(No Model.)

M. B. MILLS.

VALVE.

No. 397,088. Patented Jan. 29, 1889.

Fig. 1.

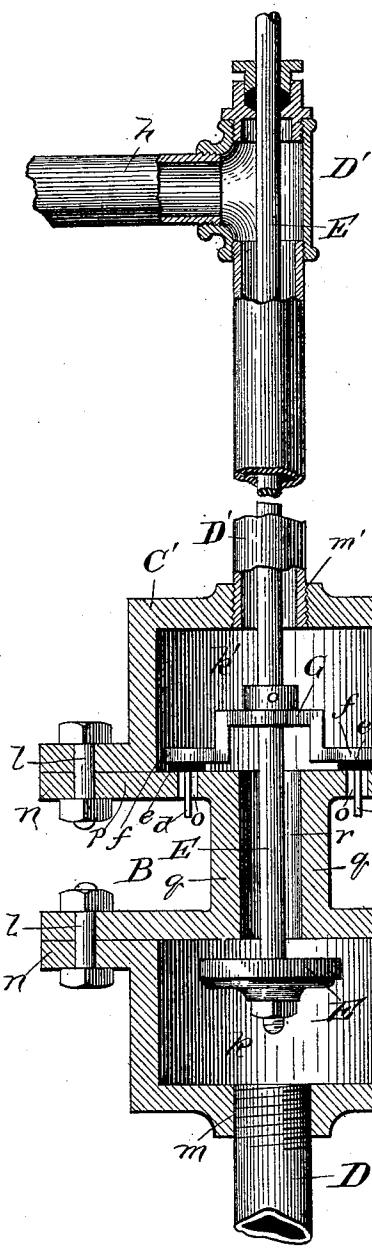
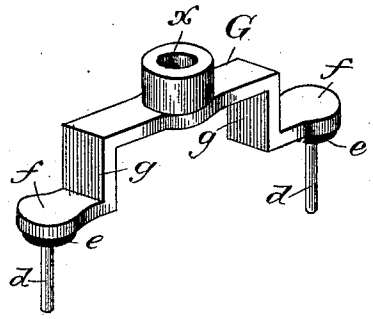


Fig. 2.



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UNITED STATES PATENT OFFICE.

MORTIMER B. MILLS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE BOGUE & MILLS MANUFACTURING COMPANY, OF SAME PLACE.

VALVE.

SPECIFICATION forming part of Letters Patent No. 397,088, dated January 29, 1889.

Application filed November 23, 1888. Serial No. 291,700. (No model.)

To all whom it may concern:

Be it known that I, MORTIMER B. MILLS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Valves, of which the following is a specification.

My invention relates, more particularly stated, to the class of water-supply and shut-off valve devices of the kind commonly employed underground in various connections as means for turning on the water-supply and shutting off the same, and with the latter operation effecting the discharge of waste water contained in the supply pipe or pipes leading from the valve device, and especially in that portion of the latter which may be above-ground.

The object of my improvement is to provide a valve device of the above-mentioned description, the peculiar construction of which shall render unnecessary any form of packing, not even white lead, to effect impervious joining of the parts, but which shall comprise parts involving such construction as to permit them, after being cast, (if formed by casting,) to be readily planed so smooth that where they are bolted or clamped together the junction shall be accurate in a degree to render them practically integral to the extent, even, of being impervious at the joints to air.

By means of my improved construction, there being no need of employing therein any form of packing, which is generally the first part of a valve to wear out after the device is once placed underground, where access to it, as to any other, is attended with considerable inconvenience, my improved valve device need not be disturbed, as do at times those requiring to be packed, to repair the packing of the joints; and, besides, my improvement affords a valve device of exceptionally cheap construction.

My invention consists in the construction hereinafter set forth and claimed.

One of the several connections in which the class of valve device to which my improvement relates is ordinarily employed is as a so-called "fire-plug," this being the apparatus commonly provided in cities at and between the street-corners and to which the fire-engines are connected to receive their supply; and for convenience the description hereinafter contained refers to my improvement as adapted for use in a fire-plug, and it is so illustrated in the accompanying drawings, in which—

Figure 1 shows my improved device, as adapted for use in a fire-plug, in vertical section; and Fig. 2 is a perspective view of a detail.

