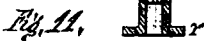
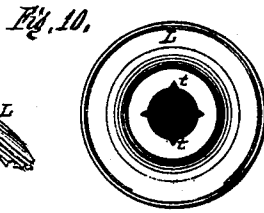
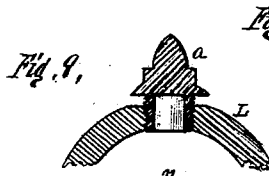
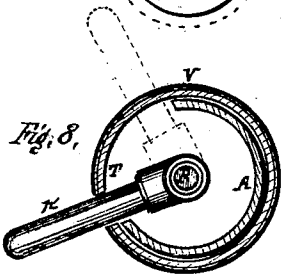
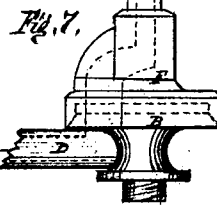
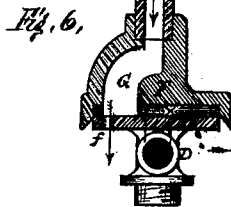
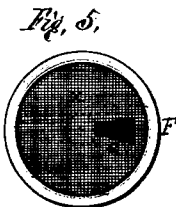
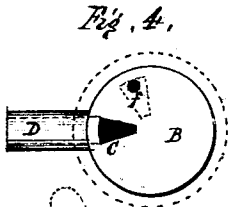
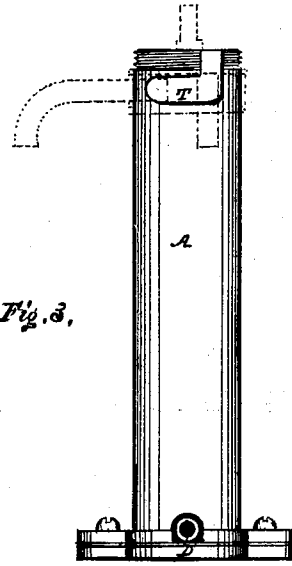
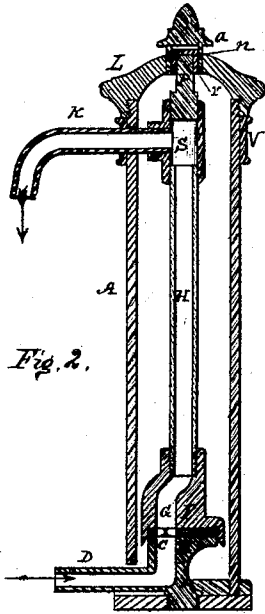
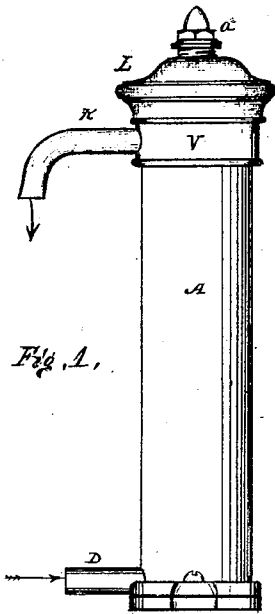


A. J. & T. McKenna,

Hydrant.

No. 105106.

Patented July 5, 1870.



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PITTSBURG, PENNSYLVANIA.

Letters Patent No. 105,106, dated July 5, 1870.

IMPROVEMENT IN HYDRANTS.

The Schedule referred to in these Letters Patent and making part of the same.

We, ALEXANDER McKENNA, JOHN McKENNA, and THOMAS McKENNA, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain Improvements in Hydrants, of which the following is a specification.

Nature and Objects of the Invention.

Our invention consists in constructing a hydrant with a turning bib or nozzle, forming part of a movable discharge-pipe, having at its lower end a flat rotary valve, through which and to one side of its axis, is an orifice leading directly into said pipe. This valve works against a flat concentric seat, provided with a similar orifice, communicating with the supply-pipe, so that, on turning the bib or nozzle to bring the two openings coincident, water will pass through in an uninterrupted stream.

This seat, in addition to the opening mentioned, is provided with a small hole leading to the outside, which is so situated as to remain closed during the upward passage of water, but, as soon as the discharge-pipe and its valve is turned to shut off the flow, its opening is brought directly over this small hole, by which the discharge-pipe is emptied, and thus prevented from freezing.

Another part of our invention consists in the method we employ for keeping the valve tightly pressed down to its seat, admitting of easy adjustment from the outside, without opening the hydrant or in any way interfering with its operative parts.

Another part consists in the use of a sliding ring, placed on the outside of the casing or stock, as a cover, to keep the slot in which the nozzle moves, closed.

