

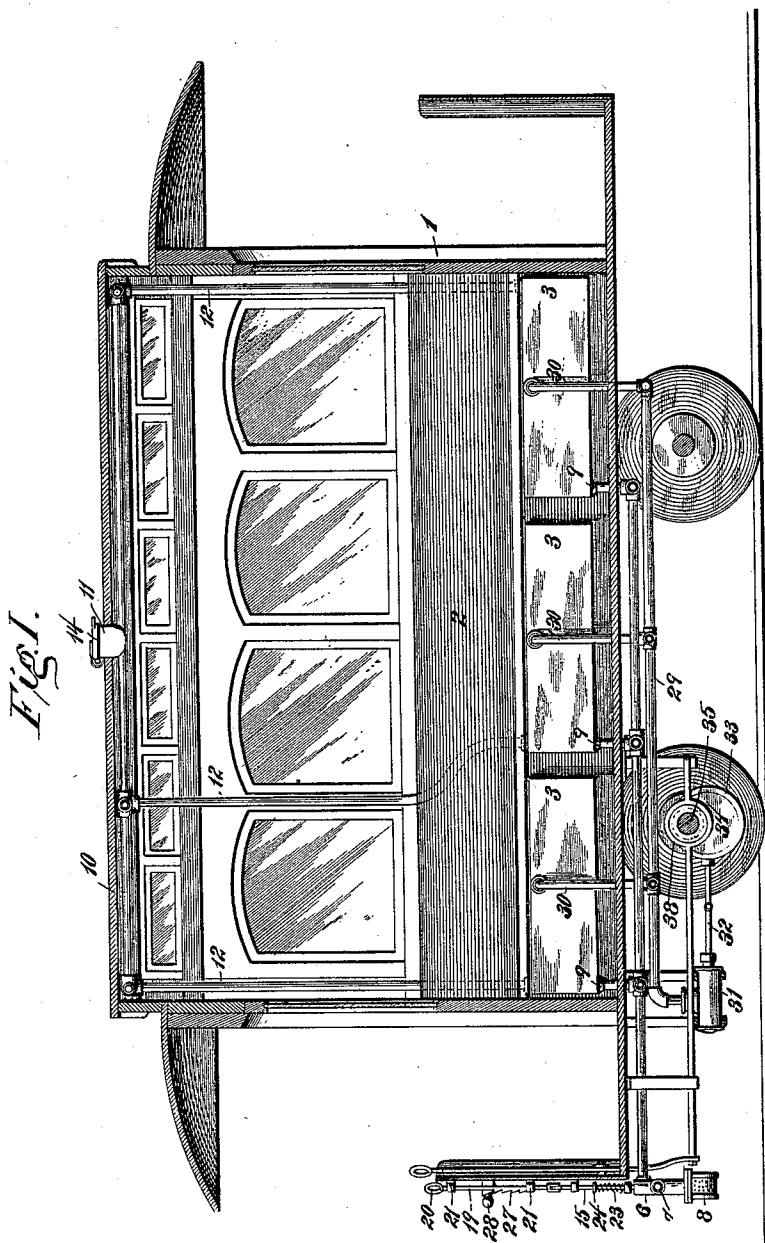
(No Model.)

3 Sheets—Sheet 1.

J. S. McGEHEE.
STREET SPRINKLING APPARATUS.

No. 568,540.

Patented Sept. 29, 1896.



WITNESSES

David G. Julihn
Witness

INVENTOR

John S. McGehee
By James L. Atkins
Attorney

(No Model.)