A is the shell, the central part, B, of which is in the form of a double, T, having a passage, *r*, formed longitudinally through its shank *q*, and having in one head, *p*, preferably at each side of the shank and close to the latter, an opening, *o*.

C is a cap, having a flange, *n*, extending laterally from its open end and provided in its base with a perforation, *m*, which may be threaded, as shown, to permit a water-supply pipe, D, to be screwed into it.

The cap C is secured at its flanges *n* by bolts *l* to one head of the double T, and, like the latter, may be planed off to render the parts where they are brought into contact quite smooth to form between them an accurate and impervious junction. The interior of the cap C affords a chamber, *k*.

C′ is a cap like the cap C and similarly secured to the double T B at the head thereof opposite that at which the cap C is secured, the interior forming a chamber, *k*′.

The cap C′ is perforated, as at *m*′, the opening being, like the opening *m* through the cap C, preferably threaded to permit the outlet-pipe D′ to be screwed into it. When the device is used in a fire-plug, the pipe D′ should have a lateral branch, *h*, to extend to the side of the fire-plug and permit connection with the latter of hose, in the usual manner.

E is a rod, which is sufficiently long to extend perpendicularly through the pipe D′ into the chamber *k*, in which it is provided with a valve, E′, adapted to cover the adjacent end of the opening *r* in the shank *q*, the rod E thus forming the stem of the valve E′. Where the device is used in other connections than in a fire-plug, the valve-stem E need not extend through the outlet-pipe D′, but may pass,

at one side of the latter, through the cap C′, where it may be suitably packed to prevent leakage around it.

G is a metal bar, perforated near its center, as shown at *x*, and bent toward its extremities, forming legs *g* and feet *f*. The bar G is secured upon the stem E (which passes through it at its perforation *x*) in a position to cause the feet *f* to extend over the openings *o* in the upper head, *p*, of the double T B, and to cause valves *e*, guided by stems *d*, which extend into the openings *o*, as shown, to cover the said openings while the valve E′ is below and away from its seat at the end of the opening *r* in the shank *q* of the part B. One valve *e* and opening *o* may suffice in my improved valve device, and my invention is intended to include such construction. Two, however, are preferred, as preventing by means of the duplicate stems *d* the possibility of the valve-bar G becoming turned from its position wherein the valves *e* coincide with the openings *o*.

To admit water through the device the stem E is lowered to remove the valve E′ from its seat and force the valves *e* against their seats; and to shut off the supply the stem E is raised to bring the valve E′ to its seat and remove the valves *e* from their seats, thereby freeing the openings *o* and permitting the waste water to discharge through them.

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

1. In a valve device, the combination of a double T, B, having a passage, *r*, in its shank, and an opening, *o*, in one head, *p*, flanged caps C and C′, secured at their flanges, respectively, to the heads, openings *m* and *m′* in the respective caps, a stem, E, extending through the cap C′ and passage *r*, and carrying a valve, E′, in the cap C, and a valve, *e*, supported on the stem E in the cap C′ and extending over the opening *o*, substantially as described.

2. In a valve device, the combination of a double T, B, having a passage, *r*, in its shank, and an opening, *o*, in one head, *p*, flanged caps C and C′, secured at their flanges, respectively, to the heads, openings *m* and *m′* in the respective caps, a stem, E, extending through the cap C′ and passage *r*, and carrying a valve, E′, in the cap C, a bar, G, secured to the said stem in the cap C′, and carrying a valve, *e*, over the opening *o*, and a stem, *d*, extending from the valve into the opening *o*, substantially as described.

3. A valve device comprising, in combination, a double T, B, having a passage, *r*, in its shank, and openings *o* in the head at opposite sides of the passage *r*, flanged caps C and C′, secured at their flanges, respectively, to the heads, openings *m* and *m′* in the respective caps, a stem, E, extending through the cap C′ and passage *r*, and carrying a valve, E′, in the cap C, a bar, G, having legs *g* and feet *f* and secured on the stem E in the cap C′, to cause the feet to extend over the openings *o*, valves *e* on the feet, and stems *d*, extending from the valves *e* into the openings *o*, substantially as described.

MORTIMER B. MILLS.

In presence of—
M. J. BOWERS,
J. W. DYRENFORTH.