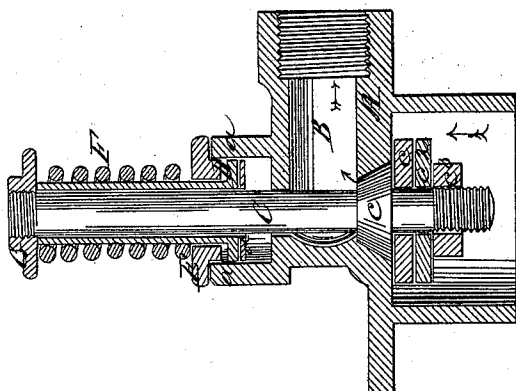


G.H. Rodgers.
Hydrant,
N^o 33,282. Patented Sept. 10, 1861.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE H. RODGERS, OF BALTIMORE, MARYLAND, ASSIGNOR TO HIMSELF
AND JOHN RODGERS, OF SAME PLACE.

IMPROVEMENT IN HYDRANTS.

Specification forming part of Letters Patent No. 33,282, dated September 10, 1861.

To all whom it may concern:

Be it known that I, GEORGE H. RODGERS, of the city of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Non-Wasting Hydrants, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, which makes part of this specification, and which represents a vertical axial section through a hydrant embracing my improvement, the valve plug and spindle being shown in elevation.

My invention relates to the use of a self-acting plug-valve in a shell or casing constructed in such manner that it may readily be secured in its proper place in the log, box, or pipe of the hydrant or removed therefrom. This valve is so arranged in its case that when closed its upper surface shall be above the level of the bottom of the discharge-nozzle, so that no water can collect or remain above the valve when shut. It is also provided with suitable washers, &c., to prevent leakage.

The accompanying drawing represents a convenient arrangement of parts for carrying out the objects of my invention.

The casing A, which contains the working parts of the valve, is intended to be inserted into a cavity formed in the upper end of a log, box, or pipe, which cavity is about the same height from the ground as the nozzle of the hydrant. The casing may either be driven tightly into the cavity or it may fit into a ring inserted therein. The bottom of the casing is to be reduced to a proper size and form for the attachment of the service-pipe, which pipe may be attached in any suitable or convenient manner. The entire casing may be cast in one piece. The nozzle or eduction-pipe screws into the discharge-opening B, which forms part of the casing, and extends into it a sufficient distance to intersect the induction-port. The casing is also perforated vertically through its center, and through this opening the valve stem or spindle C passes. A conical plug *c* upon the stem near its lower end is made to fit tightly into the induction-port at the bottom of the casing and forms the induction-valve. A washer *c'*, of leather or rubber, is placed upon the spindle underneath the plug *c* to close the joint around it. A metallic washer *c²* and a nut *c³* hold this leather

washer securely up to its place. The pressure of the water also assists in this work.

To prevent the escape of water at the top of the casing, a washer *d*, of leather or rubber, is placed around the spindle. Upon this washer the head of a ferrule or guide-tube D rests when the water is flowing. This tube extends nearly to the top of the spindle, (which it surround,) its upper end being near to a nut G, which screws upon the spindle. A flanged ring E fits around the ferrule and rests upon the shoulders *a* of the casing. A spiral spring F also encircles the ferrule, its ends bearing against the retaining-nut G and guide-ring E.

The operation of my improved hydrant is as follows: To open the hydrant the spindle C is depressed or made to slide endwise by means of a screw working through a cap-plate upon the top of the log or pipe by a lever-handle or in any other convenient manner. This opens the induction-valve and permits the water to rush through, as indicated by the arrows in the drawing. The drawing represents the valve in one position only—that is, as closed; but its position when open is so obvious as to require no further explanation. To shut the valve it is only necessary to release the spindle, when it is instantly closed by the pressure of the water itself and by the action of the spring F. The range of motion of the valve-spindle, and consequently the flow of water, may be regulated by varying the thickness of the washer *d*, and also by varying the distance between the top of the ferrule and the retaining-nut. When the valve is closed its upper surface is flush with the bottom of the discharge-pipe B, so that no water can remain in the pipe after the valve closes, and to aid this still more the discharge-pipe may be slightly inclined. The spiral spring F holds the valve up to its seat and at the same time holds the flanged ring E down upon its seat, while the guide-tube not only steadies the valve-spindle and the spiral spring, but also serves to keep the washer *d* in place and to regulate to some extent the range of motion of the valve. When in use the entire mechanism is inclosed in a casing upon the top of the log, so as to be out of harm's way, and as a matter of precaution against freezing the space around the casing A may be packed with some non-conducting material.

The advantages possessed by my improved hydrant are, first, its simplicity and cheapness, as I employ only one valve and dispense with all cylinders, chambers, long rods, levers, &c. Its liability to derangement is also thus very much diminished; secondly, the facility with which it can be taken apart for repairs; thirdly, the avoidance of all standing water in contact with the metal of the hydrant, and, finally, its economy in the use of the water itself, there being positively no waste at all.

I do not claim, broadly, under this patent any of the devices hereinbefore described when considered by themselves; but,

Having thus fully described the construction and operation of my improved non-wasting hydrant, what I do claim therein as new, and desire to secure by Letters Patent, is—

The combination of the valve-spindle C, the guide-tube D, the spring F, and the flanged ring E with the casing A, when the whole is constructed and arranged as herein described, for the purpose set forth.

In testimony whereof I have hereunto subscribed my name.

GEORGE H. RODGERS.

Witnesses:

WM. BARKER,

JAMES B. LUCAS.