

(No Model.)

H. K. POTTER. SPRINKLER.

No. 504,134.

Patented Aug. 29, 1893.

Fig. 1.

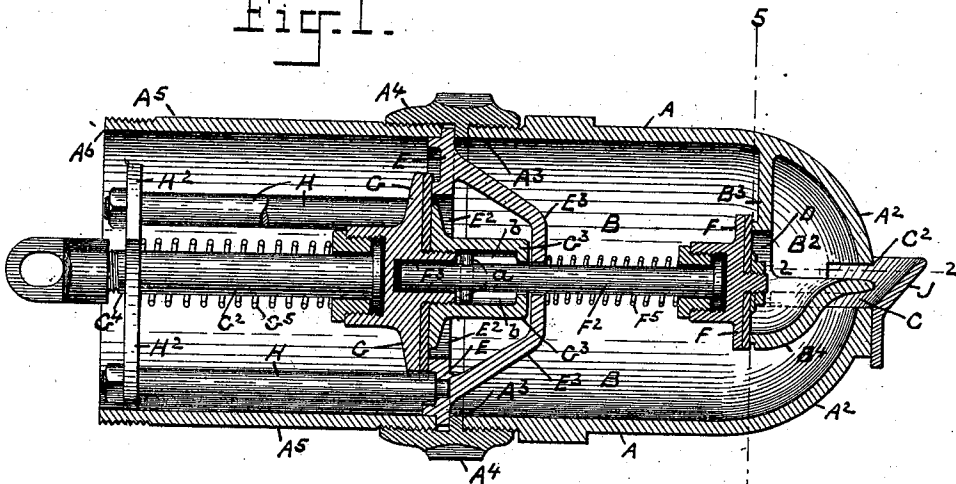


Fig. 2.

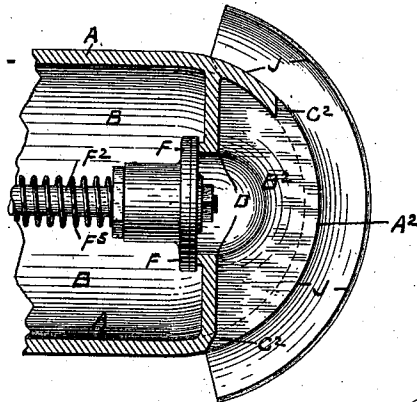


Fig. 3.

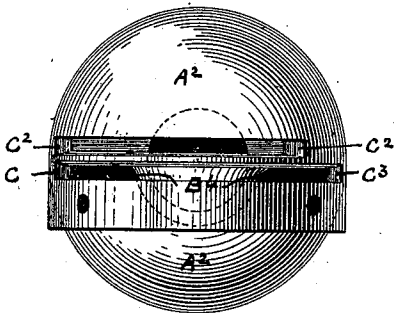


Fig. 4.

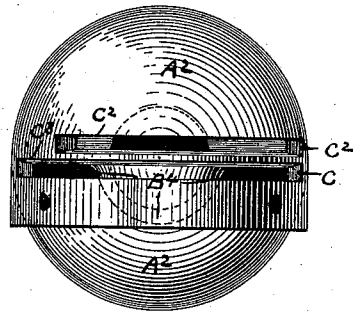
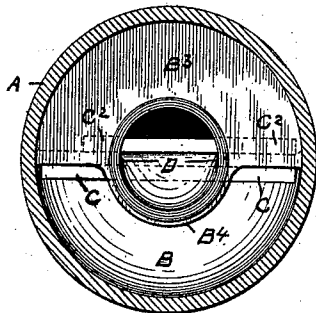


Fig. 5.



Witnesses.
John T. Nelson.
Marion E. Brown.

Inventor.
Henry K. Potter
by his Attorneys
Brown Brothers

UNITED STATES PATENT OFFICE.

HENRY K. POTTER, OF SOMERVILLE, MASSACHUSETTS.

SPRINKLER.

SPECIFICATION forming part of Letters Patent No. 504,134, dated August 29, 1893.

Application filed December 22, 1891. Serial No. 415,939. (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 certain new and useful Improvements in Sprinklers, of which the following is a full, clear, and exact description.

The sprinkler of this invention is more especially designed for watering or sprinkling carts although as is obvious it may be employed for other useful purposes. In substance, the sprinkler is composed of a nozzle, at one end to be in communication with the water-supply and at the other end constructed with two separate and distinct acting discharging passages of suitable form, preferably a slot or slots and interiorly having separate water-chambers adapted for communication of both and of one with the water-supply and each with one of said discharging-passages, in combination with valves located within the nozzle one to open and close the communication of one of said chambers with the water-supply and the other to open and close the communication of the two chambers with each other, and means connected to one and also joining both of said valves and adapted to first open in part the valve of the chamber in communication with the water-supply and then on continuing the opening of said valve to open the valve of the communicating chambers and otherwise to allow the valves to close when suitably released therefor.

In the drawings, forming part of this specification, Figure 1 is a central and longitudinal section of a sprinkler of this invention. Fig. 2 is a section, line 2—2, Fig. 1. Figs. 3 and 4 are elevations at the discharging ends of two separate nozzles which are placed side by side to the better illustrate nozzles having distinct acting discharge-passages of which some portion or portions extend beyond another portion or portions at the same side of the nozzle. Fig. 5 is a transverse section, line 5—5, Fig. 1.

