

No. 666,205.

Patented Jan. 15, 1901.

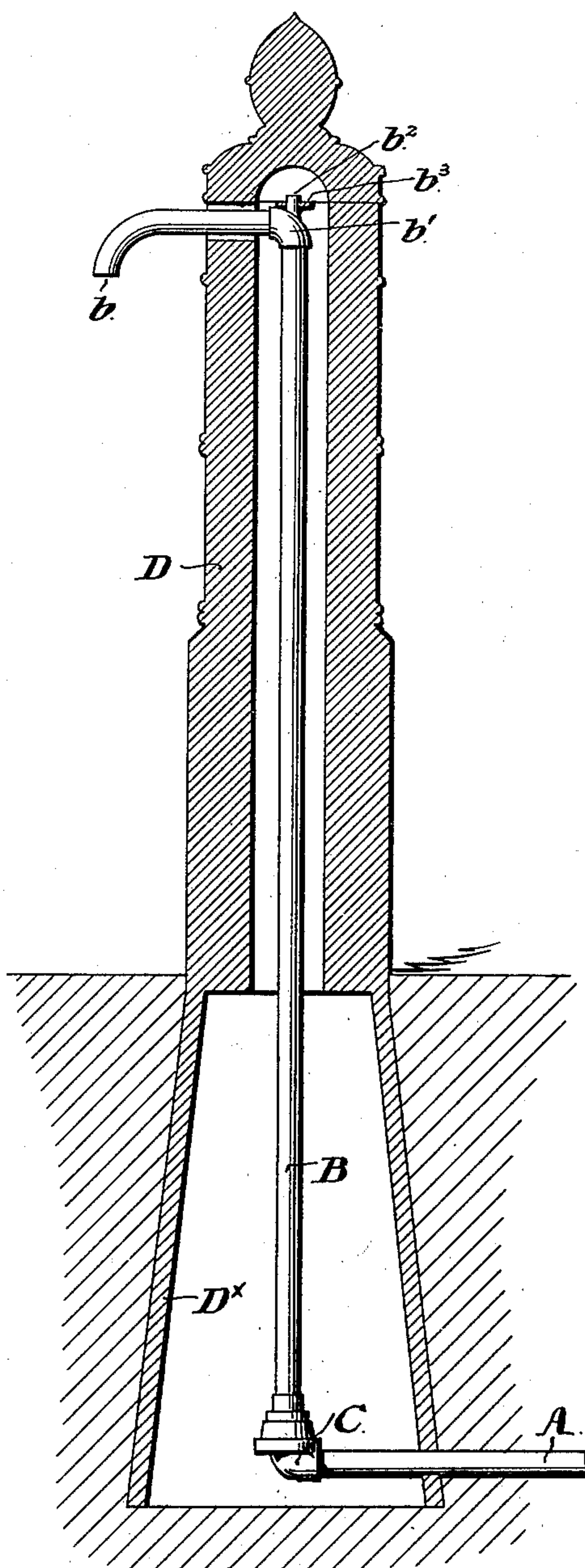
R. H. MITCHELL.
HYDRANT.

(Application filed Nov. 2, 1898.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.



WITNESSES:

Geo. P. McArthur
E. L. Fullerton.

INVENTOR:

RAYMOND H. MITCHELL,

By Arthur E. Paige
Atty.

UNITED STATES PATENT OFFICE.

RAYMOND H. MITCHELL, OF PHILADELPHIA, PENNSYLVANIA.

HYDRANT.

SPECIFICATION forming part of Letters Patent No. 666,205, dated January 15, 1901.

Application filed November 2, 1898. Serial No. 695,302. (No model.)

To all whom it may concern:

Be it known that I, RAYMOND H. MITCHELL, of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Hydrants, whereof the following is a specification, reference being had to the accompanying drawings.

My invention relates to hydrants such as are known to the trade as "post-hydrants," "wall-hydrants," "wash-paves," &c. As ordinarily constructed hydrants of this type comprise a supply-pipe section, a discharge-pipe section, a controlling-valve connecting the two pipe-sections in fixed relation with both, and a valve-rod extending from said valve alongside of the discharge-section of the hydrant-pipe, said valve-rod being provided with a wrench hold or handle at the terminus of said pipe whereby said valve may be opened and closed.

It is the object of my present invention to provide a hydrant device in which the necessity for a separate valve-rod is obviated, the controlling-valve being therein preferably operated by movement of the discharge-section of the hydrant-pipe with respect to the controlling-valve and the supply-section of the hydrant-pipe, upon which said valve is fixed. The aforesaid separate-rod construction is objectionable in post-hydrants and wash-paves which are embedded in the ground in that frequent repairs are necessitated to maintain the rod in proper relation with the controlling-valve, owing to the alternate freezing and thawing of the ground in which they are embedded. The wall form of hydrant usually extends through an ornamental front wall of a dwelling, and the separate-rod construction of such a hydrant necessitates the cutting of a large aperture in said wall, which must be subsequently covered with a separate face-plate secured thereon. My present invention not only obviates the necessity for said repairs by maintaining the various parts of the hydrant continuously in proper relation, but is particularly advantageous in the latter form of hydrant in that the opening through the wall need not be larger than the discharge-pipe and being circular is readily formed in said wall. Moreover, the necessity for a face-plate separately

secured in said wall to cover the opening therein is obviated, as hereinafter described.

