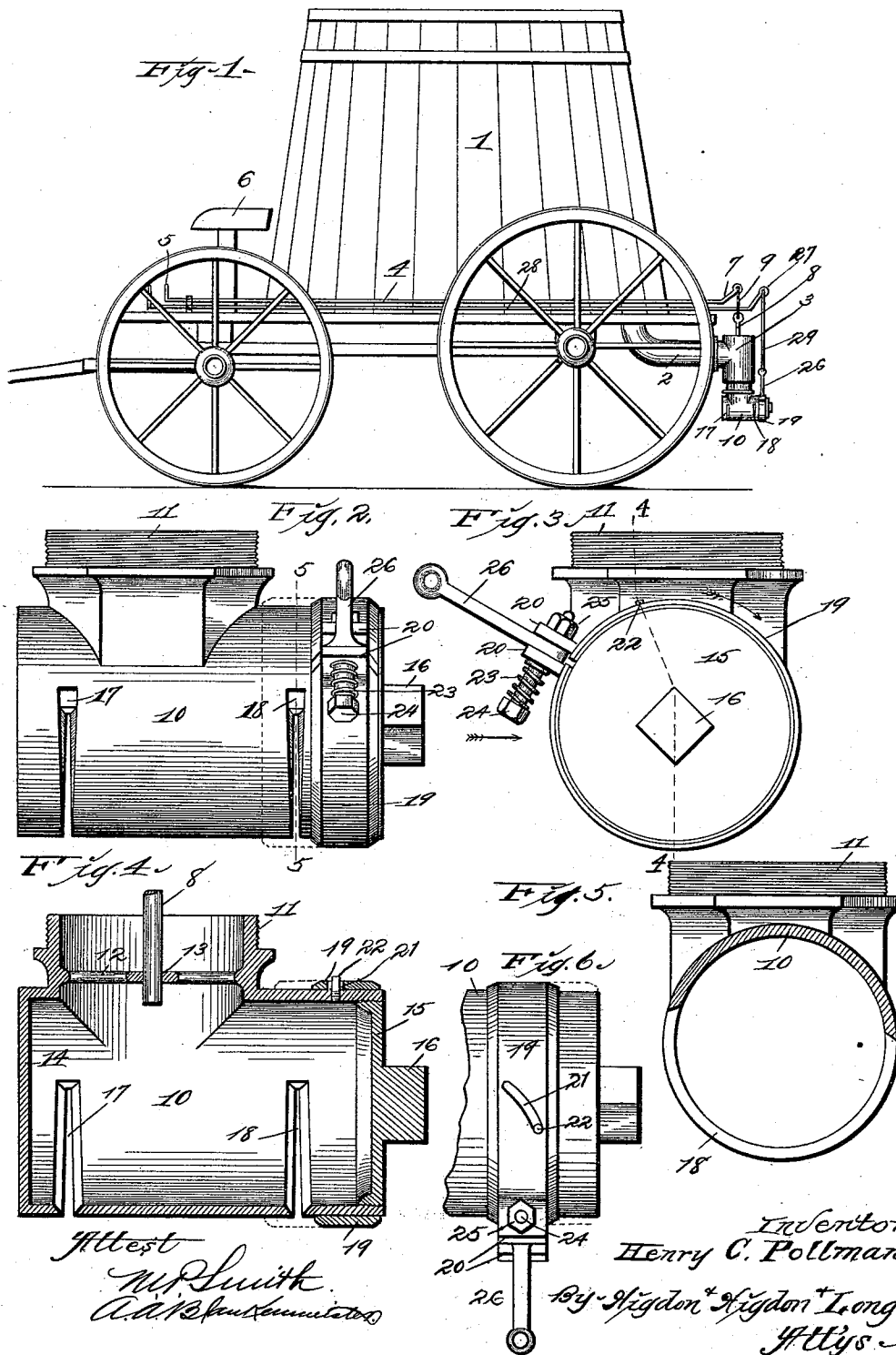


(No Model.)

H. C. POLLMAN.
STREET SPRINKLER.

No. 537,230.

Patented Apr. 9, 1895.



UNITED STATES PATENT OFFICE.

HENRY C. POLLMAN, OF ST. LOUIS, MISSOURI.

STREET-SPRINKLER.

SPECIFICATION forming part of Letters Patent No. 537,230, dated April 9, 1895.

Application filed August 6, 1894. Serial No. 519,543. (No model.) Patented in England August 31, 1894, No. 16,606.

To all whom it may concern:

Be it known that I, HENRY C. POLLMAN, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Street-Sprinklers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

This invention was patented in Great Britain on August 31, 1894, No. 16,605.

