(No Model.)

A. SCHEID.

HYDRANT.

No. 490,311. Patented Jan. 24, 1893.

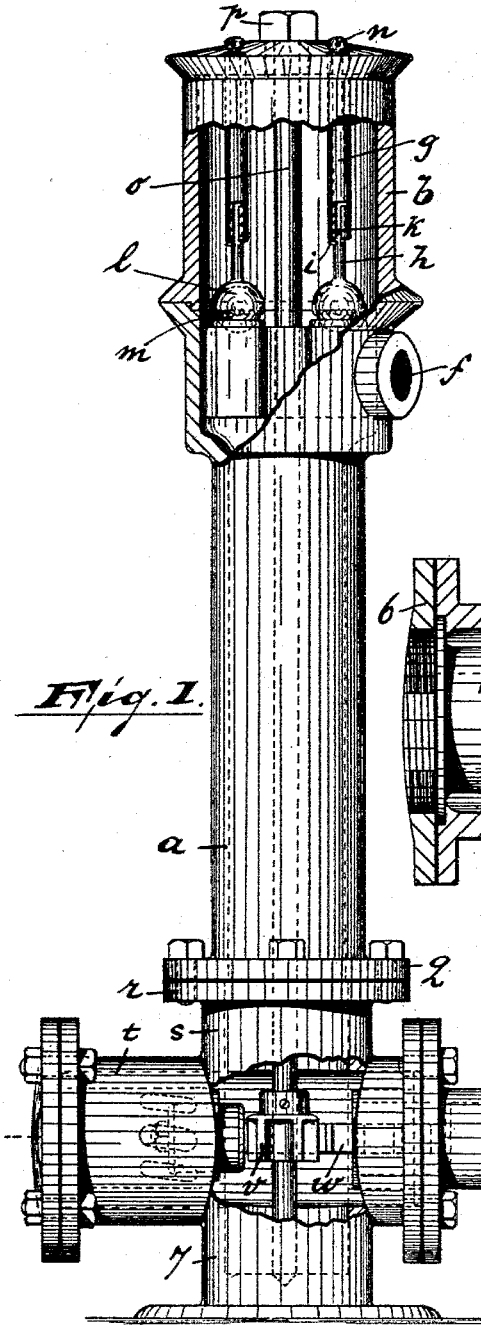

Fig. 1.

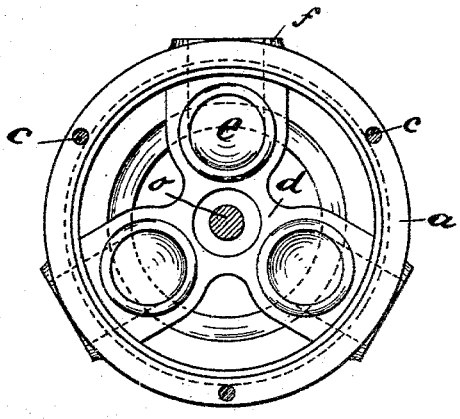

Fig. 3.

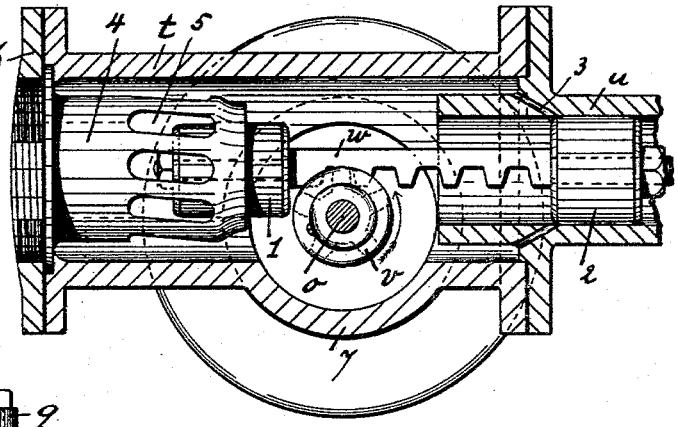

Fig. 2.

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UNITED STATES PATENT OFFICE.

ADAM SCHEID, OF HARRISON, NEW JERSEY.

HYDRANT.

SPECIFICATION forming part of Letters Patent No. 490,311, dated January 24, 1893.

Application filed September 12, 1892. Serial No. 445,624. (No model.)

To all whom it may concern:

Be it known that I, ADAM SCHEID, a citizen of the United States, residing in Harrison, Hudson county, and State of New Jersey, have invented certain new and useful Improvements in Hydrants; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters and figures of reference marked thereon, which form a part of this specification.

The object of my present invention is to provide a hydrant, simple and durable in construction, quickly and easily operated, great in efficiency and not liable to get out of order.

