(No Model.)

P. A. HARDWICK.

HYDRANT.

No. 458,575. Patented Sept. 1, 1891.

Fig: 1.

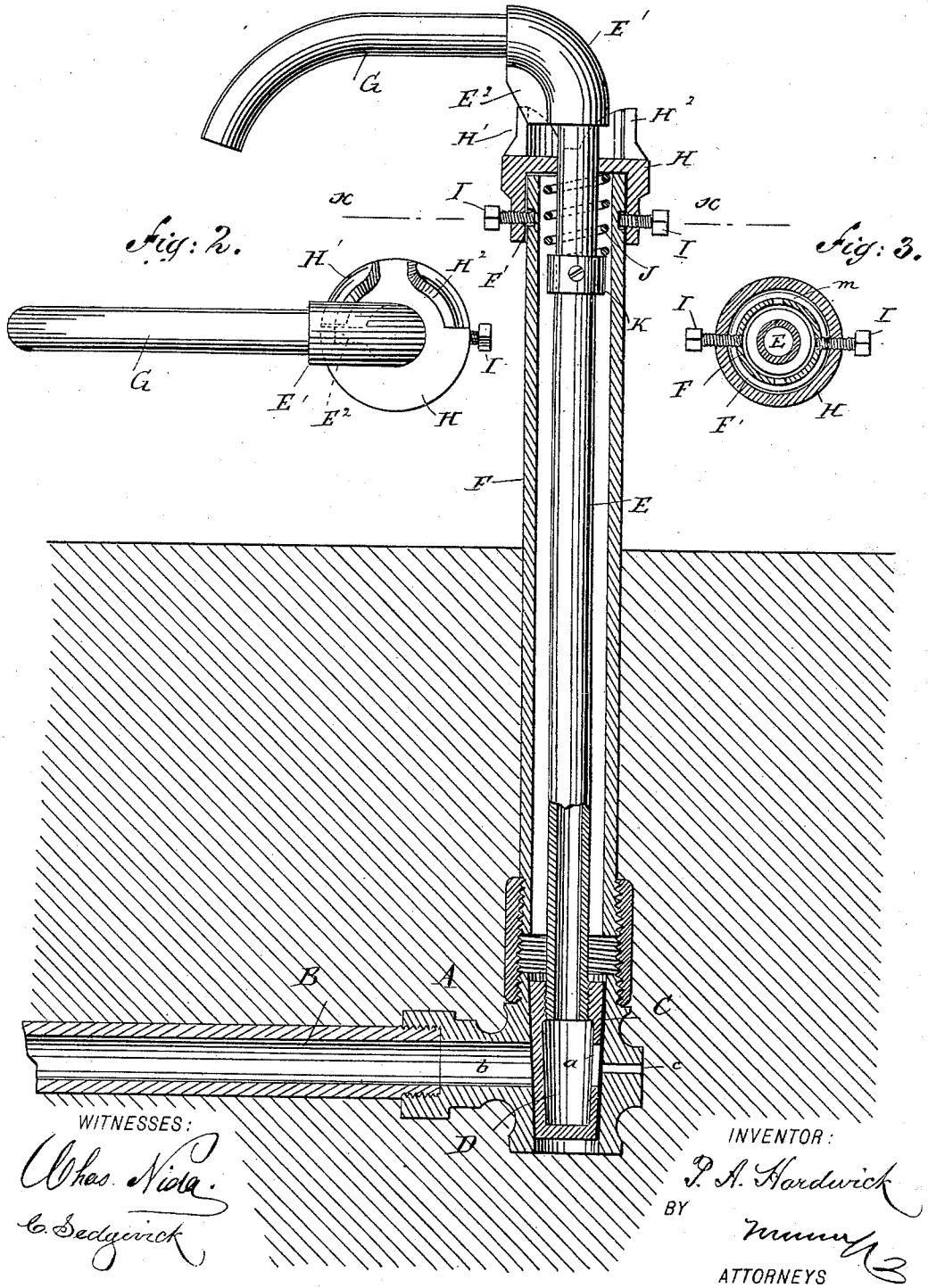


Fig: 2.

Fig: 3.

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HYDRANT.

SPECIFICATION forming part of Letters Patent No. 458,575, dated September 1, 1891.

Application filed January 13, 1891. Serial No. 377,581. (No model.)

To all whom it may concern:

Be it known that I, PENTON A. HARDWICK, of Colorado City, in the county of El Paso and State of Colorado, have invented a new and Improved Hydrant, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved hydrant which is simple and durable in construction and adapted to be set for cold weather, so as to discharge the water in the discharge-pipe, or to be set for use in summer to permit the water to remain in the discharge-pipe after disconnecting the latter from the water-main.