The object of our invention is to make a cheap, durable, and effective hydrant, the operative parts of which may be readily detached from the supply-pipe, and removed from the stock or casing, either for repairs or protection, with disturbing the surrounding earth.

Description of the Accompanying Drawing.

Figure 1 is a side elevation of our hydrant.

Figure 2, a vertical section of the same.

Figure 3, a front view of the casing, with top removed.

Figure 4, top view of the valve-seat.

Figure 5, bottom view of the valve and portion of supply-pipe.

Figure 6, vertical section of the valve and its seat, the opening of the valve, in this case, being represented as over the waste-hole.

Figure 7, side view of same, the broken lines representing the large openings as being coincident, as in position when drawing water.

Figure 8, transverse section of casing and its surrounding ring just above the nozzle.

Figure 9, vertical section of upper portion of the casing-cap, with hollow pressure-screw.

Figure 10, top view of the cap, with screw removed.

Figure 11, vertical section of hollow safety-washer.

Figure 12, end view of the same.

General Description.

The stock A of this hydrant may be made in any of the well-known forms, but in this case consists of a stout iron tube, to the bottom of which is attached a flat circular valve-seat, B, so arranged as that its face is on the inside, and at right angles to a line drawn vertically through the center of the stock.

This valve-seat is provided with a large triangular-shaped opening, C, leading down into a hollow curved arm, D, to admit of its being connected to the supply-pipe, and, in addition to this, is provided with a small hole, *f*, extending quite through it to the outside, as shown in figs. 4 and 6.

On top of this seat rests the valve F, like an inverted flat-bottomed cup, its bottom being of the same diameter as the seat B, its edges overhang it, and serve as a guide, to direct it and keep it in place, and as a support to a leather disk, X, interposed between them.

Through this disk and the valve F there is but one opening, G, corresponding in size and shape to that in the seat B, leading to the supply-pipe D.

Screwed into the top of this valve F, and extending upward therefrom, so as to form a continuation of its opening, G, is a vertical pipe, H, the top of which terminates in a "union" joint, S, connecting it to the bib or nozzle K. This passes through and works in a slot, T, cut in the casing A, as shown in figs. 3 and 8, and a hoop or ring, V, is placed around its outside, through which the nozzle also passes, and, being loose and free to turn, moves therewith, and keeps the slot T closed, regardless of the position of the bib.

The casing A is surmounted and closed in by a screw-cap, L, and through the center of this a hollow male screw, *a*, passes, inside of which is a cup-shaped washer, *n*, which rests upon the top of a pivot, P, brazed into the upper end of the union S, as a means of holding the pipe H in the center of the casing A, and to regulate the bearing of the valve F on its seat.

To prevent this screw *a* from turning, by the action of the pivot P, the washer *n* is provided with a flange, *r*, having several projections or corners which fit into correspondingly-shaped nicks, *t t*, cut in the sides of the central screw of the cap L, as seen in fig. 10.

Operation.

The parts of this hydrant being constructed as

shown, and arranged as represented in section, fig. 2, the nozzle K is free to turn either right or left in the slot T, carrying with it the outside ring V, and moving in a pivoted way the discharge-pipe H, and the valve F.

Now, if the nozzle be turned so as to bring the opening G in the valve opposite the opening C in its seat B, a clear passage is made for the water to flow up through the vertical pipe H, and out at the nozzle. On turning the parts in an opposite direction, so that the nozzle will occupy the position indicated by the broken lines in fig. 8, the valve will be given a corresponding turn, bringing its opening G directly over the small hole f, as shown in fig. 6, and fig. 4. This operation cuts off the flow from the supply-pipe, and allows that water left in the vertical pipe to waste, and leave the upper part of the hydrant perfectly dry.

In case it should become necessary to remove the operative parts, either for repairs or for other purposes, the cap L may be unscrewed, and the nozzle brought under the vertical portion of the slot T, and the pipe H, together with its attachments, consisting

of the valve, leather disk, and nozzle, withdrawn from the casing.

Claims.

We claim as our invention—

Forming the rotary valve F in the shape of an inverted flat-bottomed cup, whose edges surround and overhang or extend below the face of its stationary concentric seat B, in combination with the movable discharge-pipe H and nozzle K, held in place by means of the pivot P, vertical screw *a*, and washer *n* in the cap L of the casing A, as shown and set forth.

Also, the movable ring V, nozzle K, right-angled slot T, and stationary cap L, furnished with screw *a* and washer *n*, in combination with the discharge-pipe H, rotary valve F, and its stationary seat B, when the several parts specified are constructed and made to operate with respect to each other, as shown and set forth.

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THOMAS MCKENNA.

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