The invention consists in the improved hydrant, its piston and piston operating mechanism, and in the combination and arrangements of the various parts thereof, substantially as will be hereinafter more fully described and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters and figures of reference, indicate corresponding parts in each of the several views: Figure 1 is a front elevation of my improved hydrant, portions of the shell being broken away, Fig. 2 is an enlarged sectional view on line *x* of Fig. 1, showing the hydrant-inlet opened, Fig. 3 is an enlarged detail view, illustrating the arrangement of the water outlet connections of the hydrant.

In said drawings, *a* represents the shell, to which is secured by screws *c* or in any desired manner, a top or cap *b*. Cast integral with or secured to the upper portion of the shell, is a block *d*, provided with openings *e*, connecting the outlets *f* with the interior of the hydrant. Above each of said openings, and secured to or made integral with the top *b*, is arranged a downwardly extending tube *g*, provided with an elongated slot *k*, adapted to receive and guide the rod *h* and its pin *i* respectively. To the lower end of said rod is secured a cup *l*, in which is loosely arranged a rubber ball *m*, adapted, when in normal position, to rest on the opening *e*, thus preventing the escape of the water from the hydrant. The lower portion of the shell *a* is provided with a flange *q* secured to the flange *r* of the upwardly extending portion *s* of the piston chamber *t*. Said piston chamber, which is arranged horizontally, that is to say, at right angles to the center line of the shell *a*—is provided at one side with a bushing 4, again provided with a series of parallel slots 5. Said bushing is secured to the piston chamber by means of a metal ring 6, to which latter the water inlet connection is made in any desired manner.

At the opposite end of the piston chamber *t* is arranged a tube *u*, provided with a series of vent holes 3. Within said tube and within the bushing 4, operate the pistons 2 and 1 respectively, which again are connected by a rack bar *w*, adapted to be engaged by a pinion *v*. Said pinion is secured to the shaft or spindle *o*, bearing with its lower pointed end in the downwardly extending portion 7 of the piston chamber, and with its upper portion in the block *d* and top *b*. The projecting portion of said shaft is provided with a squared or polygonal head *n*, adapted to be engaged by a key or crank, when the hydrant is about to be operated.

In Fig. 2 of the drawings, as hereinbefore stated, I have shown the hydrant inlet opened; the piston 1 rests in the inner portion of the bushing 4 and the water is free to enter through inlet connection 6 into said bushing, and through the slots 5 of the latter—into the hydrant. The piston 2 closes the vent holes in pipe *u*, thus preventing an escape of water through said pipe. If it is now desired to discharge the water through one outlet, one of the rods *h* is raised, until its pin *i* rests in the bent portion of the slot *k* of the guiding tube *g*, whereby the ball *m* is moved away from the opening *e*, and a free passage for the water is obtained. Additional streams of outflowing water are produced by raising the other balls *m*, by means of their respective rods *h*. When closing the hydrant, the shaft or spindle *o* is turned (by means of the crank), in the direction indicated by the arrow in Fig. 2, for about one hundred and eighty degrees. The piston 1 is thus moved into the outer portion of the bushing, thereby closing the inlet, and the piston 2 is returned to the inner portion of tube *u*, thereby opening the vent holes 3 and allowing the water in the hydrant to escape.

I do not intend to limit myself to the construction shown and described, as various alterations can be made, without changing the scope of my invention.

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

1. In a hydrant, the combination with the shell, of a block secured in the upper portion of said shell, and provided with a series of openings, said openings being adapted to connect the interior of the hydrant with the outlets, a top removably secured to said shell, a series of downwardly extending tubes arranged in said top and on the center line of said openings, each of said tubes being provided with an upwardly extending slot, a rod arranged in each of said tubes and extending through said top and provided with a pin, adapted to operate in the slot of the tube, a cup secured to the lower end of said rod, a rubber ball loosely arranged in said cup, and when in normal position, resting on the opening of the block, and means for holding said ball and its rod in its raised position, all said parts, substantially as described and for the purposes set forth.

2. In a hydrant, the combination with the shell, of a piston chamber arranged at right angles to the center line of said shell, a bushing arranged on one end of said piston chamber and provided with a series of parallel slots, a tube secured in the opposite end of the piston chamber and provided with a series of vent holes, a double piston adapted to control the inlet into the bushing and also the vent holes in the tube, a rack arranged on said double piston, a pinion engaging said rack, and means for so operating the said pinion, that one half revolution of the latter will fully open or close the hydrant inlet, all said parts, substantially as described.

3. In a hydrant the combination with the shell, of a piston chamber arranged at right angles to the center line of said shell, a bushing arranged on one end of said piston chamber and provided with a series of parallel slots, a tube secured in the opposite end of the piston chamber and provided with a series of vent holes, a piston arranged in the bushing and adapted to control the inlet to the latter, a piston arranged in the tube and adapted to control the vent holes, and means for operating said two pistons simultaneously, all said parts, substantially as described and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of September, 1892.

ADAM SCHEID.

Witnesses:
ALFRED GARTNER,
CHARLES KIENER.