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STREET FLUSHING NOZZLE.

APPLICATION FILED MAR. 2, 1916.

1,239,373.

Patented Sept. 4, 1917.

FIG. 1.

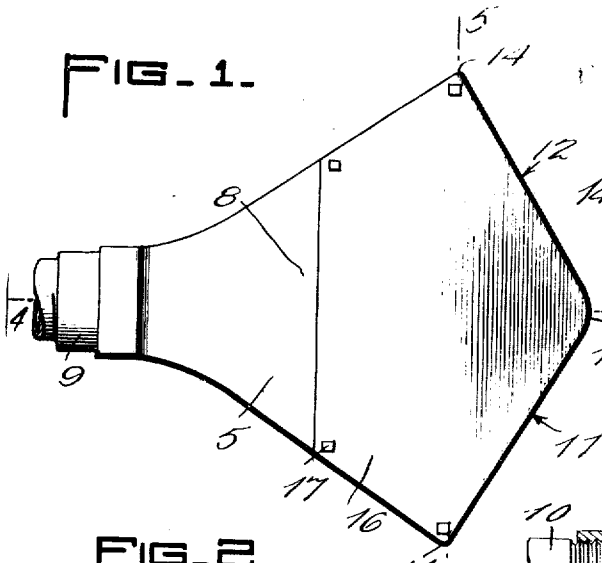


FIG. 3.

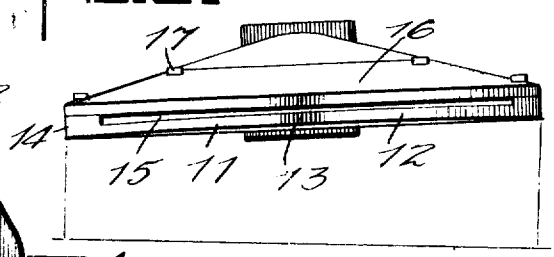


FIG. 4.

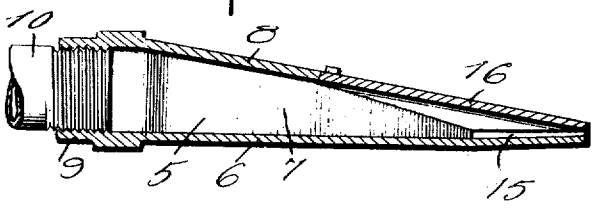


FIG. 2

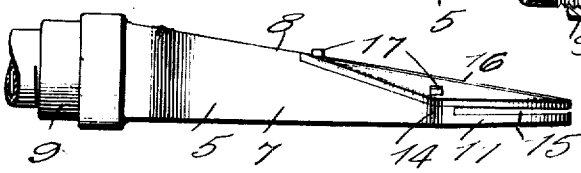


FIG. 5.

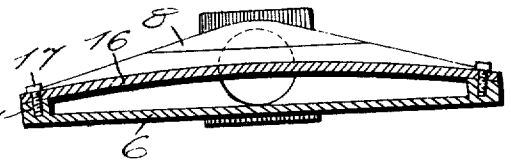


FIG. 6.

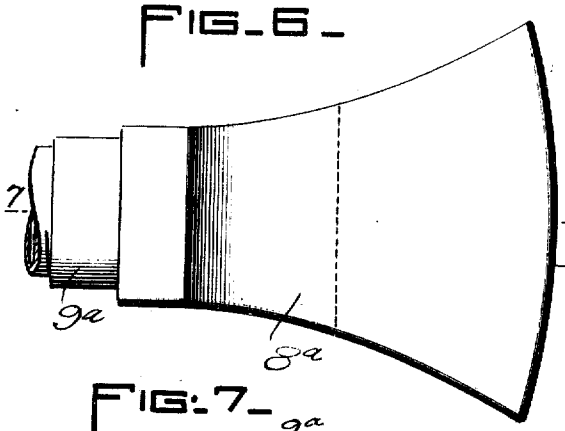


FIG. 8.

