the hole or opening *r* thereof, in combination with the valve-stem *D* and valve-box *C*, substantially as herein set forth, for the purpose specified.

AGUR PIXLEY.

JOHN ROBERTSON.

Witnesses:

A. LE CLERC,

J. W. COOMBS.