In the drawings, A is the nozzle of the sprinkler. This nozzle is tubular and at one end its discharging end or head A² it is preferably hemispherical and at its other and water receiving end A³ it is attached by a screw coupling-nut A⁴ to one end of a pipe or tube

A⁵ which at its end A⁶ is to be connected, in any suitable manner, to a water-supply as for instance, a water tank (not shown) of a street-sprinkler cart and all in a manner to present the discharging end A² of the nozzle in the proper position, direction and relation for use for that purpose and as well known.

B, B² are two chambers or compartments of the nozzle A and formed by a partition B³, B⁴ having the part B³ diametrically but only partially across and near the discharging-head A² of the nozzle and the part B⁴, in continuation of the part B³ at one side of an axial plane and lengthwise of the nozzle toward and joined to the discharging-head A².

C and C² are two separate parallel slots across the discharging-head A² of the nozzle and communicating, the slot C with the chamber B and the slot C² with the chamber B² of the nozzle.

D is an opening through the part B³ of the partition B³, B⁴, and making communication between the chambers B, B².

E² is an opening of an annular plate or disk E which crosses the water receiving end A³ of the nozzle and at and about its outer edge is confined between the adjacent faces of said end A³ and the pipe A⁵ in continuation of the nozzle. The openings D, E² preferably are axially coincident with each other and with the nozzle.

F, G are valves for the openings D, E² respectively and by which to open and close them as hereinafter fully appears. The valve F closed seats upon and around the opening D of the part B³ of the partition B³, B⁴ and the valve G closed seats upon and around the opening E² of the annular plate E and in opening the valves they both move off of their seats in the same and a direction toward the water receiving end A³ of the nozzle, or in other words against the run of the water from the supply to the nozzle.

F² and G² are the stems of the valves F and G respectively. Both valve-stems are axially coincident and preferably and as well known and shown they are connected to the valves for the valves to swivel on them and thereby the better to insure their seating; otherwise than this the end F³ of the valve-stem F² opposite to that joined to the valve F as stated enters loosely into a corresponding

socket of the valve G and it has a cross projection or shoulder *a* lying within a longitudinal way *b* of limited length—(determined by its opposite end-wall or abutments)—and of a projection or head *G*³ of the valve G and through this head and a bridge *E*³ adjacent thereto of the annular plate E, said valve-stem *F*² passes and is thereby lengthwise guided in its movement on the valve G. The valve-stem *G*² at its end-portion *G*⁴ opposite to that joined to its valve as stated passes through a transverse head-plate *H*² of a frame *H* confined within the pipe *A*⁵ and making a guide for the movement of said valve and its stem in opening and closing, all as fully described in Letters Patent, dated March 11, 1890, No. 423,390.

*F*⁵, *G*⁵ are spiral springs, surrounding respectively the valve-stems *F*², *G*² and thereon confined end to end by and between the respective valves and the fixed-bridge *E*³ and head-plate *H*² herein before referred to. Each valve opens against and closes with the pressure or tension of its spring *F*⁵ or *G*⁵ as the case may be. The valves normally are closed, and in this position the shouldered and slot connection described of the valve-stem *F*² and the valve *F* is then situated so that pulling on the valve-stem *G*² to open its valve *G*, said valve *G* is first moved and opened for a limited distance, determined by the length of said slot of said shouldered and slot connection of said valve and the valve-stem *F*² and then the valve *F* being joined thereto on continuing the pull, it also is moved and opened, from all of which it is plain that a delivery of water from the discharging-head of the nozzle is first and only at the discharging-slot *C* in communication with the chamber *B* until the valve *F* is opened when it is also at the discharging-slot *C*² in communication with the chamber *B*², the results of which are that a discharge of water from the nozzle is had first of a small and then of a greater quantity as compared one with the other, the advantages of which at least for street or other such like sprinkling or watering are manifest without particular mention.

Each water discharging passage or slot *C*, *C*² may be of any proper length and width and again it may be continuous from end to end as particularly shown, or it may be di-

vided into a series of separated slots or other shaped orifices. In any event however it is preferable that the nozzle at its said discharging-passages should have as well known a water deflecting or spreading device, such as an upward and outward flaring lip *J* to deflect and spread the water discharged as described.

For street sprinkling or watering carts as well known and as is desirable, a sprinkler-nozzle is placed at the rear—and one at each side of the cart near to and beyond the rear wheels all so that the water discharged from one nozzle will lap over the water discharged from the other nozzle. In such cases if no provision is made to the contrary, the water midway or thereabout between the nozzles would be double in quantity or substantially so to that at all other portions. This objection is remedied by providing each nozzle with two, if not more, separate discharge-passages as explained and extending, as at *C*³, one portion of said discharge-passages of each nozzle, around the nozzle at its side which is toward the other nozzle, beyond the other portion thereof.

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

In a nozzle for sprinkling purposes, a water-chamber for communication with a water supply, a valve to open said chamber to and to shut it off from the water supply, and a discharge passage for said chamber, in combination with a supplemental chamber located in said water chamber, a valve to open and to close communication between said chambers, a discharge passage for said supplemental chamber, and operating devices common to both of said valves, adapted to close both, to partially open the valve of the main chamber while the valve of the supplemental chamber remains closed, or to fully open both, substantially as described, for the purposes specified.

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

H. K. POTTER.

Witnesses:

ALBERT W. BROWN,
JOHN F. NELSON.