(No Model.)

H. K. POTTER.

VALVE AND NOZZLE FOR STREET SPRINKLERS, &c.

No. 456,538. Patented July 21, 1891.

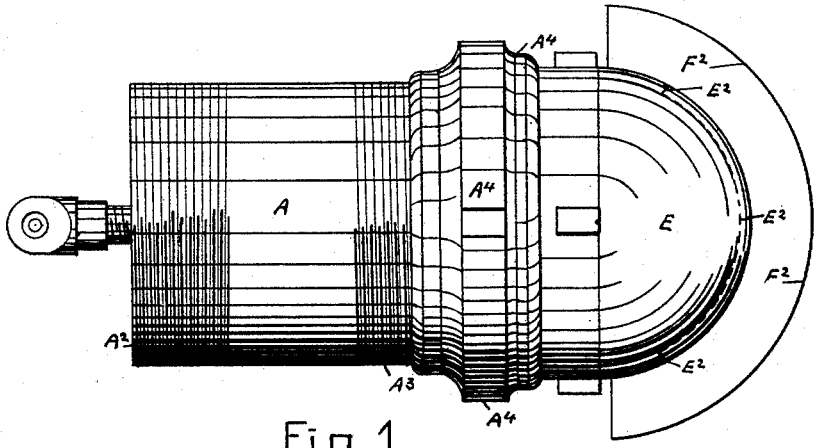

Fig. 1.

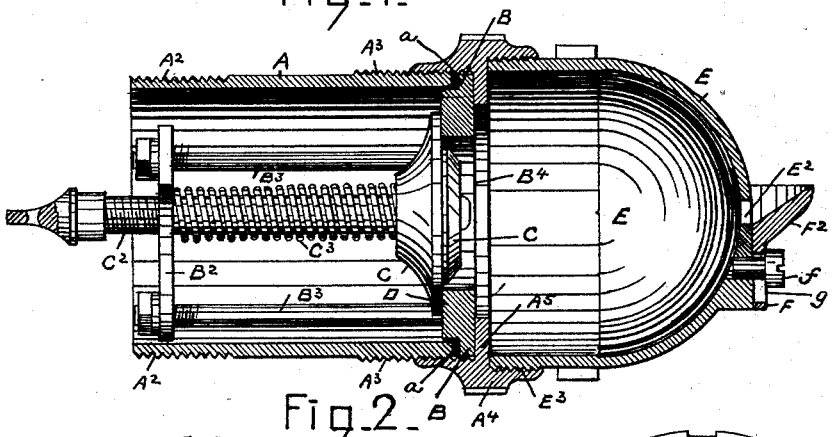

Fig. 2.

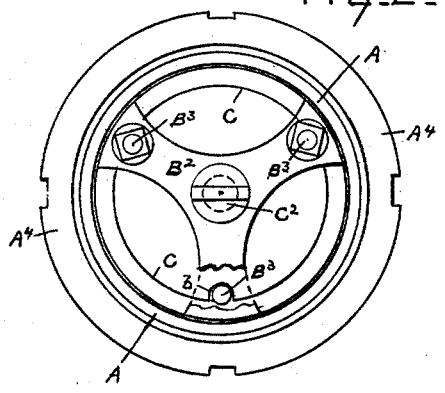

Fig. 3.

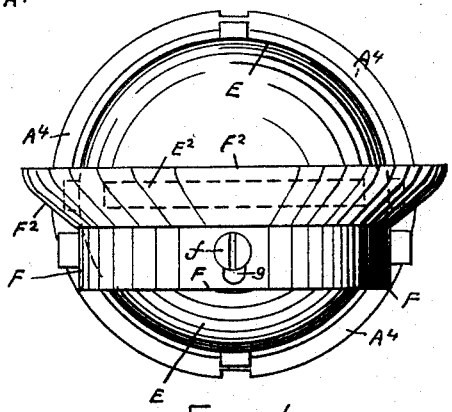

Fig. 4.

WITNESSES.

William Smith

C. H. Quinby

INVENTOR.

Henry K. Potter

by his Attorneys

Brown Brothers.

UNITED STATES PATENT OFFICE.

HENRY K. POTTER, OF SOMERVILLE, MASSACHUSETTS.

VALVE AND NOZZLE FOR STREET-SPRINKLERS, &c.

SPECIFICATION forming part of Letters Patent No. 456,538, dated July 21, 1891.

Application filed December 16, 1890. Serial No. 374,910. (No model.)

To all whom it may concern:

Be it known that I, HENRY K. POTTER, a citizen of the United States of America, and a resident of the city of Somerville, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Valves and Nozzles for Street-Sprinklers, &c., of which the following is a full, clear, and exact description.

This invention relates to contrivances severally constituting a valve and a nozzle for the discharge-pipe of the water-tank of a street watering or sprinkling cart; but, as will be apparent from the description hereinafter given, they may be used for other purposes. These contrivances, in substance, consist of a tubular shell or casing at one end adapted for attachment to the discharge of a tank, a skeleton frame located in and extending lengthwise of said shell and constructed of opposite parallel head-plates rigidly joined together by side rods and one open at its central portion and shaped to rest, suitably packed, on the opposite end of the shell to that attached, as stated, and having a valve-seat at its face toward said attached end, a valve to seat on and to open and close said central opening of said valve-seat and in its movement guided by said side rods of the valve-seat and having an axial stem that extends lengthwise of the frame and loosely through and beyond its head-plate toward said attached end of the shell and adapted to be suitably connected to secure a movement of the valve to open and close it, and a spring coiled about and confined end to end on said valve-stem between the valve and head-plate of frame opposite thereto, in combination with a chambered semi-cylindrical head secured to the shell at its end having the valve and valve-seat, and having a horizontal slotted water way or passage lying across its convex portion and directly opposite to the valve, and a horizontal fender upwardly extending and inclined from and lying around and below and adapted to be vertically adjusted on said head relative to said water-way, all substantially as hereinafter described.

