P. H. DONAHOE.

Valve for Hydrants, Street-Washers, &c.

No. 204,010. Patented May 21, 1878.

Fig. 1.

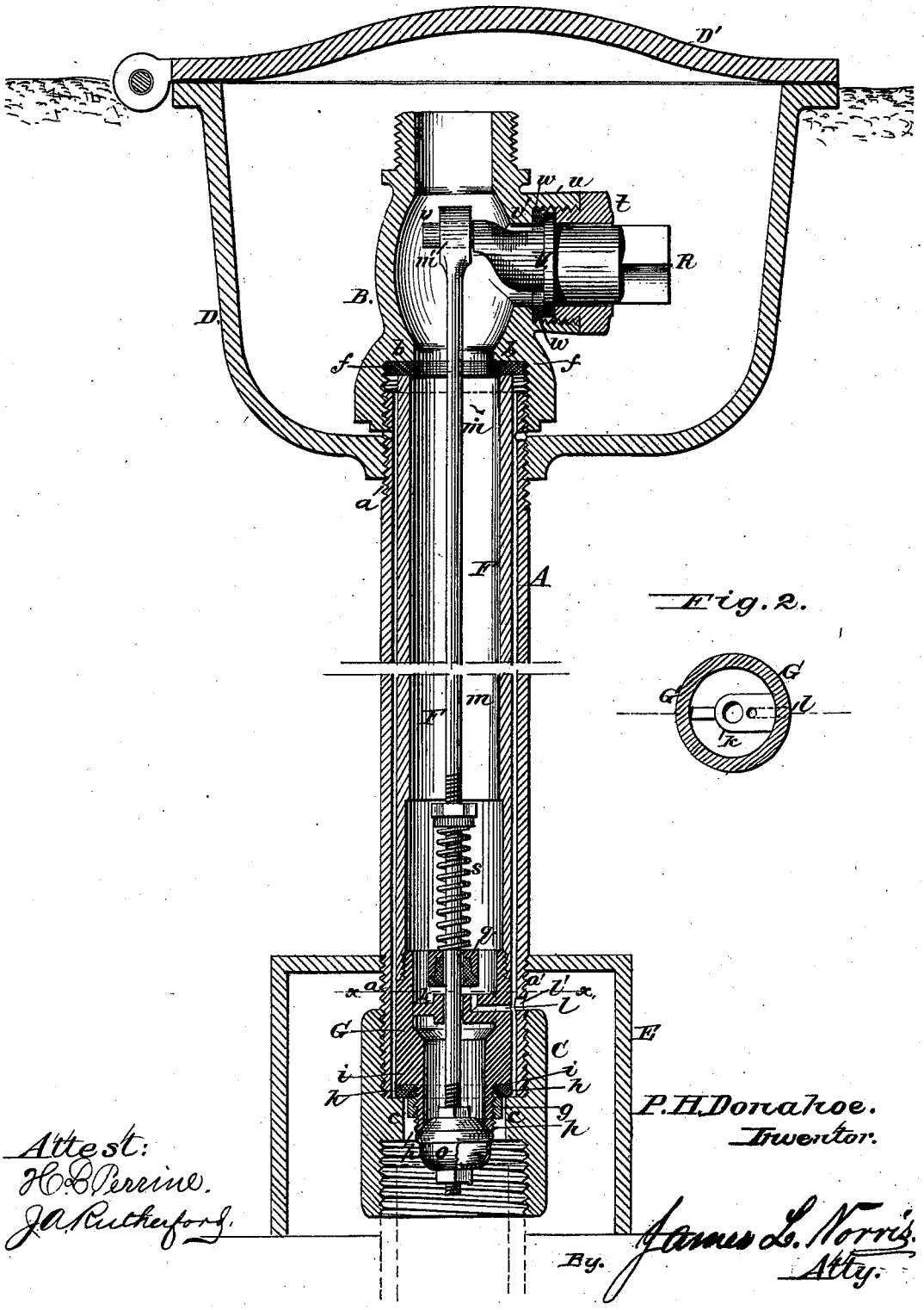

Fig. 2.

Attest:
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PATRICK H. DONAHOE, OF MIDDLETOWN, CONNECTICUT.

IMPROVEMENT IN VALVES FOR HYDRANTS, STREET-WASHERS, &c.

Specification forming part of Letters Patent No. **204,010**, dated May 21, 1878; application filed March 26, 1878.

