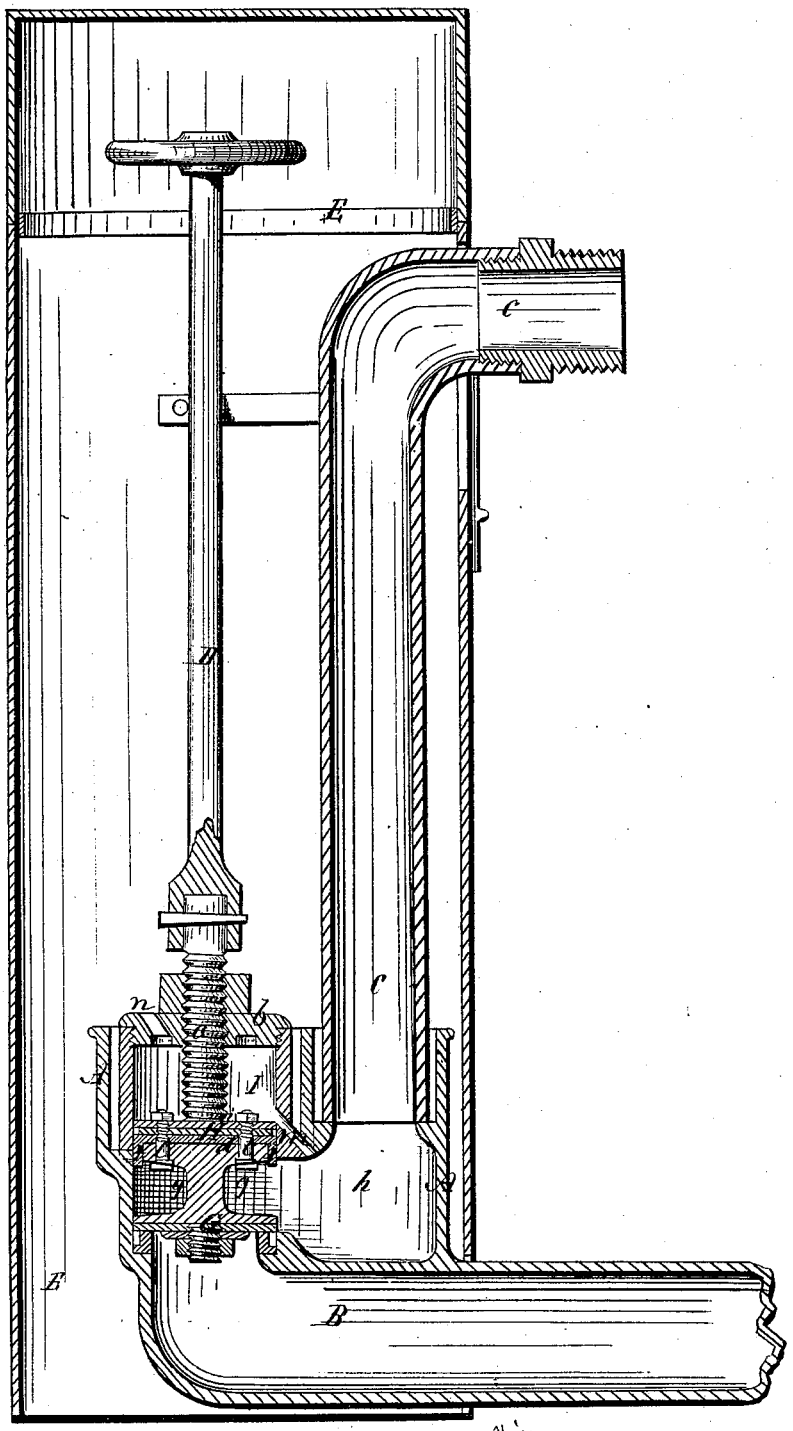
W. Bailey,

Hydrant.

No. 107,434. Patented Sept. 20. 1870

Fig. 1



Witnesses
S. W. Wood
C. M. Bifield

William Bailey
S. W. Wood Attys

United States Patent Office.

WILLIAM BAILEY, OF TROY, NEW YORK.

Letters Patent No. 107,434, *dated September* 20, 1870.

IMPROVEMENT IN HYDRANTS.

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

To all whom it may concern:

Be it known that I, WILLIAM BAILEY, of Troy, in the county of Rensselaer and State of New York, have invented an Improved Hydrant; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing making part of this specification—

Figure 1 being a central vertical section of the hydrant.

Let A represent the body of the hydrant;

B, the water-pipe to which it is attached;

C, the discharge-pipe;

D, the shaft or rod, by which the valves are operated; and

E, the case or box, in which the hydrant is inclosed.

The shaft D is coupled to a screw, *a*, to which the valves G H are attached, or on which they are formed, and which turns in a fixed nut, *b*, to raise and lower the valves. The two valves are formed or connected together, as one solid piston.

The waste-water valve H is provided with a packing, *d*, of inverted cup-shaped form, the rim or lip *f* which projects downward, fitting closely the cylindrical surface of the waste-water chamber I, and, in connection with the foregoing, the valve-head or piston has an annular groove, *g*, around its periphery, between the two valves, so as to give free access to the water from the hydrant-chamber *h*, around the valve, inside of the said rim of the flexible packing, and, by its pressure against the inner surface thereof, to cause the valve to fit tightly in the chamber I.

By this means, no packing-box is necessary around the screw-stem *a* of the valves, and no adjustment is required to keep the joint tight.

The packing *d*, or another packing *i*, on the valve H, fits water-tight around the screw-stem *a* of the valves.

The packing is held by screws *l l*, or their equivalent.

In connection with the above-described construction of the waste-water valve H, my invention consists in the arrangement of a waste-water opening, *m*, communicating between the hydrant-chamber *h*, or the discharge-pipe C, and the waste-valve chamber I, just above the valve H, when the cut-off valve G is closed; and of a second waste-water opening, *n*, leading out of the top of the said chamber I into the ground around the hydrant.

This arrangement is such, that the moment that the valve G begins to open, to admit water into the hydrant from the water-pipe, the valve H begins to close the waste-water opening *m*, and completely closes it almost instantly, as the valve G continues to open, so as to prevent further waste of water; and, in closing the valve G, the valve H does not uncover the waste-opening *m*, till the last moment.

The aperture *m* opens upward (obliquely, as shown,) into the chamber I, and the aperture *n* also discharges upward from the top of the said chamber.

By this arrangement the least possible waste of water takes place in using the hydrant, while providing for draining off the discharge-pipe C, to prevent the freezing of the water in the winter, and warming it in the summer.

What I claim as my invention, and desire to secure by Letters Patent, is—

The arrangement of the waste-water chamber I with its aperture *m*, opening near the bottom into the hydrant-chamber or pipe, and the aperture *n*, opening at the top, into the ground, in combination with the waste-water valve H beneath, provided with the inverted cup-shaped packing *d* and annular groove or space *g*, substantially as and for the purpose herein specified.

WILLIAM BAILEY.

Witnesses:

S. W. WOOD,

C. M. BISSELL.