

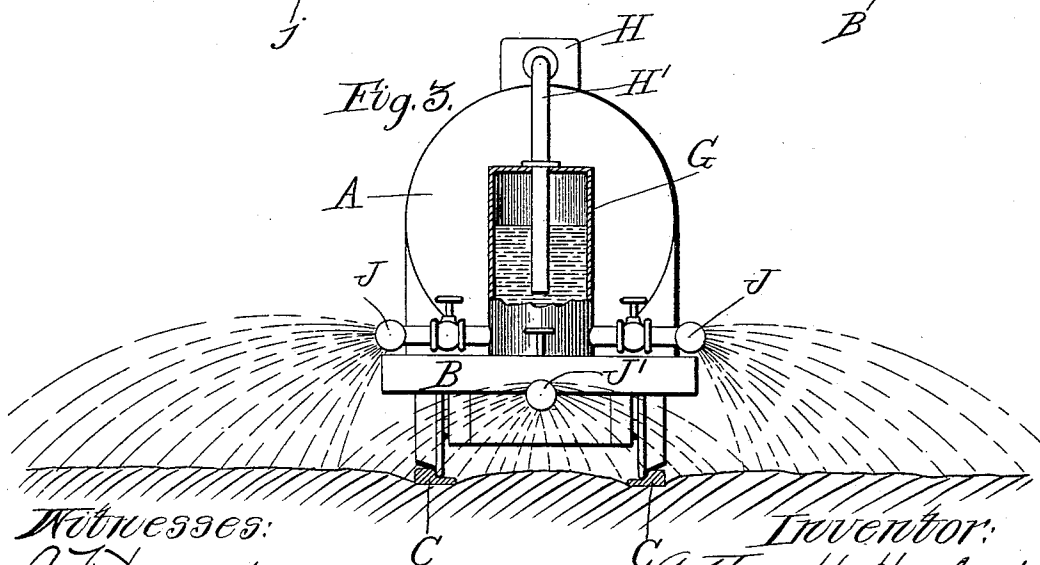
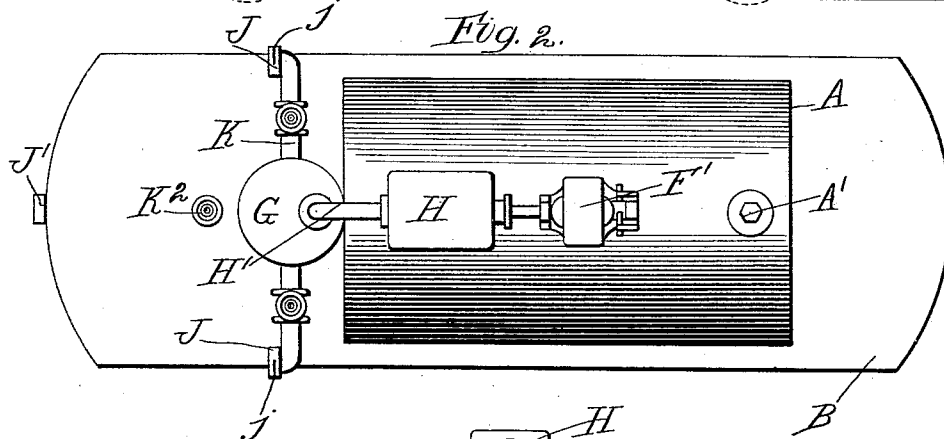
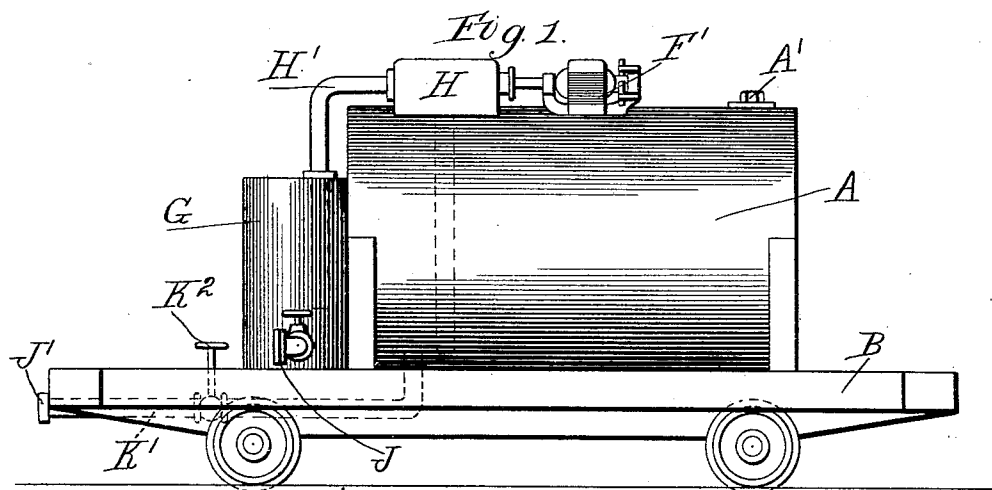
No. 616,334.