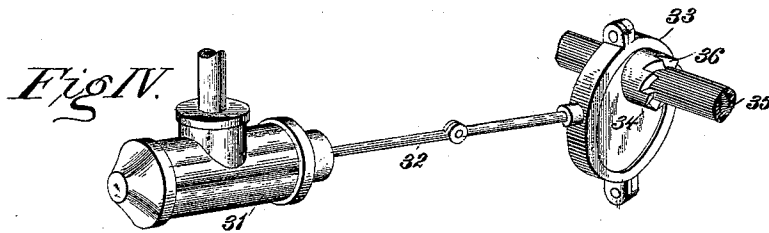
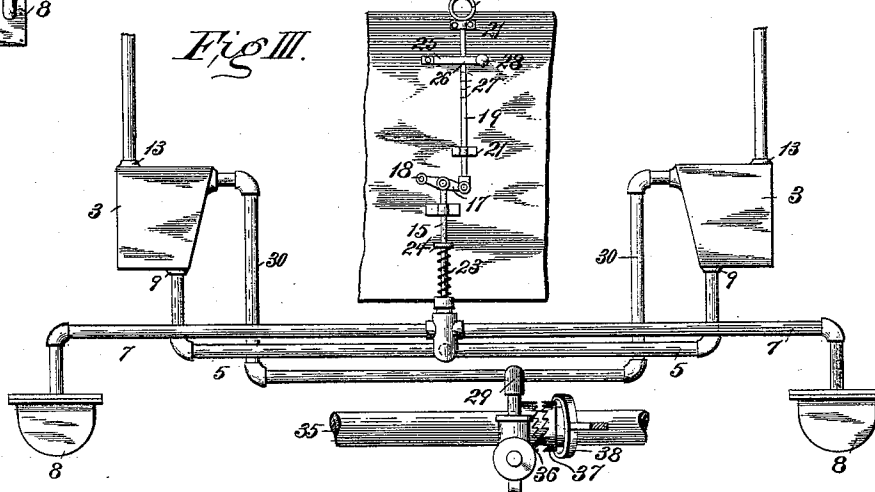
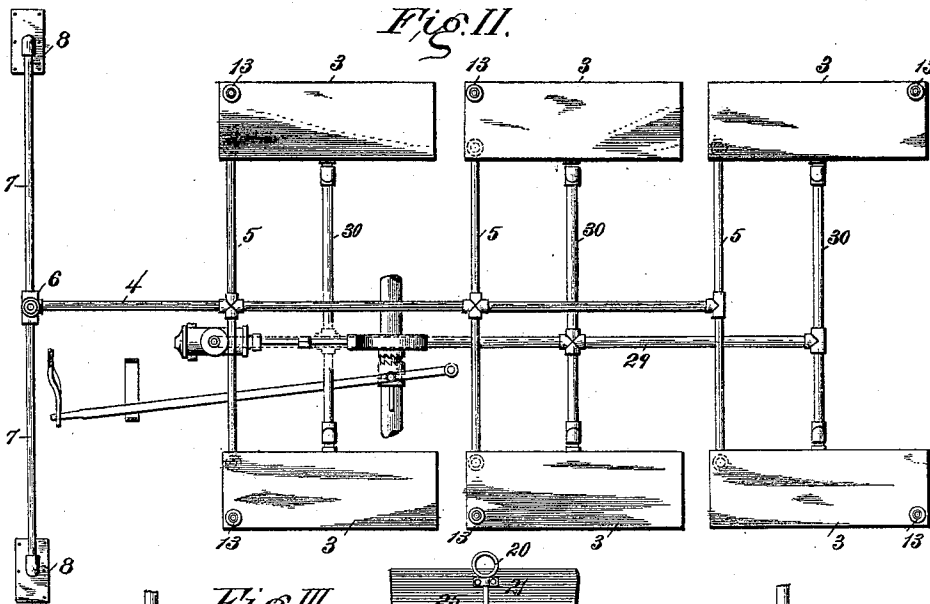
3 Sheets—Sheet 2.

J. S. McGEHEE.

STREET SPRINKLING APPARATUS.

No. 568,540.

Patented Sept. 29, 1896.



WITNESSES

Louis G. Fulkner
S. M. Ackers

Shaker

INVENTOR

John S. McGehee

By Joseph L. Atkins
Attorney.

Attorney.