To all whom it may concern:

Be it known that I, PATRICK H. DONAHOE, of Middletown, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Valves for Hydrants, Street-Washers, &c., of which the following is a specification:

The object of this invention is to so improve the construction of hydrants, street-washers, drinking-fountains, and similar apparatus, and the valves thereof, that waste-water will be prevented from accumulating and freezing therein, and to admit of repairs and packing without digging the same from the ground.

In the accompanying drawing, Figure 1 represents a vertical central section of a street-washer constructed according to my invention. Fig. 2 is a section on line *x x*, Fig. 1.

The letter A indicates an outer cylinder or hydrant-barrel, screw-threaded at top and bottom, as shown at *a a'*, to engage with an upper section, B, and a foot-thimble, C, having an inward-projecting shoulder, *c*. The upper screw-threaded portion of the barrel B passes also through and engages with the thread of an aperture in the bottom of a casing, D, which incloses the top of the apparatus, and is provided with a hinged lid, D', and the lower screw-thread of said barrel passes through and fills an aperture in the top of a casing, E, opening downward and surrounding the foot of the apparatus. Within the barrel A fits an inner barrel, F, the upper end of which rests against a packing-ring, *f*, arranged below and against a shoulder, *b*, formed inside the top barrel-section B, and the lower end of said inner barrel has an internal screw-thread formed on the upper end of a section, G, the lower end of which is also threaded to receive a screw-collar, *g*, which retains a packing-ring, *h*, against a shoulder, *i*. Said packing-ring, when the inner barrel is in its working position, rests upon the shoulder *c* of the thimble C.

Diametrically across the section G is an arm, *k*, having a central opening, which serves as a guide for the valve-rod *m*. Through said arm *k* there is also cut an elbow-passage, *l*, opening outward through the wall of the section, and coinciding with an aperture, *l'*, in the outer barrel. Upon the lower end of the valve-rod *m* is screwed an adjustable conical valve, O, which fits a correspondingly-shaped seat, *p*, formed in the lower end of the section G; and immediately above the arm *k* is a valve, *q*, through which the valve-rod passes, and which has its seat upon the upper surface of said arm, so as to cover the inner opening of the waste-passage *l*. This valve *q* is attached to and supported by a spiral spring, *s*, which surrounds the valve-rod, and which is more or less compressed when the rod is depressed to open the valve O, and valve *q* strikes its seat, so that, however little or much the valve O is opened, the waste-passage *l* will always be closed when said valve O is open.

The upper end of the rod *m* is provided with an eye, *m'*, through which passes a crank-pin, *v*, projecting inwardly from a rotary plug, R, fitted in a lateral bearing, *t*, screwed into a thimble, *u*, projecting from the top section B of the outer barrel A. The plug R has a flange, V, between which and a shoulder, *v'*, is arranged a packing-ring, *w*.

At the top of the section B is formed a screw-nozzle for attachment to a hose-coupling, and the foot or thimble C is to be connected with a water-pipe in the usual manner.

When the valve-rod *m* is depressed by turning the plug R, the valve O will be forced downward away from its seat, and the water, of course, rises in the barrel and flows outward through the nozzle at the top. When the valve O is pressed downward the valve *q* is pressed upon the bar *k* and closes the passage *l;* but when said valve O is raised to its seat and the flow of water shut off, the valve *q* will be raised from its seat, open the passage *l*, and permit the water in the barrel to flow therefrom, in order that damage to the apparatus by freezing may be prevented.

The casing E prevents earth from caving around the foot of the washer and clogging the passage *l*.

The top casing D protects the nozzle and valve-operating plug in the usual manner, and may be removed from the barrel for replacement, if accidentally broken.

Owing to the method by which this casing is secured, it is effectually protected against displacement by frost.

Should the valves need repair at any time, the top section B may be unscrewed from the

outer barrel, and the inner barrel, rod *m*, valves, and section C drawn out, so that access may be readily had thereto without the necessity of digging the whole apparatus from the ground.

Having now fully described my invention, I claim—

1. The combination, with the barrel A, having its upper end screw-threaded, of a casing, D, having a screw-threaded aperture in its bottom, and the top section B engaging with the upper end of said barrel, substantially as and for the purpose set forth.

2. The combination, with the inner barrel F, having its lower portion shouldered, as described, of the outer barrel A and thimble C, having annular shoulder *c*, substantially as described.

3. The combination, with the inner barrel F, of the section G, cast in one piece, suitably connected to said barrel, and having the seats for the valves O and *q* formed therein, the valve-rod *m*, valve O, and spring-valve *q*, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

PATRICK H. DONAHOE.

Witnesses:
D. J. DONAHOE,
T. L. REILLY.