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STREET FLUSHING APPARATUS.
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Fig. 1.

Fig. 2.

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The invention relates to street flushing apparatus and more particularly to a nozzle for use in delivering the flushing water under pressure so as to flush or wash the street.

One of the objects of this invention is to provide a nozzle provided with a series of orifices arranged at different angles whereby powerful streams are projected against the street at points near the apparatus and progressively to points further beyond so that the stream or streams from the first orifice or orifices dislodge the dust and dirt from the street at a point near the vehicle and flush this dirt into the path of the stream or streams from the next orifice or orifices at a greater distance from the vehicle which streams in turn flush this dirt in the path of other streams at a greater distance from the vehicle and finally the last stream washes the accumulated dirt into the gutter whereby a large area of the street is flushed as the vehicle passes over the street.

A further object of the invention is to provide a nozzle having a plurality of orifices for delivering water under pressure in fan shaped streams against the street and to progressively flush the dirt from a point near the vehicle into the gutter or side of the road.

The invention further consists in the several features hereinafter set forth.

In the drawings:

Fig. 1 is a sectional view through a pressure flushing apparatus showing a front view of the nozzles embodying my invention applied thereto;

Fig. 2 is a front view of one of the nozzles secured to its connections in inclined position;

Fig. 3 is a front view of the nozzle;

Fig. 4 is a section taken on the line 4–4 of Fig. 3;

Fig. 5 is a section taken on the line 5–5 of Fig. 4.

In the drawings the numeral 6 designates a tank, supported upon a vehicle, for containing the flushing liquid, which tank can be charged with liquid under pressure from a suitable source at a filling station or the apparatus itself may have its own pressure pump to deliver the liquid to the nozzles under pressure as is well understood by those skilled in this art. The liquid is conducted to the nozzles 7 from a pipe 8 having branch connections 9 provided with control valves 10 of any suitable construction under the control of the operator. Each nozzle 7 has a threaded end 7′ adjustably secured in an elbow 11 of the branch connection which elbow may be turned about a pipe 12 of said branch connection and the whole nozzle may also be swung in a horizontal plane through the turning of parts of the branch connection whereby a universal adjustment of the nozzle may be obtained as its connection with the branch connection which permits it to be tilted and turned in a horizontal plane, and the parts of the branch connection adjustable with respect to each other provide for adjusting the nozzle in a vertical plane. To assist in securing the nozzle upon the pipe it is provided with a nut or wrench engaging portion 38.

The nozzle 7 is hollowed to form a tubular inlet 14, a laterally flared chamber 15 having the flared sides 16 and 17, the side 17 being of greater curvature and having a flat bottom 18 and an inclined top 19. The front wall 20 of the nozzle has an inner flat portion 21 curved outwardsly from the side 17, an inwardly curved flat portion 22, an abruptly curved flat portion 23, and a substantially straight flat portion 24′ meeting the side 16. The outer side of the front wall 20 is shaped to conform to the shape of the inner side. From this it will be apparent that the face 21 of the nozzle has a surface disposed at varying angles from the center of the jet or inlet 14.

Within the wall 20 adjacent the portion 21 thereof are orifices 22 vertically spaced from each other and an orifice 23 spaced from said orifices 22. In the side wall at the junction of the curved portions 21 and 22′ are orifices 24 vertically spaced from each other and in the straight portion 24′ is an orifice 25. Each of these orifices has a straight inlet 26 communicating with a conical slot 27.
forming an outlet so that the liquid will be delivered therefrom in a fan shaped spray and as these orifices are spaced from each other the streams delivered therefrom will not touch each other.

From the dotted lines 28, 29 and 30 in Fig. 4, it will be noted that the angle which the orifices 22, 23 and 24 make with the axis of the jet passing through the inlet 14 gradually decreases from that for the orifice 22 to that for the orifice 24 and the dotted line 31 shows the angle the orifice 25 makes with the axis of the jet and that it is on the opposite side from that of the other orifices. The side 17 is the front side of the nozzle and from the direction of flow of the streams through the orifices it will be noted that a wide surface area is covered.

In the use of this device the nozzle is adjusted to the desired vertical inclination with respect to the street and the nozzle is then tilted in a horizontal plane so that the side 17 is lower than the side 16 with the result that the streams issuing from the orifices 22 strike the street first in a double volume which is heavy enough to dislodge the dirt and at a point near the machine and that from the orifice 23 with less volume to flush the wash preceding strikes the street at a point farther from the machine, those from the orifices 24 at a greater distance in a double volume and finally that from the orifice 25 with less volume and at a still greater distance. Of course it will be understood that the orifices might be so positioned as to obviate the horizontal tilting of the nozzle and still obtain the same effect. While these streams do not touch each other the water issuing therefrom progressively flushes the dirt or dust from the street from a point near the machine rearwardly to points farther away from the machine until finally the accumulation of flushed material is carried by the liquid from the nozzle 25 into the gutter on the side of the street or road. The action of this nozzle may be likened to the sweeping of the street by a number of men each provided with a broom, the first man sweeping the dust near the machine outwardsly and rearwardly, the next man taking up where the other left off and sweeping his dust and that of the other rearwardly and finally the last man sweeping all of the dust into the gutter.

Thus as the apparatus proceeds on its way the whole side of the street may be quickly and efficiently cleaned.

While I have shown a construction using a certain number of orifices it is obvious that more or less orifices may be used and other changes may be made without departing from the spirit of my invention and I therefore desire it to be understood that such changes as come within the scope of the appended claims are within the spirit of my invention.

What I claim as my invention is:

1. A street flushing nozzle comprising a member provided with an inlet, and an outwardly flared chamber, the front wall of said chamber being outwardly curved for a portion of its length then inwardly curved then abruptly curved to a straight flat portion, said front wall having a plurality of spaced apart orifices therein on its curved portions, and said straight flat portion being set back from the main portion of the front wall.

2. A street flushing nozzle formed with an outwardly flared chamber having an inlet at its narrowest end, the front wall of said chamber having a portion set back from its main portion and connected thereto by an abruptly curved portion, and discharge orifices in both said main and set back portions.

In testimony whereof, I affix my signature.

ANTHONY FRICKER.