

1,293,534.

E. D. PERRY.
STREET FLUSHER.
APPLICATION FILED APR. 16, 1915.

Patented Feb. 4, 1919.
2 SHEETS—SHEET 1.

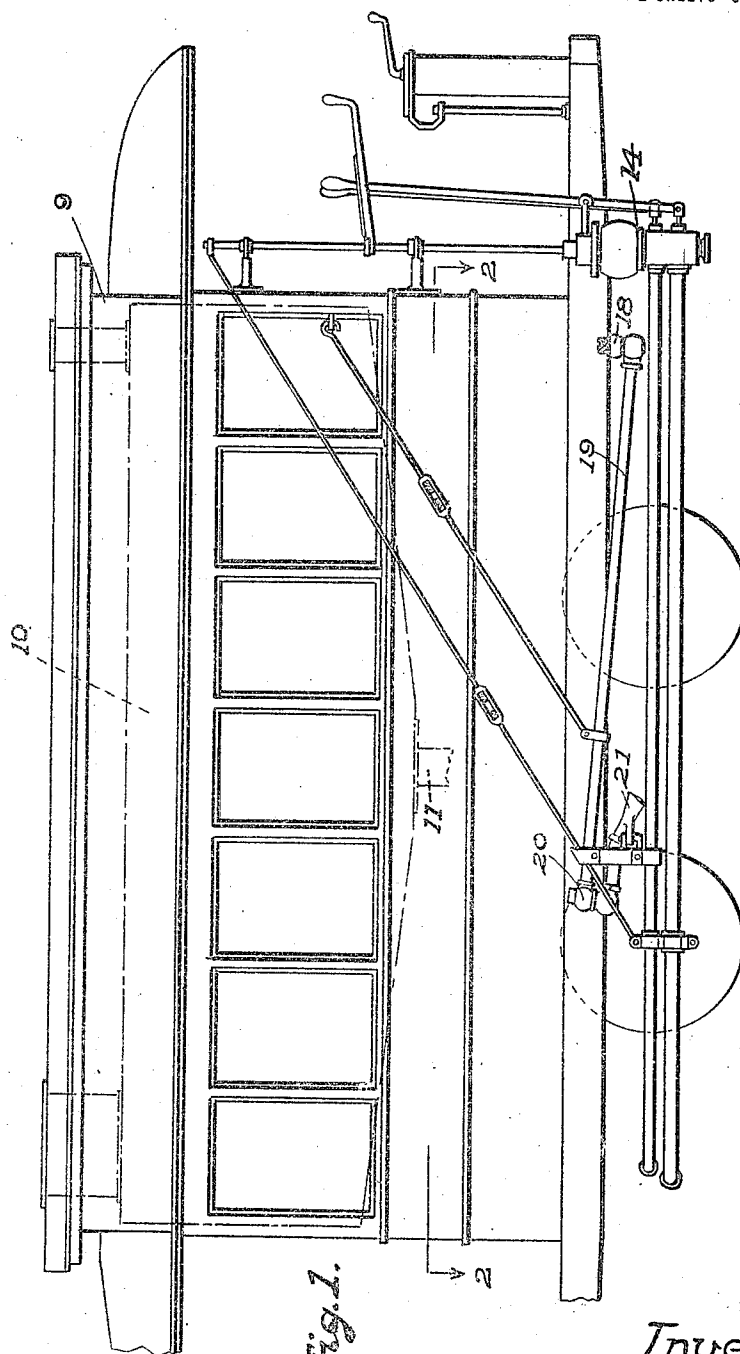


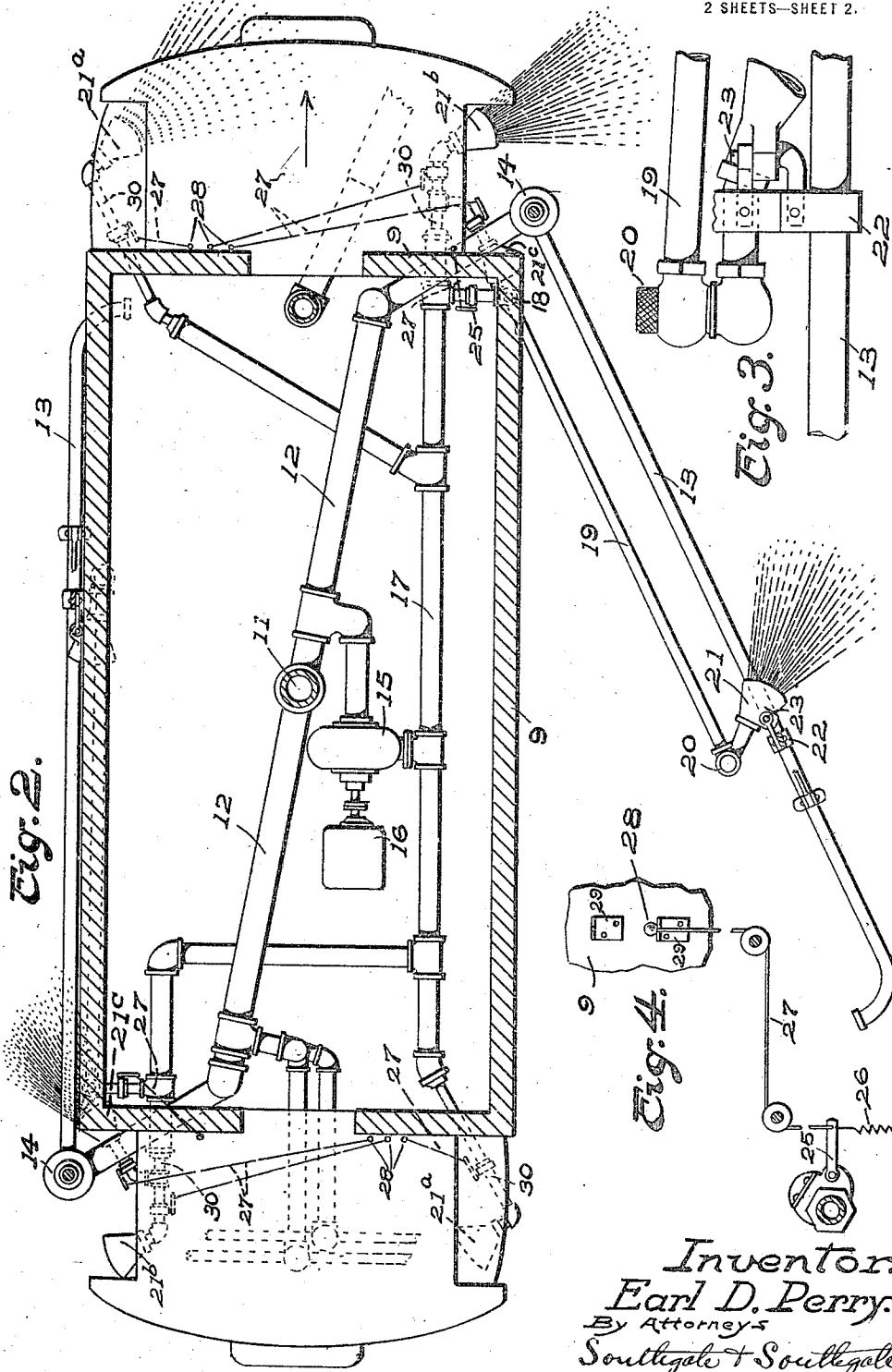
Fig. 1.

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UNITED STATES PATENT OFFICE.

EARL D. PERRY, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO AMERICAN CAR SPRINKLER CO., OF WORCESTER, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

STREET-FLUSHER.

1,293,534.

Specification of Letters Patent.

Patented Feb. 4, 1919.

Application filed April 16, 1915. Serial No. 21,894.

To all whom it may concern:

Be it known that I, EARL D. PERRY, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Street-Flusher, of which the following is a specification.

This invention relates to tank car flushing device and while the principles thereof are capable of use in connection with other vehicles it is particularly adapted for use on a trolley sprinkler and especially in connection with that type designed for use on city streets.

