

(No Model.)

S. L. COHOON.
HYDRANT VALVE.

No. 509,843.

Patented Nov. 28, 1893.

FIG. 1.

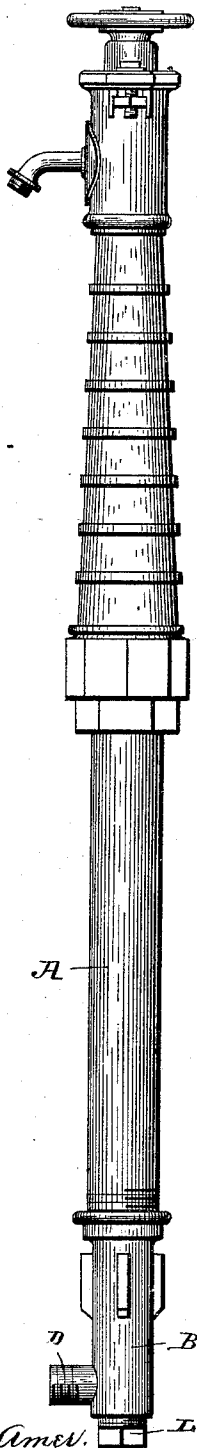


FIG. 2.

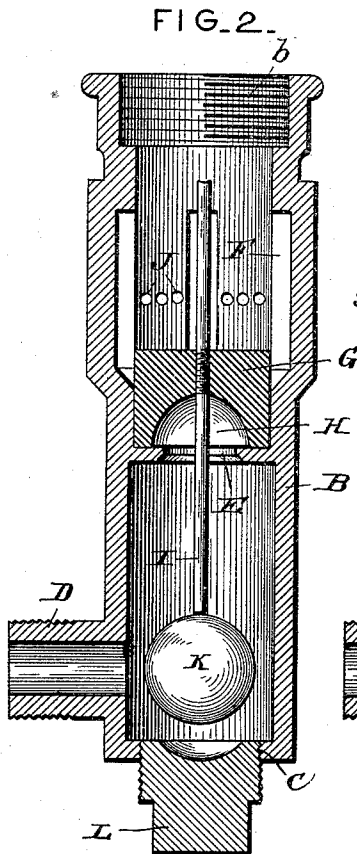


FIG. 3.

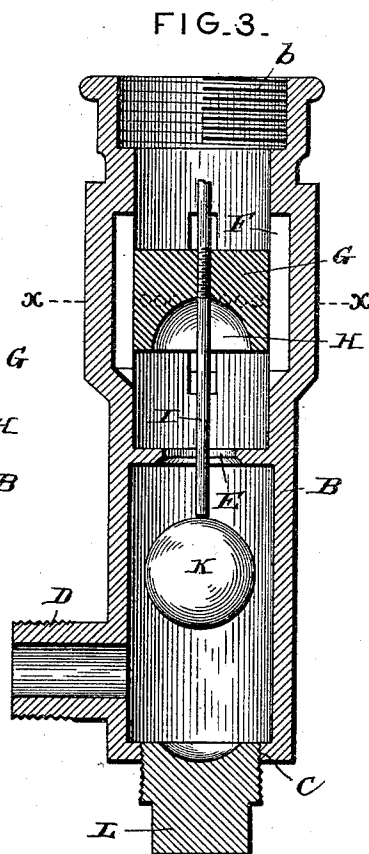


FIG. 4.

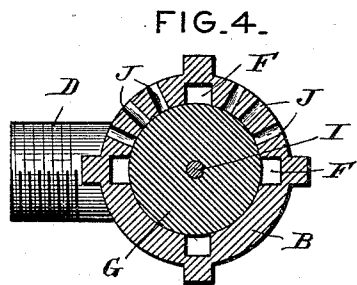
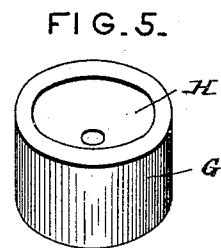


FIG. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

STEWARD LEWIS COHOON, OF BATTLE MOUNTAIN, NEVADA.

HYDRANT-VALVE.

SPECIFICATION forming part of Letters Patent No. 509,843, dated November 28, 1893.

Application filed February 27, 1893. Serial No. 463,857. (No model.)

To all whom it may concern:

Be it known that I, STEWARD LEWIS COHOON, a citizen of the United States, residing at Battle Mountain, in the county of Lander and State of Nevada, have invented a new and useful Hydrant-Valve, of which the following is a specification.

This invention relates to hydrant valves; and it has for its object to provide certain improvements in valve attachments for hydrants of that character employing reciprocating valves, and to this end to provide an improved service valve capable of ready attachment to all ordinary forms of hydrants, and which while being efficient in use as the ordinary service valve, at the same time shall be constructed with especial reference for draining the hydrant of standing water after use, and for closing the drain while in use.