Patented Dec. 20, 1898.

A. H. HOWLAND.
SPRINKLING VEHICLE.

(Application filed Aug. 9, 1897.)

(No Model.)



Witnesses:
A. F. Durand.
Margaret M. Waquer.

Inventor:
Arthur H. Howland
by Page & Belfield
attys

UNITED STATES PATENT OFFICE.

ARTHUR H. HOWLAND, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO
FREDERICK C. AUSTIN, OF CHICAGO, ILLINOIS.

SPRINKLING-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 616,334, dated December 20, 1898.

Application filed August 9, 1897. Serial No. 647,584. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR H. HOWLAND, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a certain new and useful Improvement in Sprinkling-Vehicles, of which the following is a specification.

My invention relates to sprinkling-vehicles, such as sprinkling wagons, carts, cars, and the like, which are adapted for service in sprinkling fluid on the ground, and especially on streets or roads.

The objects of my invention are to increase the extent of transverse projection of the fluid, so as, for example, to allow the entire width of a street, road, or any surface to be sprinkled during a single passage of the vehicle; also, to avoid interference with vehicles, posts, and other objects along the street, to avoid noise such as might frighten horses, and to prevent longitudinal projection of the fluid simultaneously with its transverse projection.

To the attainment of the foregoing and other useful ends the sprinkling fluid is pumped or otherwise forced from a carrying tank or reservoir into an auxiliary tank against an elastic head or cushion which is desirably formed by a confined body of air. In this way the sprinkling fluid is subjected to a uniform pressure which can be suitably varied as desired by varying the pressure under which the fluid is forced into the auxiliary tank.

In the accompanying drawings, Figures 1 and 2 are respectively a side elevation and a plan of a sprinkling-vehicle embodying my invention; and Fig. 3 is an end elevation of the same, illustrating the auxiliary, partly in vertical section.

The fluid employed for sprinkling purposes is carried by some suitable carrier—as, for example, the cylindric tank A. When the tank A is employed, it can be filled in any suitable way—as, for example, by first removing a plug or manhole-cover A', which is fitted into its side near one of its ends, and by then applying a hose to the opening thus uncovered.

The tank A can be mounted upon any suitable vehicle, such as a wagon, cart, car, or the like. In the drawings I have shown it

carried by and to such end arranged longitudinally upon the platform of an electrically-propelled street-car B, which latter is adapted to travel upon the tracks or rails C C.

The fluid carried by the tank A is drawn therefrom and forced into an auxiliary G against an elastic head or cushion, which can be provided in any suitable way, but which is desirably provided by a volume of air or other gas confined therein under pressure. The auxiliary shown consists of a cylindrical shell or casing arranged vertically upon one end of the car-platform and made air-tight, so as to allow the confinement of a volume of air for a cushion.

The sprinkling fluid is conveniently forced from the tank A into the auxiliary G by a screw-pump H, which is desirably mounted upon the top of the tank A and is operated by an electric motor F', which is understood to be connected for operation and regulation with the source of energy which serves to propel the car. The screw-pump H receives the fluid from the tank A by way of a pipe which extends from its lower portion to substantially the bottom of the tank, (shown in dotted lines in Fig. 1,) and it discharges the same into the auxiliary by means of a pipe H', extending from its forward end into the auxiliary.

The sprinkling fluid held or confined under pressure in the auxiliary G can be projected transversely, so as to spray or sprinkle the ground, as desired, by any suitable sprinkling devices. As a simple and effective arrangement it is projected from the transverse openings *j j* of two oppositely-arranged sprinkling-heads J J, which are positioned at the sides of the car and elevated to an extent to allow the fluid to move suitably outward before falling to the ground. By thus employing two sprinkling-heads J J either side of the path of travel of the car can be independently sprinkled when for any reason it becomes desirable to do so.

