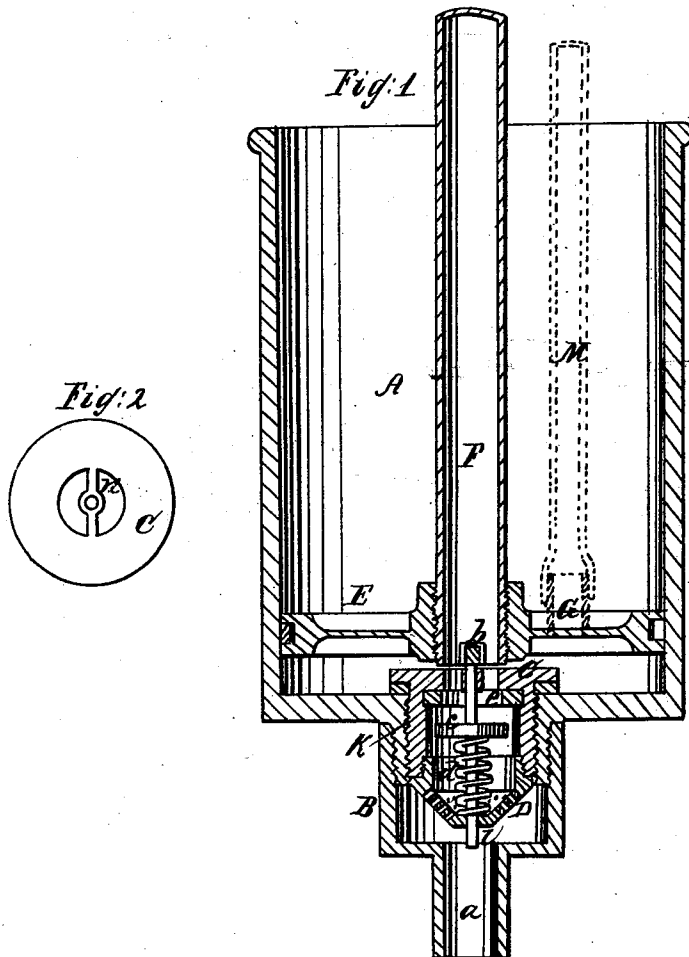


S. G. CABELL & A. Q. ROSS.
HYDRANT.

No. 100,255.

Patented Mar. 1, 1870



Witnesses

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UNITED STATES PATENT OFFICE.

S. G. CABELL, OF QUINCY, ILLINOIS, AND A. Q. ROSS, OF CINCINNATI, OHIO.

IMPROVEMENT IN HYDRANTS.

Specification forming part of Letters Patent No. 100,255, dated March 1, 1870; antedated February 16, 1870.

To all whom it may concern:

Be it known that we, S. G. CABELL, of Quincy, in the county of Adams and State of Illinois, and A. Q. ROSS, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Hydrants; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon—like letters indicating like parts, wherever they occur.

To enable others skilled in the art to construct and use our invention, we will proceed to describe it.

Our invention relates to hydrants; and it consists in the novel construction and arrangement of mechanical devices for allowing the water to flow from the stand-pipe into a cylindrical chamber, in order to avoid all liability to any injury that might arise from the freezing of the water therein in cold weather.

In the drawings, Figure 1 is a longitudinal vertical section. Fig. 2 is a top plan view of the valve-seat detached.

We are aware that in hydrants as heretofore constructed there is frequently provision made for the escape of the water from the stand-pipe. This provision, generally, simply consists in allowing the water to flow into the surrounding earth, which in a short time becomes wet and works into and destroys the valves, or fills up the waste-pipe and prevents the escape of the water.

The object of our invention is to provide the hydrant with certain mechanical devices for allowing the water to flow from the stand-pipe into a chamber, from which it is drawn again when the hydrant is operated, and in this way avoid letting it run out into the surrounding earth:

In constructing our hydrant we make a cylindrical reservoir or chamber, A, of any size desired and out of any suitable material, but preferably out of cast metal, and as clearly shown in Fig. 1. Its lower end we construct with a short neck, *k*, provided with a screw-thread, and to it connect a cap, B, having a suitable screw-thread for that purpose, and also having at its lower end a neck, *a*, properly made, to connect it with the water-main,

as clearly shown in the same figure. Into the upper end of the neck *k* we screw a valve-seat, C, having a perforated concave cap, D, screwed onto its lower end, and a bar, *n*, across its upper end, with a small hole through it, and an intervening space on each side of it, as clearly shown in Figs. 1 and 2. Inside of this valve-seat we place a check-valve, *c*, attached to a stem, *l*, which passes through and moves easily in the cross-bar *n* and the lower end of the cap D, as clearly shown in Fig. 1. About the stem *l* we place a spiral spring, *d*, with its lower end resting upon the upper side of the cap D, and its upper end against the under side of the check-valve *c*, and against the upper inner side of the valve-seat we place an elastic packing-ring, *e*, for the check-valve to bear against, as shown in the same figure.

In the cylindrical reservoir A we place a closely-fitting piston-head, E, and connect it by a screw-thread or in any other suitable way to a stand-pipe, F, (or, instead of a pipe, a solid shaft, as hereinafter described,) the lower end of which comes flush with the inner face of the head E, and has secured to it a cross-bar, *b*, arranged so as to strike in its descent against the upper end of the valve-stem *l*.

It is obvious that if desired a solid shaft may be substituted for the stand-pipe F; but in that case it will be necessary to make an opening, G, in the head E and provide it with a short neck, and attach thereto a rubber stand-pipe, M, so arranged that its elasticity may aid in elevating the piston-head.

In operating our hydrant device thus constructed, we place the reservoir A at any place desired in the ground or elsewhere in a locality sufficiently protected from frost, connect it with the water-main, and protect it on all sides with a suitable casing or covering, and provide the upper end of the stand-pipe F with a delivery-spout, and also with any suitable device for moving it vertically. When we desire to draw water from the water-main, we depress the stand-pipe, which, striking against the valve-stem *l*, forces down the check-valve *c*, and allows the water to flow up through the valve-seat and on through the stand-pipe F. When all the water required has been drawn, we raise the stand-pipe, which allows the spring *d* to carry up the check-valve *c*

against the elastic rubber ring *e*, and thus cut off the flow of water from the main. At the same time the head *E* is elevated and a chamber left beneath it, into which the water from the stand-pipe at once runs and leaves the pipe empty. In this way the water is taken to a place free from frost. When it is desired to draw water again, the stand pipe is forced down, and the water in the chamber is then driven from it and carried out with the water, which flows again from the main through the stand-pipe. It will thus be readily seen that a hydrant with our devices thus constructed and arranged not only completely protects itself against injury from frost, but also has no waste water discharging into the surrounding earth, to the injury of the hydrant, as well as to its waste-pipes.

Having thus described our invention, what we claim is—

1. The combination of the reservoir *A*, stand-pipe *F*, and piston-head *E* with the valve-seat *C*, provided with a perforated cap, *D*, and check-valve, all constructed and arranged to operate substantially as herein described, and for the purpose set forth.

2. The perforated cap *D*, in combination with the valve-seat *C*, when constructed and arranged to operate substantially as herein described, and for the purpose set forth.

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Witnesses:

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