With these and many other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a side elevation of a hydrant having my improved hydrant valve connected therewith. Fig. 2 is an enlarged vertical sectional view of the construction disclosed in Fig. 1 showing the valve closed. Fig. 3 is a similar view showing the valve open. Fig. 4 is a detail sectional view on the line $x-x$ of Fig. 3. Fig. 5 is a detail in perspective of the concaved plunger valve.

Referring to the accompanying drawings, A represents the lower screw threaded end of the outer pipe of an ordinary hydrant, which is usually sunk to a depth in the ground below the frost line, and is connected with the valve controlling devices.

In the present invention, removably attached to the lower screw threaded end of the hydrant pipe A, is the elongated cylindrical valve casing B. The said valve casing B, is provided with an upper interiorly threaded neck b , embracing the pipe A, a lower interiorly threaded end C, and an inlet coupling D, near the lower end, which is connected by suitable piping to the distributing mains in the ordinary manner. The casing B, is further provided, at an intermediate point, with the

inwardly extended double valve seat E, at a point above which and in the sides of the casing is formed a spaced series of vertical water channels or grooves F, which stand off from the inner bore of the casing above said valve seat, so as to allow for the free movement of the vertically reciprocating rubber plunger valve plug or disk G. The valve G, is of a size registering with the inner bore of the casing B, so as to form a water tight joint at the sides thereof and is provided with a concaved bottom portion H, into which the water presses and serves to throw the sides of the valve out against the sides of the casing so as to insure a perfectly water tight joint.

The valve G, is mounted on the reciprocating valve stem I, which is attached to the ordinary reciprocating valve rod or pipe (not shown), which is controlled in the ordinary manner at the top of the hydrant by the usual devices, and said valve stem projects a distance below the valve G, through the water passage in the seat E, and into the portion of the valve casing below such seat for the purpose to be presently described.

Arranged at a point above the lower ends of the vertical water channels or grooves F, in the sides of the casing B, is a horizontal series of drain openings J, which, when the valve G, is closed onto the seat E, are designed to allow the standing water in the hydrant to escape so as to prevent freezing. Now with the specific construction of the valve in mind, it must be observed at this point, that, as the valve G is lifted above its seat E, the same is of a size so that it will completely cover the drain or waste openings J, before it uncovers the lower ends of the channels F, so that the water can pass therethrough and then out of the hydrant in the ordinary manner. By reason of this construction, the service valve is never open to bring the water into use until the waste openings are covered, whereas in ordinary valves of this character the waste openings are usually not closed until after the water has commenced to run, and if the water is only turned on partially, will escape freely through the waste openings. All these disadvantages are avoided by means of this valve. A further advantage resulting from this construction is, that since the lower ends of the water channels or grooves are a short

distance above the valve seat E, the water will not commence to waste before the valve reaches its seat, but on the contrary will not commence to waste until the water has been
5 entirely shut off by the valve cutting off the same at the lower ends of the channels or grooves F. The many advantages of this operation will be apparent to those skilled in the art.

10 The projecting portion of the valve stem I, below the valve G, holds the ball check valve K, below and off from the double valve seat E. The ball K, is sufficiently small so as to not interfere with the free passage of the water through the valve, but is adapted to tightly
15 close the passage through the valve seat E. Now while the plunger valve G, is in position within the valve casing, the stem never rises sufficiently far so as to allow the valve K, to cut off the supply of water, but in case it is
20 necessary to draw the valve G, out of the hydrant and its valve carrying rod for the purpose of repair, &c., the valve K, under the pressure of the water, closes onto the seat
25 E, and shuts off the supply. This construction avoids the use of taking the whole hydrant apart and also prevents the necessity of shutting the water off from the connection with the main, which is usually very hard to
30 find. As shown in the drawings, the lower interiorly threaded end C, of the valve casing B, is inclosed by the removable screw plug L, which provides means for placing the valve K, within the casing and also for removing and
35 replacing the same.

Changes in the form, proportion and the

minor details of construction as embraced within the scope of the appended claim, may be resorted to without departing from the principle or sacrificing any of the advantages
40 of this invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

In a hydrant valve, the elongated cylindrical valve casing having a lower interiorly threaded end, an integral interior double valve seat intermediate of its ends, vertical
45 off-standing water channels formed in its sides above said seat, and a horizontal series of drain openings above the lower ends of the water channels and between the same, the
50 reciprocating valve stem or rod having an extended portion projected through the valve seat into the casing below the same, a concaved rubber valve or plunger attached to
55 the valve stem or rod above the double seat and adapted to be raised over the drain openings in advance of uncovering the water channels and vice versa, a ball check valve arranged within the casing below the valve seat
60 and adapted to be held off from the valve seat by the extended end of the stem or rod, and the cap fitted into the lower end of the casing, substantially as set forth.
65

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

STEWARD LEWIS COHOON.

Witnesses:

JAMES T. PAUL,
E. R. WILLIAMSON.