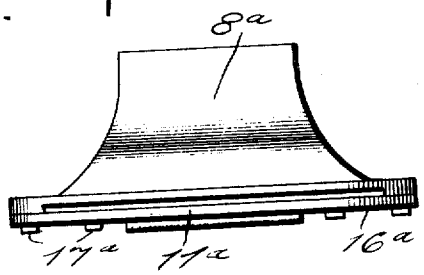
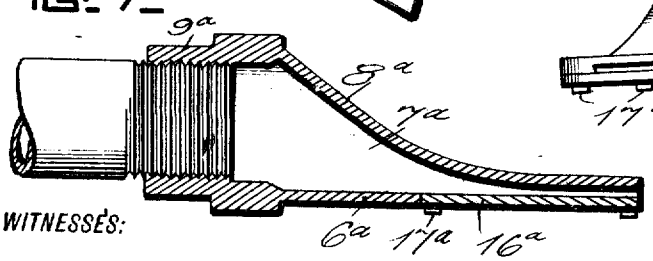


FIG. 7.



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STREET-FLUSHING NOZZLE.

1,239,373. Specification of Letters Patent. Patented Sept. 4, 1917.

Application filed March 2, 1916. Serial No. 81,751.

To all whom it may concern:

Be it known that we, CORNELIUS D. FARMER and GEORGE N. FRAZER, Sr., GEORGE N. FRAZER, Jr., and WASH B. FARMER, citizens of the United States, and residents of Eugene, in the county of Lane and State of Oregon, have invented a certain new and useful Improvement in Street-Flushing Nozzles, of which the following is a specification.

One of the principal objects of our invention is to provide a nozzle for sprinkling or flushing machines, of improved construction, designed to eject a stream of water to cleanse and wash a pavement in a manner more thorough and advantageous than that attained by nozzles of ordinary construction.

Another object of the invention resides in the provision of a nozzle of the class described, in which one of the parts of the nozzle may be removed, so that the interior of the nozzle may be exposed whereby it may be machined in finishing the nozzle, and whereby it may be cleaned without removing the nozzle from the sprinkling machine.

A further object of the invention is to provide a nozzle of the class described which will be extremely simple, durable, efficient in operation, and inexpensive to manufacture.

With these and other objects in view which will become apparent as the description proceeds, the invention resides in the construction, combination, and arrangement of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawing in which like characters of reference indicate like parts throughout the several figures, of which—

Figure 1 represents a top plan view of a nozzle constructed according to our invention.

Fig. 2 represents an edge elevational view thereof.

Fig. 3 represents a front elevational view of the nozzle.

Fig. 4 represents a view in section taken vertically and longitudinally on the plane indicated by the line 4—4 of Fig. 1.

Fig. 5 represents a view in section taken vertically and transversely on the plane indicated by the line 5—5 of Fig. 1.

Fig. 6 represents a top plan view of a modified form of nozzle.

Fig. 7 represents a view in section taken longitudinally and vertically on the plane indicated by the line 7—7 of Fig. 6.

Fig. 8 represents a front edge elevational view of a modified form of nozzle.

The nozzle head 5 illustrated in Figs. 1 to 5 inclusive, includes a preferably flat floor 6, vertical side walls 7, and a slightly rounded or curving top wall 8. From the forward edge of the bottom 6, the top wall slopes backwardly and upwardly, so that the height of the nozzle gradually decreases toward the forward edge. A threaded nipple 9 is formed at the rear end of the nozzle, for engagement with a supply pipe 10. The nozzle is provided with two front faces 11 and 12 arranged in angular relation with respect to each other and inclining backwardly from the apex 13 of the nozzle. From the points 14, at which the faces terminate, the side walls 7 converge toward the rear end 9 of the nozzle. The slot or opening 15 provided in the front faces 11 and 12, increases in width from the apex 13 of the nozzle toward the ends 14 of the faces, and this formation of the slot, and the arrangement of the faces 11 and 12 with respect to the nozzle head, provides for the distribution of the water to the greatest advantage in attaining the desired result. For instance, the faces being arranged in angular relation to each other, the water will emerge in a fan-like stream, and by reason of the fact that the width of the slot 15 increases slightly toward its ends, the volume and force of the stream at its edge portions will be just as great as the volume and force of the stream at its middle portion, and thus the entire sheet or stream of water issuing from the nozzle, will be utilized and no portion of its force lost.