In the accompanying drawings, Figure 1 shows a convenient embodiment of my invention in a post-hydrant. Fig. 2 is a side elevation of a form of my invention adapted for use as a wall-hydrant or wash-pave. Fig. 3 is a sectional view of the form of my invention shown in Fig. 2.

Referring to Fig. 1, A is the supply-section of the hydrant-pipe, B is the discharge-section of said pipe, and C the controlling-valve connecting said sections. The supply-pipe A and the valve-casing C are fixed in the box D^x of the hydrant-post D, and the discharge-pipe B extends through the latter, terminating in a downwardly-curved nozzle *b*. The valve C is opened by rotation of the nozzle *b* and pipe B in one direction and closed by rotation thereof in the opposite direction. In order that this rotatory movement of the discharge-pipe B may be conveniently effected, I provide the elbow *b'* thereof with a lug *b*², in axial alinement therewith, and journal the latter in a stay *b*³, fixed in the hydrant-post. The construction of the valve C whereby it may be operated as aforesaid by relative movement of the hydrant-pipe sections A and B is shown in Figs. 2 and 3.

As shown in Figs. 2 and 3, the valve-casing C comprises an elbow provided with a valve-seat *c* in fixed relation with the pipe A. The valve-head C', which is fixed upon the pipe-section B, is provided with a valve-washer *c'* for compression upon the seat *c*, and said head C' is provided with an external screw-thread *c*², which engages with the internal screw-thread *c*³ in the valve-casing C, so that rotation of the pipe B and head C' in one direction serves to compress the washer *c'* upon the seat *c*, and reverse rotation of said parts serves to withdraw said head and open the discharge-outlet *a*, as shown in Fig. 3.

In order to prevent leakage through the screwed connection of the valve-head C' in its casing, I prefer to make the periphery of said head conical and to provide a conical washer-seat *c*⁴ for the same in the casing C, so that when the valve is opened the conical portion of said head is compressed upon said washer *c*⁴ and serves to prevent the outlet

of water through said threaded connection. When, however, it is desired to drain the pipe-section B upon the closure of the valve, as is usual when the pipe B is vertically disposed, I provide a drain-outlet C^x in the conical seated portion of the casing C, which, as indicated in Fig. 3, is closed when the discharge-outlet *a* is open and which is opened when the head C' is shifted to the left of said figure to close said discharge-outlet, whereupon the water trapped in the pipe B gravitates between the valve-head C' and the conical washer *c*⁴ through the drain-outlet C^x.

As a matter of convenience of construction I prefer to make the valve-casing C in two parts and to maintain the conical washer *c*⁴ therein in proper position by compression of its flange between said parts. It is to be understood, however, that during the operation of the device both parts of said casing C are in fixed relation with the pipe-section A.

When my invention is used in a wall-hydrant or a wash-pave, the discharge-section B of the pipe may be conveniently provided with a cap B^x, fixed thereon and comprising a wrench-hold *b*^x and a coupling for a hose-pipe. Where, as shown in Fig. 3, the pipe B projects through the opening *e* in a dwelling-wall E, the circumferential flange upon said cap B^x serves as a finish upon the latter.

I do not desire to broadly claim a valve one part of which serves both as a valve-rod and as a discharge-pipe, for I am aware that, broadly speaking, such an arrangement of parts is old. I believe it to be new, however, to construct a valve, as herein set forth, which by threaded engagement of its respective parts operates in the manner and for the purpose described. It is obvious, however, that various modifications may be made in the details of construction without departing from the spirit of my invention. I therefore do not desire to limit myself to the precise construction which I have shown and described.

I claim—

1. The combination with relatively movable supply and discharge sections of a hydrant-pipe, of a valve-casing fixed upon one

of said sections, a valve-head fixed upon the other of said sections, a discharge-outlet in said casing, a drain-outlet in said casing, and means to shift said valve-head to open one and close the other of said outlets by relative movement of said pipe-sections, substantially as set forth.

2. The combination with a valve-casing, of a valve-head in threaded engagement with said casing, a discharge-opening through said valve-head, a drain-outlet through said casing, and means to close said valve by rotation of said head in one direction, and to seal said drain-outlet by rotation of said head in the other direction, substantially as set forth.

3. The combination with a two-part valve-casing, of a conical washer seated therein, and a conical valve-head in threaded engagement with said casing, whereby said valve is closed by rotation of said head in one direction, and said head is compressed upon said conical washer by rotation of said head in the opposite direction, substantially as set forth.

4. The combination with a valve-casing, of a valve-head in threaded engagement with said casing, a discharge-opening through said valve-head, means to close said valve by rotation of said head in one direction, and means to seal said casing and said valve-head in water-tight relation by rotation of said head in the opposite direction, substantially as set forth.

5. The combination with a supply-pipe, of a valve-casing in fixed relation therewith, a valve-head in threaded engagement with said casing, a rotatable discharge-pipe in fixed relation with said valve-head, a cap fixed upon the extremity of said discharge-pipe, a hose-pipe coupling upon said cap, and a wrench-hold in concentric relation with said hose-pipe coupling whereby said cap may be rotated together with said pipe and valve-head, substantially as set forth.

RAYMOND H. MITCHELL.

Witnesses:

CLIFTON C. HALLOWELL,
ARTHUR E. PAIGE.