My invention relates to that class of street sprinklers which deposit a comparatively thin solid sheet of water upon the surface to be sprinkled, and consists in the novel construction, combination and arrangement of parts, hereinafter specified and designated in the claims.

The object of my invention is to provide an improved street sprinkler of the class mentioned, which shall use less water in sprinkling the same surface than sprinklers heretofore constructed; which shall deposit a thin solid sheet of water in a vertical plane with such force that said sheet will penetrate beneath the surface of the dirt, and, consequently, the result will be more effective and lasting; which shall be very simple and readily controlled during operation; and which shall deposit a vertical thin sheet of water over a comparatively great width of the street.

Referring to the drawings: Figure 1 is a side elevation of a street sprinkler, embodying my invention. Fig. 2 is a detail side elevation of the sprinkler-casing detached. Fig. 3 is an end elevation of the parts shown in Fig. 2. Fig. 4 is a sectional side elevation on the line 4—4 of Fig. 3, looking in the direction indicated by the arrow. Fig. 5 is a sectional end elevation on the line 5—5 of Fig. 2. Fig. 6 is a top plan view of the parts shown at the right hand of Fig. 2.

1 indicates the usual tank mounted upon wheels and provided with a discharge pipe 2, any common form of valve 3 and controlling-rod 4, whereby passage of the water from the tank through said valve may be controlled. Of course any suitable form of foot-lever 5 may be applied to the controlling-rod 4 at a point convenient to the driver's seat 6. I have here shown a controlling-rod 4 adapted to be rocked in suitable bearings, and provided with a crank 7 at its rear end, which is con-

nected to the upper end of the valve-stem 8 by means of a suitable link 9, so that when said controlling-rod is rocked the controlling-valve will be opened or closed.

10 indicates the sprinkler-casing, which is preferably mounted in a horizontal position directly beneath the valve-casing 3 and detachably connected thereto by means of a threaded integral connection 11, which projects a distance upon the upper side of said sprinkler-casing, whereby the same may be attached and detached from said valve by revoluble movement. However, any common form of connection between the valve-casing and the sprinkler-casing may be employed. Located on the interior of the threaded connection 11 is a spider 12 having a central vertical passage 13 for guiding the lower end of the valve-stem 8.

In practice I usually make use of two of the sprinkler-casings, and valves and their connections located one at each side of the sprinkling cart or wagon so as to direct one or more solid sheets of water laterally at each side of said cart or wagon, but as the construction of parts upon one side thereof is a duplicate of that upon the opposite side, I will limit my description to one sprinkler-casing, valve and the suitable connections.

The front end of the sprinkler-casing 10 is preferably closed by an integral head 14, while the rear end thereof is normally closed by a removable cap or plug 15 detachably connected to said rear end by means of screw-threads, and provided on its rear face with an angular nut or projection 16 to be engaged by a suitable wrench for removing or replacing said cap or plug.

An important portion of my invention is the forming and location of the discharge slots in the sprinkler-casing. I preferably make use of two slots 17 and 18 in each sprinkler-casing, each of which is made comparatively wide at one end and which taper continuously to their opposite ends, which are comparatively much narrower. Both ends of said slots are preferably in horizontal alignment. The slots extend preferably slightly more than one-half the circumference of said sprinkler-casing and are located with their wider ends outward next adjacent to the rear wheels of the cart or wagon, and they are formed in the

lower half of the said sprinkler-casing so as to direct a solid stream of water downwardly and outwardly, with the thicker portion of said stream extending outwardly to a considerable distance beyond the sprinkling apparatus.

The slots 17 and 18 preferably have their inner walls tapered, chamfered, or made to converge from the interior of said sprinkler-casing outward, so that each slot forms a sort of restricted opening, and I have found that such construction acts as a nozzle and directs the stream of water with considerably more force than it would if said slots were formed with parallel walls only. One of the slots is preferably formed near the front end of the sprinkler-casing, and the other one near the rear end thereof. The front slot 17 is to be controlled solely by the common valve 3 and its connections, but the rear slot 18 I control by any common means or by means of a mechanism, which I will now proceed to describe in detail.

19 indicates a cut-off valve in the form of a split ring having two parallel lugs or projections 20 adjacent to its ends with a space between said lugs and ends, and loosely mounted to slide upon the outer surface of said sprinkler-casing to cover and uncover the rear discharge slot 18, whereby the discharge of water from the said slot may be controlled independently of the common valve 3 and its connections, so that when said valve 3 is open, water may be simultaneously discharged from both slots, or the slot 18 may be closed by means of the cut-off ring 19, while the discharge of water from the other slot continues. I prefer to mount the cut-off ring 19, so that it will have a slight simultaneous axial and longitudinal movement upon said sprinkler-casing.