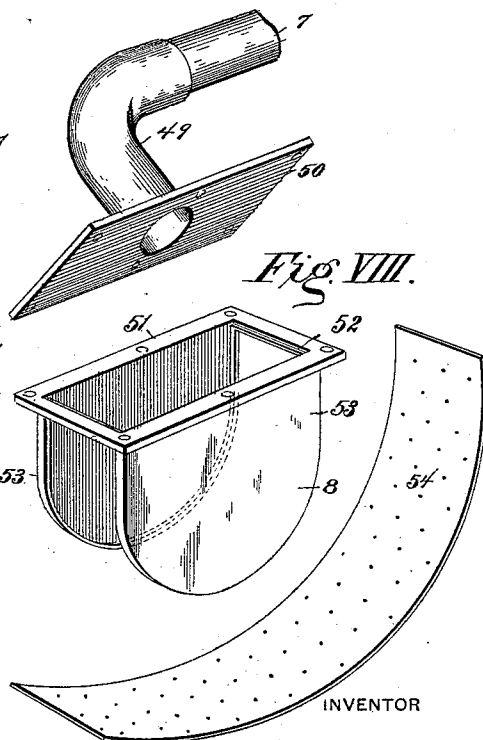
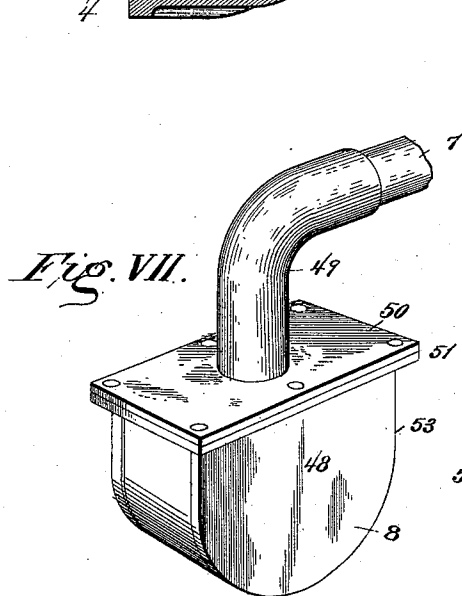
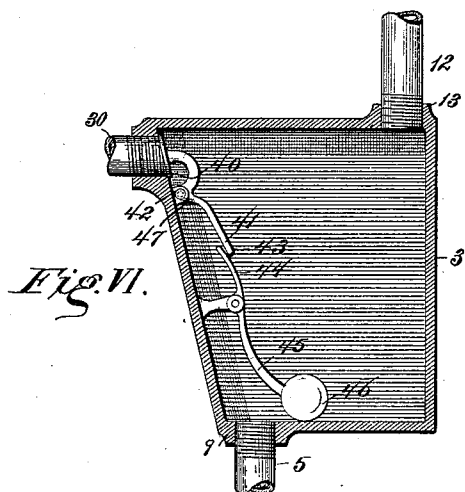
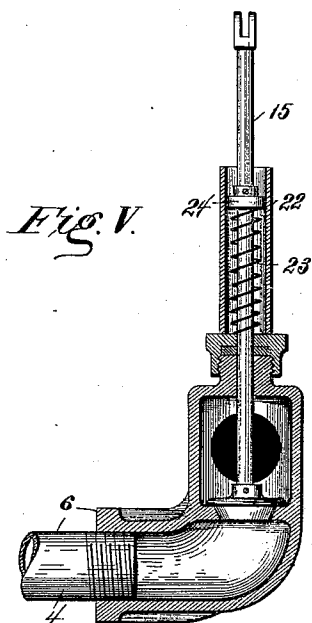
(No Model.)

3 Sheets—Sheet 3.

J. S. McGEHEE.
STREET SPRINKLING APPARATUS.

No. 568,540.

Patented Sept. 29, 1896.



WITNESSES

Louis G. Julihn
Smacken

INVENTOR

John S. McGehee
By Joseph L. Stevens
Attorney

UNITED STATES PATENT OFFICE.

JOHN SCOTT MCGEHEE, OF NEW ORLEANS, LOUISIANA.

STREET-SPRINKLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 568,540, dated September 29, 1896.

Application filed October 11, 1895. Serial No. 565,430. (No model.)

