

No. 896,643.

PATENTED AUG. 18, 1908.

B. KORTAS.
ROAD SPRINKLING APPARATUS.
APPLICATION FILED AUG. 12, 1907.

3 SHEETS—SHEET 1.

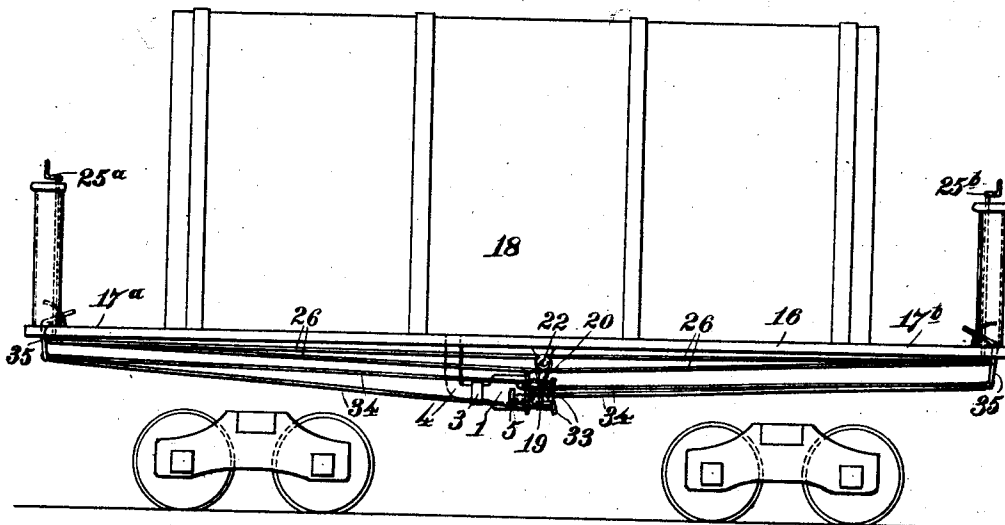


Fig. 1.

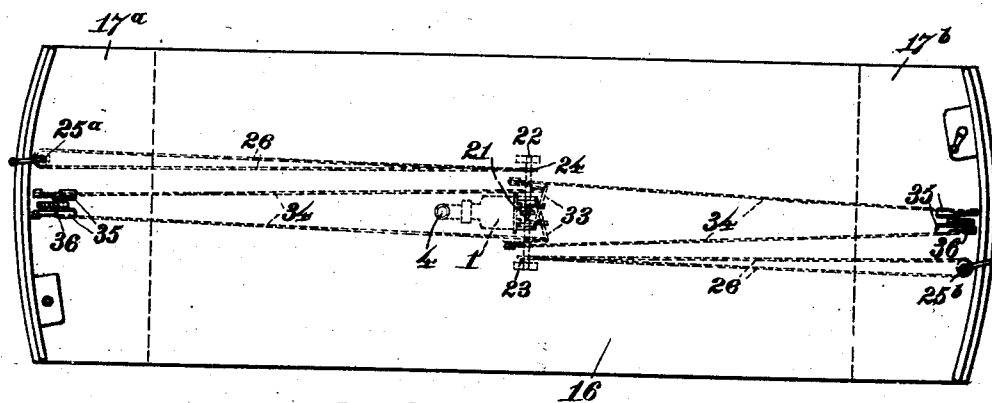


Fig. 2.