The ring 19 is provided with a diagonal slot 21 which is engaged by a pin or projection 22 projecting from the outer surface of said sprinkler-casing adjacent to the rear end thereof, so that when said ring is moved axially in either direction, it will be simultaneously moved longitudinally upon said casing in a corresponding direction so as to cover or uncover the slot 18. (See Figs. 2, 4 and 6.)

The ring 19 is normally clamped securely around the sprinkler-casing by means of a spring 23 encircling a bolt 24, which latter loosely engages aligned perforations in the lugs or ears 20 of said ring. One end of the spring 23 bears upon one of the lugs or ears 20, while the opposite end thereof is in contact with the head of the bolt 24. A nut 25 is threaded upon the opposite end of said bolt for the purpose of adjusting said spring.

Loosely mounted on the bolt 24 between the perforated lugs or ears 20 is an arm 26, the free end of this arm being connected to a crank 27 on the rear end of an operating-rod 28 by means of a link 29. The operating-

rod 28 is similar in construction to that of the controlling-rod 4 and need not be further described.

The operation is as follows: When it is desired to discharge water from the slots 17 and 18, the controlling-rod 4 is used to open the valve 3 and if the cut-off ring 19 be located in the position in which it is shown in Figs. 1, 2 and 4, water will be discharged simultaneously from both slots. When it is desired to cut off the supply of water from both slots, the valve 3 is closed by manipulating the controlling-rod 4 in the usual manner. When it is desired to discharge water from the slot 17 only, the operating-rod 28 is manipulated so as to throw its crank 27 upward which carries with it the link 29 and the outer end of the arm 26. This causes the arm 26 to act as a lever and to pry apart the adjacent lugs or ears 20, compressing the spring 23 and separating the ends of the split cut-off ring 19, thereby loosening said ring upon the sprinkler-casing, so that it may be moved easily, and as the upward movement of said arm continues the said ring is moved axially in the direction of the arrow in Fig. 3, and the slot 21 in said ring engages the pin 22 projecting from the outer surface of said casing, and said ring is thereby moved forward in a longitudinal direction upon said casing until the slot 18 is completely covered by said ring. When it is desired to simultaneously discharge water from both slots, the movement of the operating-rod 28 and its said parts is reversed; or, in other words, the arm 26 is returned to its normal position which first again pries apart the lugs or ears 20, and then as the downward movement continues it moves the ring 19 in a reverse direction to that indicated by the arrow in Fig. 3, thereby moving the said ring longitudinally of the said sprinkler-casing and uncovering the slot 18, and when pressure is removed from the arm 26 by the link 29, the spring 23 causes said ring to again clamp the sprinkler-casing and be held securely in position. In Fig. 6 I have shown the ring over the slot 18. The water from the slots 18 will be discharged in a vertical thin solid sheet downwardly and outwardly, the greater volume being thrown outward owing to the wider ends of said slots being at the outside and the force of said sheet will be amply sufficient to penetrate the body of dirt upon the street and make it so wet that it will not need another sprinkling for a considerable length of time. Owing to the narrow portion of the slots being inward, but a small quantity of water will be discharged directly beneath the tank 1, as very little is needed at that point. Also by reason of the wider portions of said slots being at the outside of the sprinkler casing, the water issuing from the wider part of the slots is thrown farther before it reaches the ground, and consequently is spread over a greater area, for which reason

of course a larger volume is needed to sprinkle the greater area as completely as the smaller area beneath and between the nozzles.

It will be observed that my improved sprinkler deposits the water just where it is most needed.

What I claim is—

1. The casing of a street sprinkler provided with a slot which gradually widens from one end, in combination with a suitable valve for controlling the issue of water from such slot, substantially as herein specified.

2. The sprinkler-casing of a street sprinkler provided with a slot which gradually widens from one of its ends to its opposite end, substantially as herein specified.

3. A cylindrical sprinkler-casing fixed in a horizontal plane and provided with a tapered

slot which extends circumferentially of said casing, with a wider part of said slot at the outside of said casing than at the under side thereof, substantially as herein specified.

4. A cylindrical sprinkler-casing located in a horizontal plane and provided with a continuously tapered slot which extends circumferentially through said casing, with its widest end at the outside of said casing, and in a plane above the axis of the latter, substantially as herein specified.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY C. POLLMAN.

Witnesses:

JNO. C. HIGDON,
MAUD GRIFFIN.