The invention consists of certain parts and details and combinations of the same, as will be described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of the improvement as applied. Fig. 2 is a plan view of the same, and Fig. 3 is a sectional plan view of the same on the line $x\ x$ of Fig. 1.

The improved hydrant is provided with a head A, connected with the water-main B and formed with a conical valve-seat C, in which is mounted to turn a correspondingly-shaped valve-plug D, having in its side a single port a, adapted to connect with the port b, formed in the said head A and leading to the water-main B. The port a is also adapted to connect with a waste-port c, leading to a sink-hole or into the sewer-pipe of the street. The ports b and c are arranged diametrically opposite each other, so that the valve-plug D has to be given a half-turn in order to move the port a from the port b to the port c, or vice versa.

In the upper end of the valve-plug D is secured a discharge-pipe E, extending upward to the surface of the street and provided at its upper end with an elbow E′, in which the discharge-spout G is secured. The discharge-pipe E is inclosed in a casing F, secured to the head A. On the upper end of the casing F is secured a cap H, which forms a bearing for the upper part of the discharge-pipe E, the said cap being provided with set-screws I for securing the cap to the casing F. The set-screws I pass through an annular groove F′ into apertures in the casing F, as is plainly illustrated in Fig. 3. Two sets of such apertures are provided in the casing F, being arranged at right angles to each other, so that the cap can be given a quarter-turn and again locked in place by the set-screws I. When this change is made, the set-screws are unscrewed from the apertures in the casing F, so as to remain with their inner ends in the groove F′ to prevent a complete disconnection of the cap H from the casing F.

On the top of the cap F are arranged two lugs H′ and H^2, the front faces of which stand diametrically opposite each other, as is plainly indicated in Fig. 2. The faces of the lugs H′ and H^2 are adapted to be alternately engaged by a projection E^2, formed on the elbow E′, said projection serving to limit the turning movement of the discharge-pipe E. Against the inside of the cap H presses one end of a spring J, coiled around the discharge-pipe E and pressing with its other end on a collar K, secured on the pipe E. The spring J serves to press the valve-plug D firmly into its seat C in the head A.

The operation is as follows: The device, as illustrated in the drawings, is in the position for winter use, so that the plug D can connect by its port a alternately with the ports b and c. When the plug D connects by its port a with the port b, then the water from the water-main B can pass through the ports b and a into the valve-plug D and from the latter through the pipe E and elbow E′ to and out of the discharge-spout G. In this position the projection E^2 rests against the face of the lug H^2, and when it is desired to shut off the water the operator takes hold of the discharge-spout G and turns the same from the right to the left until the projection E^2 rests against the face of the lug H′. By this movement the valve-plug D is turned so that the port b is disconnected, while the waste-port c is connected with the port a, and the water remaining in the discharge-pipe E can flow out into the sink-hole or sewer-pipe of the street. The freezing up of the hydrant is thus prevented. For summer use the cap H is changed by loosening the set-screws I and giving a quarter-turn to the cap to again fasten the same to the casing F, as previously

described. When the discharge-spout G is now moved, so as to bring the projection E^2 to rest alternately on the faces of the lugs H′ and H^2, then the port *a* is disconnected from both ports *b* and *c*.

When it is desired to use the hydrant, the discharge-spout G is moved at right angles to the faces H′ and H^2 of the cap, so as to connect the port *a* with the port *b*. The water from the water-main then flows, as previously described, through the head A, the plug D into the discharge-pipe E, and from the latter through the spout G. The port *a* in the valve-plug D cannot be connected at all with the waste-pipe *c* when the cap is in this position, and consequently when the plug D is turned by moving the discharge-spout, so that the partition E^2 rests on either of the lugs H′ or H^2, then the water-main B is disconnected, but the water in the pipe E remains therein. Leakage of the plug D is prevented, as the spring J firmly holds the plug in its seat at all times.

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

1. A hydrant comprising a head A, formed with a conical valve-seat provided with an inlet and a waste port, the casing-pipe F, having a screw connection at its lower end with the head and provided at its upper end with an external annular groove F′, the plug-valve D, having a port *a*, adapted to register with the inlet and waste ports, the discharge-pipe E, extending down through the casing-pipe F and connected with the plug-valve, the cap H, fitting over the upper end of the casing and having set-screws I entering the annular groove to permit the cap to be turned into proper position and then firmly secure it against rotation, lugs H′ H^2 on top of the cap, and a discharge-spout having an elbow connection with the pipe F above the said cap adapted to strike said lugs, substantially as set forth.

2. In a hydrant, the combination, with the casing having a centrally-apertured cap adapted to turn on its upper end and provided on its upper side with two lugs H′ H^2 and means for securing the cap in place, of the valve-operating discharge-pipe passed down through the aperture in the cap and having an elbow on its upper end provided at its bend with a flange or web E^2 to strike the said stops, and the discharge-spout connected with said elbow, substantially as set forth.

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