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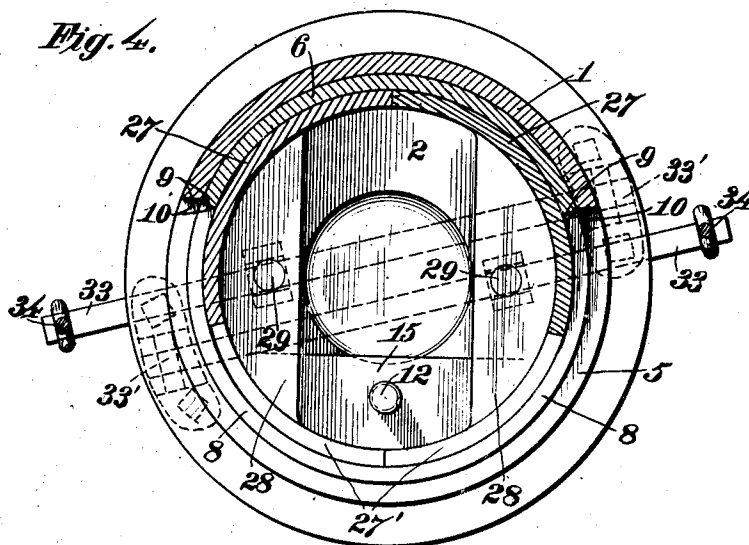
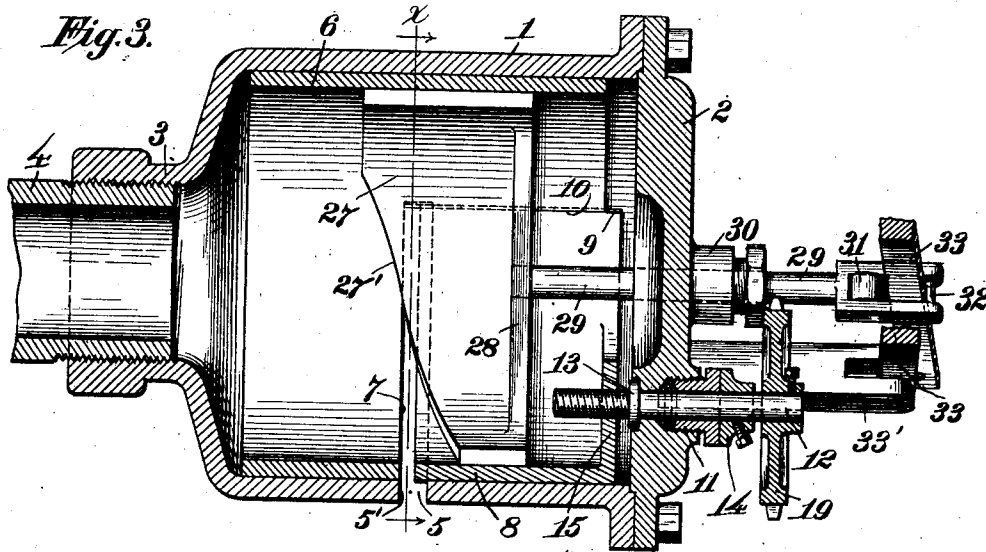
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

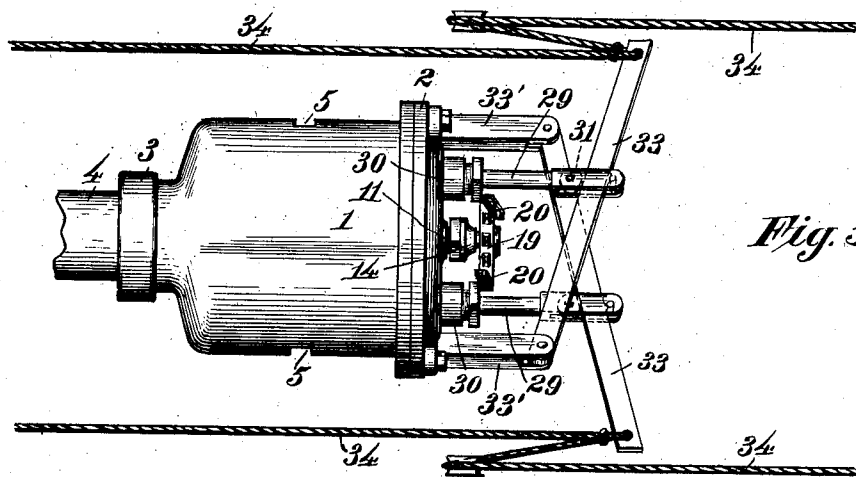


Fig. 5.

