J. E. SCANLAN.

HYDRANTS.

No. 181,483. Patented Aug. 22, 1876.

Fig. 1.

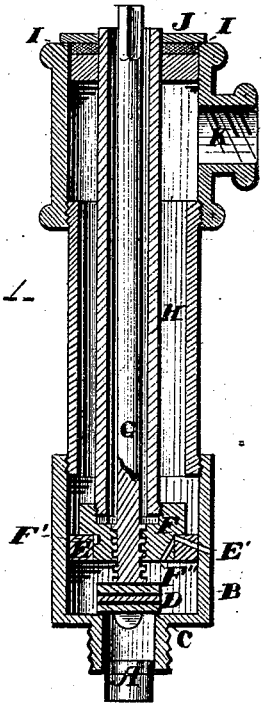
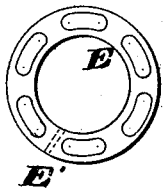


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

JEREMIAH E. SCANLAN, OF CLEVELAND, OHIO.

IMPROVEMENT IN HYDRANTS.

Specification forming part of Letters Patent No. **181,483**, dated August 22, 1876; application filed July 20, 1876.

To all whom it may concern:

Be it known that I, JEREMIAH E. SCANLAN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Hydrants; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in hydrants; and consists in forming a longitudinal central shell around the valve-stem or key, so as to isolate it from contact with the water; also, in a novel arrangement of the valve-stem and valve-leathers, so that the leathers will close the waste-weir when the hydrant is open, and open it when the hydrant is closed, as hereinafter set forth and claimed.

In the drawings, Figure 1 is a longitudinal central section by a plane passed through the waste-weir, exhibiting my invention. Fig. 2 is a plan view of the bushing above the valve, which supports the screw-tapped collar, through which the key or valve-stem screws.

A is the service pipe or main, to which the hydrant is attached, and which supplies water thereto. B is a case or shell, which is provided with the valve-seat C. D is the valve of any suitable construction—that in the drawing is represented as of leather or packing; but the particular construction of the valve forms no essential part of my invention. E is a bushing, located in the shell B, and is simply an open ring, which gives support to the screw-tapped collar F that holds the key or valve-stem G. This bushing E is shown in plan view in Fig. 2. F is the collar that supports the key or valve-stem G. It is screw-tapped to correspond with the screw cut upon the shaft G; and it may either have a friction-bearing within the bushing E, or, preferably, it is provided with a left-hand screw-cut surface, and the bushing E is screw-tapped to correspond. The upper end of the collar F is tapped to receive the lower screw-cut end of the inner shell or case H. The case H rises to the top of the hydrant, as shown in Fig. 1, and prevents contact of the water with the key or valve-stem G. I is packing that is put around the case H at the top to prevent water from escaping around the case H. K is the spout. J is a nut that runs down on the case H to hold the packing in place. F′ is an annular groove surrounding the collar F, and opening into this groove is a conduit, F″, leading upward from the space beneath the collar F. From some point opposite the groove F′ is an outlet, E′, passing through the solid portion of the open bushing E, and out to the outside of the case. The groove F′, and the conduits F^2 and E′, constitute the waste-weir.

The operation is as follows: When the valve is raised by turning the key G, water enters from the pipe A, passes up through the openings in the bushing E, thence up and out from the spout; at the same time, as the valve rises, it comes up against the lower side of the collar F, and the valve-leathers close the waste-passage F″. When it is desired to shut the hydrant the valve-stem is turned back. The valve is again seated, and as it descends the escape or waste passage F″ is opened, and the water in the barrel or case is permitted to waste through the openings F″, F′, and E′.

For convenience in removing the parts for repairs and readjusting them afterward, the bottom of the case H is screwed into the collar F with a right-hand screw, while the collar is, in turn, screwed into the bushing E with a left-hand screw, so that the case or barrel H can be used as a wrench for unscrewing the collar F from the bushing E.

It will be noticed that there is no packing of any kind around the key or valve-stem, and that it is entirely free from the water, and always free to act, and not liable to freeze up, as is the case where the stem is permitted, when in use, to have contact with the water; and it is these features—viz., the isolation of the valve-stem from the water; the freedom of the stem from all packing; the arrangement whereby the case H, and not the valve-stem, is packed; the relative construction of the case H and collar F, whereby the former may act as a wrench; and the construction of the waste-weir and its relation to the valve-leathers—that constitute the essential elements of my invention.

What I claim is—

1. In a hydrant, the combination, with the alve-stem and outer casing, of the inner cas-ıg H, rigidly secured at its lower end only, ıd packed at its upper end, whereby it may ave free longitudinal movement to expand or ontract, substantially as and for the pur-ose set forth.

2. In a hydrant, the combination, with the alve-stem G and collar F, of the outer casing ', inner casing H, and packing I, the packing erving to connect the casings, so that they ıay have free and independent longitudinal ıovement, substantially as and for the pur-ose specified.

3. The case H, provided with right-hand crew at the bottom, in combination with col-ır F, tapped into a support or bearing with a left-hand screw, substantially as and for the purposes described.

4. The combination, with the collar F, of the annular groove F′ and the conduits F″ and E′, the whole constituting a waste-weir.

5. The hydrant, consisting of a main barrel, case H, with packing I, collar F, bushing or support E, waste-weir, valve and valve-stem, all substantially as and for the purposes set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JEREMIAH E. SCANLAN.

Witnesses:

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H. T. HOWER.