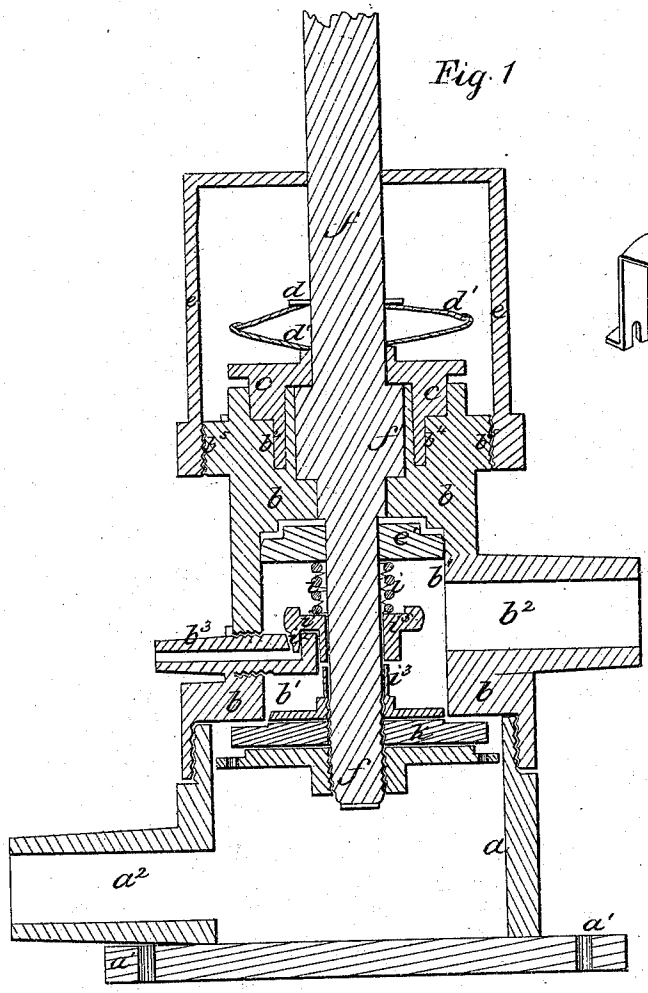
R. K. Colvin,

Hydrant.

No. 3,185. Patented July 20, 1843.

Fig. 1



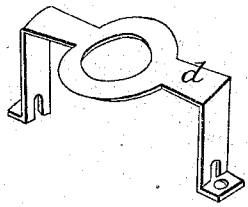
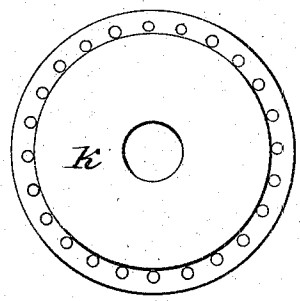


Fig. 2



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ROBT. K. COLVIN, OF COLUMBIA, PENNSYLVANIA.

CONSTRUCTION OF HYDRANTS.

Specification of Letters Patent No. 3,185, dated July 20, 1843.

To all whom it may concern:

Be it known that I, ROBERT K. COLVIN, of Columbia, in the county of Lancaster and State of Pennsylvania, have invented a new and Improved Hydrant for the Prevention of Freezing and Leakage; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, in which—

Figure 1, is a vertical section of the hydrant; Fig. 2, detached parts.

The nature of my invention consists in forming and arranging the joints and valves of a hydrant so as to prevent leakage under the heaviest pressure, and also from wear.

The construction is as follows: A cylindrical cup or lower chamber (a) is constructed with a flange (a') projecting out horizontally around its bottom through which screws pass to fasten it down to its place; a tube enters this chamber on one side, and forms the induction pipe (a^2), by which the water enters from the fountain-head; around the upper and outer edge of this chamber (a) a screw is cut, on to which another piece (b) screws; above the screw part of (b), it contracts, leaving the diameter at (b') smaller and forming a square shoulder for a valve seat; to one side of this part an eduction pipe (b^2) is connected, and on the other side a small waste pipe (b^3) is inserted, so as to extend clear through into this chamber; the bore does not pierce straight through the end of the tube into the chamber, but turns up at right angles within the chamber, and comes out above. At a little distance above the eduction pipe (b^2) the chamber is contracted on the inside forming a double square shoulder, and leaving an aperture just large enough to be filled by a rod described further on; about one inch above this it is turned out larger, for the purpose of admitting the collar or enlargement (f') of the shaft (f); the outside of this part of (b) is of the same diameter all the way excepting a collar (b^5) on the outside of which a screw is cut for attaching the cap (e). Into the top an excavation (b^6) is turned out all around; the inside of this excavation is turned straight down to a little below the top of a collar; the outside of this excavation is broken by a shoulder about half way down, the upper part being of larger diameter than the lower; into this a cap (c) fits, and is ground in air tight; a hole is made through the center of this cap for the rod (f) to pass through. A bracket is represented also detached, Fig. 2, is screwed onto the collar, and rises up over the cap above named; this bracket has a hole through its center, for the rod to pass through, and between it and the cap an elliptic spring (d) is placed; over this apparatus a cap (e) is screwed to the collar (b^5), around chamber (b'). Before the cap (c) is put in place a rod (f) is inserted; this rod has a collar or projection around it (f') which has a smaller offset below it; these exactly fit the upper bore of the chamber (b) air tight. In the space between the eduction pipe and the contracted part above, there is a washer (e') which justs fits it, and a piece of leather may be fitted in to perfect the joint if necessary. On the rod below this washer, a spiral spring (i) is placed which bears against said washer and a collar (i') on the rod, which has a limited motion; a flange on this collar projects over the hole in the waste pipe (b^3), and a pin (i') made conical at the bottom screws down through said flange into the hole; below the collar a ring (i^3) is put on the rod to keep the collar a proper distance from the valve on the bottom of the rod. This valve (k) is made and attached in the following way: on the lower end of the rod (f) a screw is cut, on which a button about the diameter of the chamber (b) at the lower part, but a little smaller, is screwed; a ring of leather is then put on, against said button, and projecting all around beyond it upon this a disk of metal, nearly filling the lower chamber (a) is screwed, there being a nut cast on it below, to sustain it; around this last named plate or disk, there is a row of holes, as shown in the detached view, between the outer edge of the leather and the side of the chamber.

To operate this machine the rod (f) is borne down and the water rushes up all around the valve (k) through the holes in its edge which strain out all chips or which would impede the operation of the valve; it then passes through the eduction pipe out to the place where it is required the waste pipe being closed by the pin (i^2) being forced down into it. When the force that keeps down valve (f) is removed, the pressure of

the water on the underside of the valve forces it up tight against its seat and the waste pipe is unstopped; this allows the water which fills the eduction pipe (b^2) and chamber (b) to run out and thus prevent the hydrant from freezing in cold weather. The collar (f') on the rod, and the cap (c) both ground in, break joint in such a way, that while they allow a slight motion up and down, prevent the possibility of leakage; this is of the utmost importance when water is brought down from great elevations, and as the pin which stops the waste pipe has a small motion independent of the valve (k) no water can be lost, while the hydrant is in operation, at that point.

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

1. Combining the rod (f) and cap (c) in the manner described, so that they closely fit the bore and excavations in (b) made to receive them, and break joint to prevent leakage constructed and arranged as herein specified.

2. I claim the movable pin and collar (i', i^2,) for stopping the waste pipe, in combination with the valve (k) and rod (f) constructed and arranged as herein described.

ROBT. K. COLVIN.

Witnesses:
S. M. YOST,
J. J. GREENOUGH.