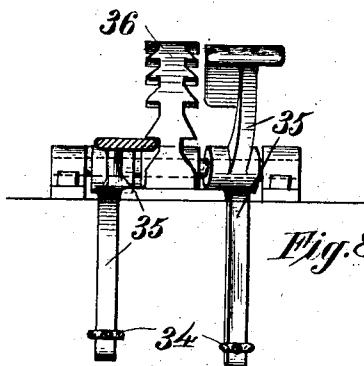


Fig. 8.

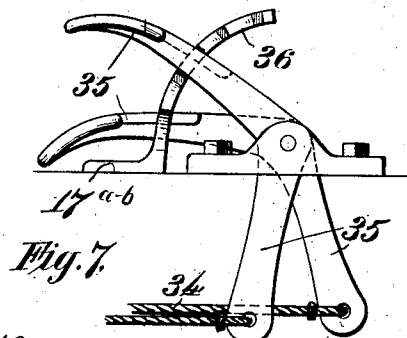


Fig. 7.

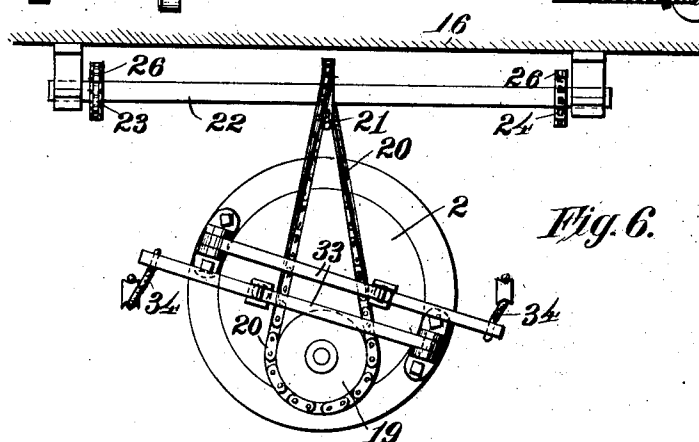


Fig. 6.

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UNITED STATES PATENT OFFICE.

BERNARD KORTAS, OF CHICAGO, ILLINOIS, ASSIGNOR TO JENS SUNDBY, OF CHICAGO, ILLINOIS.

ROAD-SPRINKLING APPARATUS.

No. 896,643.

Specification of Letters Patent.

Patented Aug. 18, 1908.

Application filed August 12, 1907. Serial No. 388,178.

To all whom it may concern:

Be it known that I, BERNARD KORTAS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Road-Sprinkling Apparatus, of which the following is a specification.

My invention relates to road sprinkling apparatus and has special reference to improvements in sprinklers such as are particularly adapted for use by street railways to sprinkle the road bed. Although my improved sprinkler is particularly adapted for such use, it is to be understood that it may be used in the form of the usual street sprinkling wagon, or even in the small portable sprinklers for large lawns, without departing from the scope of my invention.

The object of my invention is to provide a sprinkling apparatus of such improved construction that the volume of water discharged therefrom may be nicely regulated, and wherein the spread of the spray may be varied at will.

A further object of my invention is to provide a sprinkler, as mentioned, of such construction that the volume of discharge and the spread of the spray may be easily and quickly regulated by the operator from the front of the device; that is, by the motorman if in use upon a traction car, or the driver if on a wagon.

A further object is to provide a device, as mentioned, in which the spray may be quickly and entirely cut off on one or both sides, by the operator, without interfering with or impeding his operation of the car or wagon.

Other objects will appear hereinafter.

With these objects in view, my invention consists generally in a suitable vehicle provided with a water tank, a spraying head suitably arranged thereon, a discharge slot in said head, means for varying the width of said slot to regulate the volume of discharge, and means for varying the length of the slot to regulate the spread of the spray.

My invention further consists in an apparatus having the characteristics mentioned and of such construction that the discharge and spray may be regulated by the operator from the front of the machine.