To all whom it may concern:

Be it known that I, JOHN SCOTT MCGEHEE, of New Orleans, parish of Orleans, State of Louisiana, have invented certain new and useful Improvements in Street-Sprinkling Apparatus, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce a novel and efficient street-sprinkling apparatus designed particularly for use upon street-cars in which the reservoirs are located so as to afford the least possible inconvenience, and in which simple and efficient means is employed for throwing the water in a fine spray or mist to a considerable distance.

To the accomplishment of the above object my invention consists in so locating and connecting a series of comparatively diminutive reservoirs that the force of water from the last reservoir of the series is as efficient as when the head of water in the entire series is utilized, and, further, in the employment of certain novel mechanism designed to subject the water in the reservoir to a considerably higher pressure than the surrounding atmosphere, and in the novel construction and arrangement of the sprinkler-nozzle proper which is designed to be used in connection with the aforesaid apparatus.

In the accompanying drawings, Figure I is a vertical longitudinal section of a car provided with my sprinkling apparatus. Fig. II is a top plan view of my entire apparatus detached from the car. Fig. III is an end elevation of the apparatus shown in Fig. II. Fig. IV is a detail view on an enlarged scale, showing the pump and its actuating mechanism. Fig. V is a similar view showing the gate or controlling-valve and its actuating mechanism. Fig. VI is a vertical section of one of the reservoirs, showing the cut-off mechanism. Fig. VII is a perspective view of the sprinkler-nozzle; and Fig. VIII is a group of details, showing the construction and arrangement of the several parts of the nozzle.

Referring to the figures on the drawings, 1 indicates a car-body, 2 the seats thereof, located, as usual, along the sides, and 3 two series of reservoirs located, respectively, underneath each of the seats.

4 indicates a sprinkler supply-pipe running longitudinally underneath the car and communicating with each of the reservoirs of the series by means of reservoir discharge-pipes 5, and at its extremity with a gate-valve casing 6, from which radiate a plurality of sprinkler-tubes 7, provided at their extremities with sprinkler-nozzles 8. The discharge-pipes 5 are threaded at their opposite extremities and are screwed into four-way fittings on the pipe 4 and into internally-screw-threaded sockets 9, located in the bottom of the reservoirs.

10 indicates a main supply-pipe located in the top of the car and provided with a nozzle 11, projecting through the car-top, and with branch supply-pipes 12, communicating at their farthest extremities with threaded sockets 13, located at the top of the supply-reservoirs.

The nozzle 11 may be provided with a spring-cap 14.

In Fig. V, I have illustrated the valve-casing 6, its valve, and valve-actuating mechanism. The casing 6 is supported in brackets located immediately beneath the forward platform of the car, and the stem 15 of the gate-valve 16 extends upwardly above the platform, where it is pivotally connected medially to a lever 17, pivoted at one end, as at 18, to the dash of the car or to any other convenient fixed part, and at its opposite end to a reciprocatory valve-actuating rod 19, provided with a handle 20 and movable within guide-brackets 21.

In order to render the valve quickly responsive when it is desired to open the same, I provide within a thimble 22, supported upon the cap of the valve-casing, an internal spring 23, surrounding the stem 15 and confined between the casing 6 and a fixed collar 24 upon the stem.

The valve, if unrestrained, will, under the action of the spring 23, rise to the open position. Inasmuch, however, as it is ordinarily desirable to retain the valve in the closed position and to prevent the flow of water from the reservoirs to the sprinkling-nozzles, I provide within easy reach of the operator a spring-catch 25, provided with a pawl 26, designed to engage notches 27 in the actuating-rod 19, and with a knob or handle 28,

by which it may be released from engagement with the rod and permit of the instantaneous opening of the valve under the impulse of the spring.

- 5 By engaging the pawl 26 with any one of the several notches 27 it is possible to adjust the position of the valve and thereby regulate the force of the flow to the sprinklers, but ordinarily it is only necessary to
10 insure the closing or full opening of the valve.