The principal objects of the invention are to provide means in connection with a sprinkler by which water can be flushed on the street surface under pressure for cleaning purposes; to provide convenient and practicable means whereby the flushing operation can be controlled by the operator standing on the car platform; to provide simple means by which the main flushing nozzles can be carried by and manipulated with the usual sprinkler arm or any other similarly arranged support, it being understood however that the sprinkling and flushing are operations which take place at different times; and to provide an improved arrangement of flushing nozzles capable of cleaning the streets thoroughly and effectively.

Reference is to be had to the accompanying drawings in which,

Figure 1 is a side view of a combination car sprinkler and flusher constructed in accordance with this invention;

Fig. 2 is a sectional view of the same on the line 2-2 of Fig. 1 showing the parts under the tank in plan;

Fig. 3 is a detail elevation of the connections of one of the flushing nozzles, and

Fig. 4 is a detail elevation showing the control of the same.

The invention is shown as applied to a tank car 9 having the usual water tank 10 therein provided with an outlet 11 which leads through mains 12 to a pair of pivoted sprinkler arms 13. The mechanism for moving these sprinkler arms about their pivots 14 is not shown in detail herein as it is well known in this art and in fact any desired means for accomplishing this result can be employed.

Connected with one of the mains 12 is a pump 15 operated by a motor 16 suitably

supported below the tank for the purpose of delivering water from the tank under pressure to a flusher main 17. To this main is connected by a pivot joint 18, a pipe 19 which is adapted to swing about the pivot and receive water from the main. This is provided also with a similar joint 20 for delivering water to a flusher nozzle 21. This nozzle is pivoted on a bracket 22 on the pipe 13 by means of a pivot pin 23. The relationship of the pivots 18, 20, 23 and 14 is such as to give substantially a parallel motion to the pipe 19 and the nozzle. Accordingly when the spray pipe 13 is folded up to the side of the car as shown at the left of Fig. 2, the flushing nozzle will be moved into a position substantially parallel with it and with the side of the car so that it will not project out and will take up practically no room. But when the arm 13 swings outwardly it brings the flushing nozzle to a position more and more nearly normal to the side of the car, the further the pipe swings. Consequently by swinging the spray pipe the necessary distance the operator has full control of the position and direction of the flushing nozzle. It will be understood that the flushing nozzle preferably has a long narrow slot for discharging a fan-shaped sheet of water and that it is located at an angle to the ground so as to discharge in an efficient manner against the surface of the ground and to flush all dirt and foreign matter along with it to the gutter. It will be observed also that the operator can swing the arm 13 back and forth if necessary to avoid teams and obstructions.

The discharge of the water from the pipe 17 to the pipe 19 is controlled by a valve 25, the stem of which is normally held in closing position by a spring 26. A flexible connection 27 extends in the opposite direction from the valve stem and is provided with a ball 28 at the end of the car which can be held in either one of two cleats 29 to hold the valve open or allow it to move back to closed position.

Also connected with the pipes 17 are a plurality of other pipes 30 each having a nozzle, as 21^a, 21^b and 21^c similar to the nozzle 21 and each controlled by a valve like the valve 25 having the same kind of connections. The flushing nozzles 21^a are located at the ends of the car in such position that as the car moves, the one of these at the

front directs its sheet of water between the tracks. The nozzles 21^b are located at the opposite corners of the car and are designed to direct a stream from the front to the side toward that on which the nozzle 21 is operating as the car advances. The nozzles 21^c are additional ones designed to force a stream from the rear between the double tracks. It will be understood that ordinarily only the nozzles are used which are at the front, except 21^c, and each one is controlled separately by the connections 27.

It will be seen therefore that by this means an ordinary car sprinkler can be converted into a combination sprinkler and flusher very easily either after it is built or while being constructed and that the nozzles are so arranged and controlled that the entire space, from the right hand side of a left hand track to the right hand curb, can be flushed effectively and efficiently by a single passage of the vehicle along the street and that provision is made for directing the flushing streams to any desired points, interrupting them whenever necessary and controlling them in all necessary ways.