My invention further consists in various details of construction and arrangements of

parts all as will be hereinafter fully described and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification and in which

Figure 1 is a diagram in elevation, of a car such as used by street railroads in sprinkling the road bed, the same being equipped with a spraying apparatus embodying my invention, Fig. 2 is a plan view of the car bed and sprinkling apparatus shown in Fig. 1, the tank being removed, Fig. 3 is a vertical longitudinal section, on an enlarged scale, of the sprinkler head, Fig. 4 is a cross section of the head on the line $x-x$ of Fig. 3, Fig. 5 is a top plan view, upon a somewhat smaller scale, of the sprinkler head, illustrating the spray regulator operating mechanism, Fig. 6 is an end view thereof and Figs. 7 and 8 are detail views of the foot levers for operating the spray regulating mechanism.

Referring to the drawings, 1 indicates the shell of the sprinkling head. This is preferably cylindrical and is closed at one end by a head 2 and at the opposite end is provided with an inlet or threaded throat 3 by which it is attached to a water supply pipe 4 leading from a suitable tank. Substantially midway of its length the shell 1 is provided with a circumferential slot 5. This constitutes a discharge opening and may be made of any length desired to suit the particular use to which it is to be put; the longer the slot, the greater the spread of the spray. When a single head is to be used, the slot extends a considerable distance around the head, in order that the water shall be ejected a sufficient distance to both sides of the machine. However, if two heads are to be used, that is one on each side of the apparatus, the slot is made somewhat shorter; it being but necessary in such a case for the slot to be on the outer side and bottom, only.

The slot 5 is made wide enough to give the maximum discharge of water required at any time, and I provide means for varying the width of said slot in order to regulate the volume of discharge. Fixed within the shell 1 is a cylindrical lining 6, preferably of brass, and extending almost the length of the shell. The lining 6 is cut away as shown in Figs. 3 and 4; the width of the cut-away portion being co-extensive with the length of the slot 5

and extending from the side of the slot nearest to the inlet 3 to the end of the lining nearest the head 2. The edge 7 of the cut-away portion, is thus flush with the edge 5' of the slot 5; hence, the lining 6 does not in any degree close the slot 5 or interfere with the discharge of water therefrom. The portion which is removed from the cylinder 6 is slidably mounted in place and constitutes a slide valve 8. The edges 9 of the valve fit snugly against the edges 10 of the lining 6, holding the valve in place. It is evident that by moving the valve 8 longitudinally of the shell the width of the slot will be varied and the volume of discharge regulated accordingly.

To move the valve I provide the following mechanism: Extending through a stuffing box 11 in the head 2 of the shell 1, is a shaft 12, provided with the collars 13 and 14 to prevent endwise movement thereof. The inner end of the shaft is screw threaded through a flange 15 formed on or fixed to the valve 8. By turning the shaft 12 to the right or left, the valve will be moved to open or close the slot 5 or to vary its width. The movement of the valve is limited by the head 2 and the edge 7 of the lining member 6, hence, there is no danger of the flange 15 leaving the threaded end of the shaft 12. Any suitable means may be employed to turn the shaft. To this end a hand wheel could be provided thereon, and inasmuch as the position of the valve is changed but seldom after having been once set, will cause but little inconvenience in operation. However, I prefer to have the valve operable from the front of the vehicle, and for this purpose, provide the operating device shown in the drawings. In the several figures of the drawings, I have shown the sprinkler as applied to a street railway sprinkling car, of which, 16 indicates the bed or floor terminating at each end in a platform 17^a—17^b, for the motorman or operator. 18 indicates the water tank. Upon the shaft 12 is a sprocket wheel 19, connected by a chain 20 to a sprocket wheel 21 on a cross shaft 22. The shaft 22 is suitably supported beneath the car and is provided with sprocket wheels 23 and 24. These are connected to crank shafts 25^a—25^b upon the respective platforms 17^a—17^b by chains 26. Hence, the valve may be operated from either end of the car.