In manufacturing the nozzle, we desire to make it with either its bottom or its top removable, and in the embodiment shown in Figs. 1 to 5 inclusive, we have illustrated the nozzle as being equipped with a removable top 16. The top may be secured in place with stud bolts, cap bolts, clamps, or other suitable fastening means. The joint between the top and the main body portion of the nozzle may be either packed with soft packing of some sort, or a ground joint may be formed, or any other method of making the joint watertight be followed. By having the cap, removable, the interior of the

nozzle may be machined in finishing it off, and furthermore, when in operation, the nozzle may be cleaned without removing it from the sprayer.

As indicated in the drawing, the top or cap 16 is secured in place by means of bolts 17. The latter are turned through openings in the cap into threaded recesses provided in the side walls 7 of the nozzle head.

In the embodiment shown in Figs. 6 to 8 inclusive, the nozzle head is more of a fan shape, having a curved front face 11^a, the side walls 7^a curving gradually backward toward the nipple 9^a from the ends of the front face of the nozzle. The upper wall 8^a in this instance, at its forward portion for quite a way back from the front edge of said upper wall, lies parallel with the bottom wall of the sprayer head. The top wall then curves upwardly, bearing away from the lower wall toward the rear end of the nozzle. In this instance, the lower wall 6^a is shown as having a removable cap or section 16^a, secured in place by means of bolts or other fastening means 17^a. In either case it will be understood that either the top or the bottom wall may be provided with the removable section. The peculiar advantage in the construction shown in Figs. 6 to 8 inclusive is that, the stream will be thrown out in a flat sheet, and should any obstructions be encountered which might divide or split the sheet of water, the water will, after passing the obstructions, unite on the other side of the obstruction to continue the sheet.

Although we have described the preferred embodiments of our invention, we may desire to make such changes in the construction, combination, and arrangement of parts thereof, as do not depart from the spirit of the invention, and the scope of the appended claims.

As indicated in Figs. 3, 5, and 8, the nozzle is preferably arranged at a slight angle out of the horizontal, as it is found this position insures a more perfect operation of the device.

We claim:—

1. A nozzle for street cleaning purposes having its front discharge end protruding forwardly at the center and diverging thence toward its sides and having in said discharge end a discharge opening which is narrowest at the apex or center of the discharge end and gradually widens thence toward the opposite sides of the discharge end whereby there is formed a discharge opening in two sections merging at the apex of the discharge opening and widening thence toward their outer ends for securing a discharge laterally to the direction in which the nozzle is faced to wash a pavement from the center or crown thereof downward its opposite sides, all as and for the purposes set forth.

2. A nozzle comprising a flat lower wall diverging outwardly from the supply end of the nozzle to points adjacent the outlet end thereof and converging sharply from said points to the apex of the nozzle, side walls extending vertically from the diverging portions of the lower walls, an upper wall conforming to the outline of the lower wall, said walls converging from the rear to the front portion of the nozzle, a threaded nipple formed at the rear end of the nozzle with which the upper, lower and side walls merge and front faces formed on the outlet edges of the sharply converging portions of the upper and lower walls thereby lying in angular relation one with the other, the portions of the faces formed on the lower wall being of greatest height at the center or apex of the nozzle and constantly decreasing in height toward the outer ends to provide a discharge opening of constantly increasing width from the apex of the nozzle to the outer ends of the front faces, whereby a sheet of water of constant force and volume will be ejected from the nozzle.

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