The construction and arrangement of parts thus far described constitute an operative whole and may under certain conditions be efficient, but in order to provide for a higher
15 degree of efficiency, necessary, for instance, on very dusty roadways, I prefer to employ mechanism, which I shall now proceed to describe, for subjecting the water in the reservoirs to a comparatively high pressure and for
20 diverting the course of the compressing fluid from such of the reservoirs as are emptied of water to such others as are partially filled.

29 indicates a main air-supply pipe preferably extending longitudinally underneath the floor of the car and communicating with each
25 of the reservoirs near their tops through branch air-supply pipes 30.

31 indicates an air-pump supported in suitable brackets underneath the car and having
30 its piston-rod 32, provided with a split collar 33, surrounding an eccentric 34, upon one of the car-axes 35.

36 indicates a clutch-collar fixed upon the eccentric, and 37 indicates a clutch irrevolvable and longitudinally movable upon the
35 car-axle and designed to be actuated to hold the eccentric in operative relation with the axle by means of a clutch-lever 38, pivoted to the clutch 37 and extending through the front platform of the car to within easy reach
40 of the operator.

In order to prevent the air under pressure from forcing its way into the discharge-pipe, and thereby causing what is known as "sputtering" of the sprinkler, I provide mechanism for cutting off the air supply from the
45 pump to any of the reservoirs the water in which has dropped to a certain level, usually near the bottom of the reservoir. This mechanism is particularly essential when by design or accident one of the reservoirs is
50 emptied of its contents before other reservoirs of the series, it having been found in practice that in ascending a steep incline
55 certain of the reservoirs will be relieved of their contents more quickly than certain other of the reservoirs, for the reason that the discharge-pipes are not always upon the same side of the bottom.

60 Proceeding now to describe what I will term the "automatic cut-off mechanism," 40 indicates a valve within the reservoir, adapted to be seated in the aperture receiving the extremity of the pipe 30 and mounted upon
65 a spring-actuated pivoted valve-lever 41, pivoted upon a bracket 42 and having a depending tailpiece 43 in operative proximity to the

trip end 44 of a float-lever 45, provided upon its lower extremity with a float 46. The tendency of the spring 47 is to retain the valve
70 40 in the open position, and this tendency is not overcome until the water within the reservoir drops sufficiently to swing the trip end of the float-lever against the tailpiece of the valve-lever, when, as will be apparent,
75 the weight of the float-lever and float will hold the valve 40 securely closed until the water in the reservoir is again raised and the trip end is swung out of engagement with the tailpiece of the valve-lever by the elevation of the float.
80

In order to produce a fine dust-allaying cloud or spray, (which is the prime object of my invention, necessitating the employment of the somewhat complex mechanism for supplying and regulating the pressure in the reservoir,) it is preferable, if not essential, that instead of a continuous sprinkling-nozzle extending from one side of the car to the other a plurality of comparatively small nozzles be employed, for the reason that it is difficult to maintain uniform discharge along an extended surface. I therefore employ the plurality of radiating sprinkler-tubes 7 heretofore described in connection with terminal
90 sprinkler-nozzles 8, constructed as illustrated in Figs. I and II.
95

In constructing my sprinkler-nozzle I provide an angular pipe-fitting 49, which is designed to be screwed upon the outer extremity
100 of the pipe 7 with a horizontal plate 50, which is designed to be secured by bolts or other confining means to a similar, preferably oblong, plate 51, which latter is provided with an elongated aperture 52 and with depending ears 53, preferably substantially semi-circular in form. Between and conforming to the edges of the ears is secured a variously-perforated plate 54, which is bent to conform to the contour of the ears and has its ends
105 projecting through the aperture 52 and bent back into depressions in the plate 51, so that its upper surface will be flush with the surface of the lower plate. Thus it will be seen that when the plates 50 and 51 have been secured together the ends of the plate 54 will be securely clamped and that such plate may be readily detached for the purpose of cleaning the nozzle by merely separating the
120 sprinkler-plates and springing the flexible perforated plate from place.