In the drawings forming part of this specification, Figure 1 is a plan view. Fig. 2 is a central longitudinal vertical section, line 2 2, Fig. 1. Fig. 3 is a view at the attaching end of the shell, and Fig. 4 is a view at the end of the shell opposite to said attaching end.

In the drawings, A is the cylindrical shell or casing. B, B^2, and B^3 make the skeleton frame. C, C^2, and C^3 are respectively the valve, stem, and spring about valve-stem. D is the seat of the valve. E is the semi-cylindrical head, and E^2 is its slotted water-way, and F F^2 is the fender on the outside of said head, all and severally the contrivances of this invention in detail constructed, combined, and arranged together, as will now be fully explained.

The shell A at its opposite ends A^2 A^3 is exteriorly screw-threaded, at one end A^2 for attachment to the discharge (not shown) of a water-tank, (not shown,) for illustration, the tank of a water-sprinkling cart, for which the contrivances of this invention are especially designed, and at the other end A^3 by means of a screw-threaded coupling-nut A^4 for attachment to the screw-threaded end E^3 of the semi-cylindrical head E, before referred to, it being suitably exteriorly screw-threaded to receive said nut.

The coupling-nut A^4 has an inward-projecting and peripheral flange A^5, which on the attachment of shell and head, as stated, comes to a bearing against the screw-threaded end E^3 of head E, and between this flange and the screw-threaded end A^3 of the shell is firmly held suitably packed, as at *a*, a head-plate B, forming part of the skeleton frame B B^2 B^3. This head-plate B has a central opening B^4, and around this opening is a valve-seat D for the valve C, and this valve-seat is toward the end A^2 of the shell to be attached to a water-tank, as stated.

B^2 is the opposite-head of the skeleton frame, and B^3 are side rods joining and securing together the two heads B B^2 of said frame and severally parallelly arranged as to the axial line of the valve and its stem, the latter passing loosely through the outer head-plate B^2 and at its projecting end portion adapted for suitable connection for the opening and closing of the valve, as will more fully hereinafter appear.

The coiled spring C^3 surrounds the valve-stem C^2, and it is confined endwise between the valve C and the head B^2 of the skeleton frame through which, as has been stated, the

valve-stem passes. The valve is shaped when seated to close the central opening B^4 of the skeleton frame and thereby cut off the passage of water from the shell to the semi-cylindrical head E, and when lifted from said seat to open said central opening and thereby allow of the passage of water to the head from the shell and thence out at its slotted and horizontal water-way E^2, which is directly opposite to the valve. The valve is opened against and closed by the reaction of its spring C^3, and in both of its said movements it is guided by the side rods B^3 of the skeleton frame, and for that purpose it is suitably notched, as at *b*, Fig. 3, to engage therewith.

The fender F F^2 for the slotted water-way E^2 of the head E is horizontal relative to the water-way E^2 of the head E, and it is secured to the head on its outer side by headed screws *f*, (one only shown,) each entered through a separate vertical slot *g* of its lower vertical part F and into the head E and has its upper part F^2 vertically and upwardly inclining outward from the head and from the lower edge of the said water-way E^2.

The fender described and as explained attached to the head relatively to the slotted water-way thereof obviously operates by its inclined part F^2 to secure an upward spreading of the water as it is discharged at said way, and as the fender is adjustably attached to the head obviously the vertical dimensions of said water-way of the head, and also the character of the upward spread of the water, may be readily and easily varied as may be desired, the advantages of all of which are manifest without particular mention.

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

1. The combination, with the discharge-nozzle for a water-passage, which is composed of a shell A, adapted to be attached to said passage and having an interior flange A^5, and a head E, held on said shell and having a water-discharge E^3, of a skeleton frame composed of opposite heads B B^2 and side rods B^3 and at its head B held on said flange A^5 and having a central opening B^4, a valve C to seat on the head B and adapted to engage the side rods of said skeleton frame, a stem C^2 to said valve passing loosely through and projected from the head B^2 of the skeleton frame and at its projected end suitably adapted for operative connection to be made with it, and a coiled spring C^3, surrounding said valve-stem and confined endwise between the valve and the head B^2 of the skeleton frame, substantially as described, for the purpose specified.

2. In a discharge-nozzle for a water-passage, which interiorly has a valve to open and close it for the passage of water from one to the other of its opposite ends, and also a slotted water-way E^2 for the discharge of water from the nozzle, the combination of a horizontal fender F F^2, having its part F^2 vertically inclined and located at said water-way E^2 of the nozzle, and means to hold said fender by its part F on and to enable it to be adjusted vertically as to said water-way E^2, substantially as described, for the purposes specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HENRY K. POTTER.

Witnesses:
ALBERT W. BROWN,
MARION E. BROWN.