Although I have shown and described a specific form of mechanism for operating the valve it is obvious that other means may be employed without departing from the scope of my invention. Also, when the device is used on a sprinkling wagon it is but necessary to carry the operating mechanism to one end thereof.

To vary the width of the spray, to cover the desired space, and to provide means for momentarily cutting off the spray from one side, when passing another vehicle, or pedes-

trians, I equip the device with auxiliary valves. These constitute a pair of semi-cylindrical members 27—27' having one edge 27' cut at an angle. (See Fig. 3). By moving one or both of the valve members 27 longitudinally of the head 1, it is evident that they will vary the length of the opening of the slot 5, by cutting it off at either or both ends, and that to a degree proportional to the movement of said valve or valves. Each valve 27 is provided with a web 28 by which it is secured to a stem 29 extending through a stuffing box 30 on the head 2. The end of each stem 29 is bifurcated and provided with a roller 31 between which and a pin 32 is arranged a lever 33. The levers 33 are pivotally connected to brackets 33' secured to the head 2 and constitute a portion of the means for operating the valves 27. To the other ends of the levers 33 are secured the cables 34 which pass to the ends of the car and are attached to the ends of bell crank levers 35 arranged upon the platform of the car in a position to be readily operated by the foot of the motorman. The levers 35 are arranged close enough together to permit the motorman to depress both at the same time with one foot; however, it is obvious that either can be operated independently of the other. 36 indicates a notched segment arranged between the levers 35 by means of which the levers, and hence, the valves, may be held in any desired position. When the levers 35 are released the pressure of the water impinging against the webs 28 quickly throws the valves 27 back, opening the slot 5 to its full length. When the water is to be used under pressure, as is frequently the case, the area of the webs 28 may be reduced in order to lessen the force required to close the valves 27. If two sprinkler heads are used, it is evident that but one valve 27 is needed in each head.

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

1. In a device of the class described, a spraying head comprising a substantially cylindrical shell having a circumferentially disposed discharge opening therein, a water supply pipe secured to one end thereof and a suitable head closing the opposite end in combination with a cylindrical lining therein, said lining being cut away to form ways for a valve, a valve mounted therein and adapted to move longitudinally of said shell to vary the width of said discharge opening, another valve arranged within said lining and having an angularly disposed edge adapted to be moved across said discharge opening to vary the length thereof and suitable means for operating said valves, substantially as described.

2. In a device of the class described, a spraying head comprising a substantially cylindrical shell having a circumferentially

disposed discharge opening therein, a water supply pipe secured to one end thereof and a suitable head closing the opposite end, in combination with a valve adapted to move longitudinally in said shell to vary the width of said discharge opening, a screw for operating said valve, another valve arranged within the casing and having an angularly disposed edge adapted to move across said discharge opening to vary the length thereof and means for operating said valve, substantially as described.

3. In a device of the class described, a spraying head comprising a substantially cylindrical shell having a circumferentially disposed discharge opening therein, a water supply pipe secured to one end thereof and a suitable head closing the opposite end in combination with a valve adapted to move longitudinally in said shell to vary the width of said discharge opening, means for operating said valve, a pair of similar valves having oppositely inclined edges adapted to move across said discharge opening to vary the length thereof and means for operating said valves independently of each other, substantially as described.

4. In a device of the class described a spraying head comprising a substantially cylindrical shell having a circumferentially disposed discharge opening therein, a water supply pipe secured to one end thereof and a suitable head closing the opposite end in combination with a valve adapted to move longitudinally in said shell to vary the width of said discharge opening, a screw for operating said valve, another valve arranged within the casing and having an angularly disposed edge adapted to move across said discharge opening to vary the length thereof, a web on said valve against which the water entering the head is adapted to impinge to open said valve and a lever operated stem extending from said web through said head for operating said valve to vary the width of said discharge opening, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BERNARD KORTAS.

Witnesses:

H. S. AUSTIN,
HELEN F. LILLIS.