I do not wish to be understood as limiting myself to the details of construction herein shown and described, inasmuch as it is obvious that the location and arrangement of
125 the water-supply and discharge pipes and also of the air-pipes may be variously modified, and that any other arrangement other than that shown might be substituted for the means now employed for supplying air to the
130 reservoirs, automatically cutting off the air supply to the reservoir, or for regulating and actuating the gate-valve, without departing from the scope of my invention.

What I claim is—

1. The combination with a series of connected reservoirs, and a discharge-nozzle, of mechanism for supplying air underpressure to the reservoirs, and independent automatic cut-off mechanism within each of the reservoirs, substantially as specified.
2. The combination with a vehicle and a series of reservoirs, of a discharge-nozzle communicating with each of the reservoirs, mechanism actuated by the movement of the vehicle to supply air under pressure to the reservoirs, and independent automatic cut-off mechanism in each of the reservoirs adapted to be actuated by the level of the water contained therein to control the supply of air substantially as specified.
3. The combination with a vehicle, a series of reservoirs and a discharge-nozzle common to the several reservoirs, of mechanism for supplying air under pressure to the several reservoirs simultaneously, and independent mechanism upon each of the reservoirs for controlling the air supply thereto, substantially as specified.
4. The combination with a vehicle, a series of reservoirs and a common discharge-nozzle, of mechanism for supplying air under pressure to the several reservoirs simultaneously, and independent automatic cut-off mechanism in each of the reservoirs, substantially as specified.
5. The combination with a vehicle, a series of reservoirs and a common discharge-nozzle, of mechanism for supplying air under pressure to the reservoirs, and independent automatic cut-off mechanism in each of the reservoirs adapted to be actuated by the level of the water of each respective reservoir independently of the level of water in any other reservoir of the series, substantially as specified.
6. The combination with a vehicle, a series of reservoirs and a discharge-nozzle common to the several reservoirs, of mechanism for supplying air under pressure to the several reservoirs simultaneously, and independent automatically-actuated cut-off mechanism in each of the reservoirs consisting of a float-actuated valve, substantially as specified.
7. The combination with a car, of a series of reservoirs arranged therein, a common supply-pipe located adjacent to the top of the car and communicating through branch pipes with each of the reservoirs, a common discharge-pipe located below the platform of the car and communicating with the bottoms of the reservoirs by branch pipes, an air-pump located below the car, a main air-supply pipe likewise located below the car and communicating with each of the reservoirs adjacent to their tops by branch pipes, mechanism for controlling the air supply, and mechanism for controlling the discharge of the liquid, substantially as specified.
8. The combination with a car, of a series of reservoirs arranged therein, a common supply-pipe located adjacent to the top of the car and communicating through branch pipes with each of the reservoirs, a common discharge-pipe located below the platform of the car and communicating with the bottom of the reservoirs by branch pipes, an air pump located below the car, a main air-supply pipe likewise located below the car and communicating with each of the reservoirs adjacent to their tops by branch pipes, independent automatic cut-off mechanism in each of the reservoirs designed to regulate the air supply, and mechanism for regulating the discharge of liquid, substantially as specified.
9. The combination with a reservoir and discharge-nozzle, of an air-pump and an air-pipe leading from the pump into the reservoir, a valve and valve-lever within the reservoir controlling the ingress of air, and a float-lever adapted to be actuated by the level of the water within the reservoir to open or close the valve through the valve-lever, substantially as specified.
10. In a sprinkler-nozzle, the combination with a pipe-fitting, of a plate secured thereto, a second plate provided with an elongated aperture, and depending ears, a flexible perforated plate secured between the ears and having its ends clamped between said plates, substantially as specified.
11. In a sprinkler-nozzle, the combination with a pipe-fitting, and a plate secured thereto, of a second plate provided with an elongated aperture, depending ears and depressions beyond the ends of the aperture, a resilient variously-perforated plate bent to conform to the contour of the edges of the ears and having its ends bent down and retained in the depressions in said last-named plate, and means for securing the plates together, substantially as specified.

In testimony of all which I have hereunto subscribed my name.

JOHN SCOTT McGEHEE.

Witnesses:

CHAS. PAYNE FENNED,
AUGUST. COUMIT.