Although I have illustrated and described only a single embodiment of the invention and shown it as applied to a single type of car I am aware of the fact that many modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore, I do not wish to be limited to all the details of construction shown and described, or to the particular type of tank car shown but what I do claim is:—

1. The combination with a tank and spray pipe, of a flushing nozzle, both the pipe and nozzle being arranged to deliver at one side of the tank and to wet substantially the same street area, means for taking liquid from the tank and supplying it to the flushing nozzle under pressure, and means for supplying liquid from the tank through a different course to the spray pipe independently of said pressure means and at a different time.

2. In a tank car, the combination with a tank, a spray pipe connected therewith, and means for supplying said pipe with water from the tank solely by gravity, of a flushing nozzle having a long narrow inclined outlet, means whereby said nozzle and spray pipe are caused to deliver on the same side of the car only and whereby the spray from said spray pipe cannot be delivered on a surface previously flushed by said flushing nozzle on the same trip of the car, and means for supplying water from the tank to the flushing nozzle under pressure.

3. The combination with a tank and a spray pipe connected therewith, of a flushing nozzle carried by the spray pipe, and means for supplying water from the tank to

the flushing nozzle without passing through the spray pipe.

4. The combination with a tank for holding water, a spray pipe connected therewith and movably mounted and provided with sprinkler openings, of a flushing nozzle movable with the spray pipe, and a pump for taking water from the tank and supplying it to the flushing nozzle under pressure.

5. In a car sprinkler, the combination of a water tank carried by the car, a spray pipe pivoted to swing outwardly from the side of the car in a horizontal plane, a flushing nozzle pivoted to the spray pipe and movable therewith, means for connecting the flushing nozzle with the tank, and means for causing the flushing nozzle to swing when the spray pipe swings, but through a different angle.

6. In a tank car, the combination with a tank carried by the car and a spray pipe connected with the tank and pivoted to swing on a vertical axis and located at the side of the car, of an independent pipe connected with the tank, means for supplying water to said independent pipe from the tank under pressure, a vertical pivot connected with said pipe, a supply pipe swinging on said pivot parallel with the spray pipe, and a nozzle pivoted to the supply pipe and pivotally supported by the spray pipe, whereby said nozzle will swing with the spray pipe, the pivot connecting the nozzle and supply pipe being located at a distance from the pivot on which the supply pipe is mounted substantially equal to the distance from the spray pipe pivot to the flushing nozzle.

7. In a car flusher, the combination of an arm pivoted to swing on a vertical axis, a supply pipe pivoted to swing on a different vertical axis, and parallel with the first named arm, and a flushing nozzle connected with the supply pipe and carried by said arm.

8. In a car flusher, the combination of a swinging arm, a flushing nozzle pivoted thereon, and means for turning the nozzle on its own pivot as the arm swings.

9. In a car flusher, the combination of a swinging arm, a flushing nozzle pivoted thereon, means for turning the nozzle on its own pivot as the arm swings, means for pumping water to the nozzle, and a series of independent nozzles connected with said pumping means.

10. In a car sprinkler, the combination of four stationary flushing nozzles, two located at the front of the car and two at the rear, and all located substantially at the side of the car, one at the rear and one at the front on the other side being directed toward the center of the car so as to flush the surface of a street under the car, and the other two nozzles being directed outwardly in opposite directions, and independent means for opening and closing each of said nozzles.

11. In a car sprinkler, the combination of
a movable nozzle adapted to swing out-
wardly to one side of the car, two stationary
flushing nozzles located at the end of the
5 car and at the sides, one being directed to-
ward the center of the car so as to flush the
surface of a street under the car, and the
other being directed outwardly in the same
direction and toward the side on which the
10 movable nozzle is located.
12. In a car sprinkler, the combination of
two stationary flushing nozzles located at the
end of the car and at the sides, one being di-
rected toward the center of the car so as to
flush the surface of a street under the car, 15
and the other being directed outwardly in
the same direction, and an additional nozzle
located on the side of the car at the other
end and extending forwardly to flush the
space between the double car tracks. 20
- In testimony whereof I have hereunto set
my hand, in the presence of two subscribing
witnesses.

EARL D. PERRY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."