The sprinkling-heads J J are connected with the holders containing the fluid under pressure by suitable valved pipes K K.

While the path of travel of the car could be sprinkled by one or the other or both of the heads J J, it is desirably sprinkled by a

third head J', and so can be sprinkled independently and at a time when one or the other or both of the sides of the path of travel of the car are not being sprinkled.

5 This third sprinkling-head is conveniently arranged in position at the middle of one end of the car-platform and is connected with the tank A by a pipe K', arranged below the car-platform and provided with a valve having
10 an adjusting-wheel K², which is arranged above the platform, so as to be easily accessible for adjustment, it being observed that the ordinary pressure in the tank or reservoir is sufficient to cause the sprinkling of
15 the path of travel of the car.

It will be seen that the arrangement herein set forth is advantageous for the reason that it allows my invention to be applied to sprinkling-vehicles already constructed but not
20 provided with air-tight fluid-carrying tanks.

It will be seen that in case the foregoing arrangement is employed in connection with a vehicle other than an electrically-propelled car the means for forcing the water from the
25 tank into the auxiliary can be operated by power supplied it either by a friction connection with one of the supporting wheels or axles of the vehicle or by some source of energy carried by the vehicle or in any other
30 suitable way.

It will be readily seen that the sprinkling-fluid tank, the pump, &c., can be arranged upon the car or vehicle in any suitable way different from that herein shown without departing from the spirit of my invention.
35

What I claim as my invention is—

1. A sprinkling-car comprising a body-frame; a fluid-carrying tank mounted upon said body-frame; a sprinkling-head arranged
40 at the transverse middle of the said car, and connected to receive sprinkling fluid from the said tank, for the purpose of sprinkling the path of travel of said car; an auxiliary tank provided with an elastic cushion; two or more
45 sprinkling-heads connected to receive sprinkling fluid from said auxiliary and arranged at opposite sides of the said car; a pump for forcing the fluid from the said carrying-tank into the said auxiliary, and means for operating said pump; the sprinkling-heads located
50 at the sides of the car being adapted to project the fluid transversely from the same, whereby the entire width of a street may be

sprinkled by a single passage of the car along the center of the said street, as set forth. 55

2. In a sprinkling-vehicle, the combination of a sprinkling-fluid-carrying tank or reservoir; an auxiliary tank provided with an elastic cushion; means for forcing the sprinkling fluid from the carrying-tank into the auxiliary; two or more elevated sprinkling-heads
60 arranged in position at the opposite sides of the vehicle, and connected with the auxiliary so as to receive sprinkling fluid therefrom; and an additional sprinkling-head arranged
65 in position at the transverse middle of the vehicle, and connected for receiving sprinkling fluid from the said carrying tank or reservoir, substantially as described.

3. In a sprinkling car or vehicle, the combination of a sprinkling-fluid-carrying tank or reservoir; an auxiliary tank provided with an elastic cushion; a pump for forcing the sprinkling fluid from the carrying-tank into said auxiliary; two or more elevated sprinkling-heads arranged in position at the opposite sides of the vehicle, and connected with the auxiliary so as to receive sprinkling fluid therefrom; an additional sprinkling-head arranged in position at the transverse middle
80 of the vehicle, and connected for receiving sprinkling fluid from the said carrying-tank; and means whereby the said pump may be operated independently of the movement of the said vehicle, substantially as described. 85

4. In an electrically-propelled sprinkling-car, the combination of a sprinkling-fluid-carrying tank or reservoir; an auxiliary tank provided with an elastic cushion; a pump for forcing the sprinkling fluid from the said carrying-tank into the auxiliary; two or more elevated sprinkling-heads arranged in position at the opposite sides of the car, and connected with the auxiliary so as to receive sprinkling fluid therefrom; an additional sprinkling-head arranged in position at the transverse middle of the car, and connected for receiving sprinkling fluid from the said carrying-tank, and an electric motor for operating the said pump, substantially as described. 100

ARTHUR H. HOWLAND.

Witnesses:

MARGARET M. WAGNER,
ARTHUR F. DURAND.