Oct. 8, 1929. L. WITTENBERG 1,730,708

SPRAY NOZZLE

Filed Dec. 12, 1924

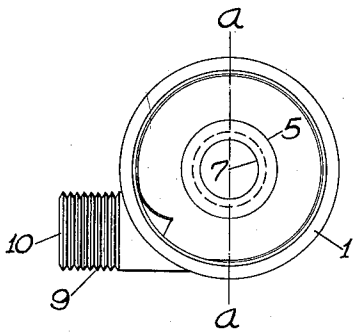


Fig. 1

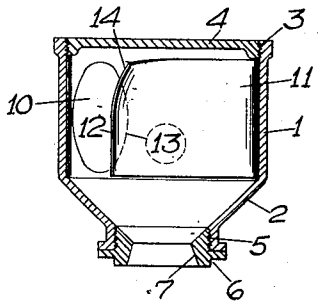


Fig. 2

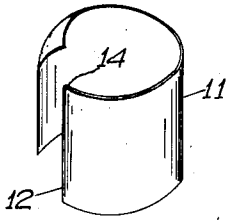


Fig. 3

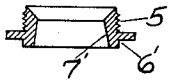


Fig. 4

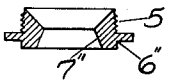


Fig. 5

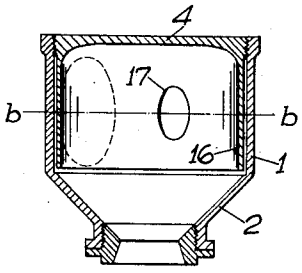


Fig. 6

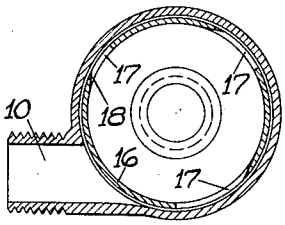


Fig. 7

Lester Wittenberg, Inventor

By his Attorney, Chas. W. Martines

Patented Oct. 8, 1929 1,730,708

UNITED STATES PATENT OFFICE

LESTER WITTENBERG, OF NEW ROCHELLE, NEW YORK, ASSIGNOR TO THE BARRETT COMPANY, A CORPORATION OF NEW JERSEY

SPRAY NOZZLE

Application filed December 12, 1924. Serial No. 755,403.

This invention relates to a nozzle. It is especially adapted to nozzles that may be used, for example, for spraying tarvia or other bituminous material upon streets or highways. These nozzles are of such a type that the liquid material is injected into the cylindrical bowl of the nozzle along a tangential line and makes its way to the outlet that is located along the axis of the cylinder in such a manner that the material is projected in the desired direction. In nozzles of this type it is desirable to have the outlet of a conical shape flaring outwardly so that the liquid material will be sprayed in the shape of a cone.

The invention will be understood from the description in connection with the accompanying drawings, in which

Fig. 1 is a plan view of the device with the cover removed;

Fig. 2 is a section along the line *a*—*a* of Fig. 1;

Fig. 3 is a perspective view of a detail;

Figs. 4 and 5 are sections through outlets of different sizes;

Fig. 6 is a section through a modification; and

Fig. 7 is a section along the line *b*—*b* of Fig. 6.

In the drawings, reference character 1 indicates the cylindrically shaped bowl of the nozzle which merges along its lower edge into the conical portion 2. The cylindrical portion is threaded along its upper edge on the inside as shown at 3 and a threaded cover 4 fits therein. The conical portion 2 is threaded on the inside as shown at 5 and a threaded plug 6 screws into the same. This threaded plugs is provided with a conical outlet 7. A screw threaded projection 9 on the side of the nozzle enables the same to be screwed into a supply pipe and a tangential inlet 10 extends through this plug 9 into the bowl 1.

Plugs 6′ and 6″ provided with conically shaped outlets 7′ and 7″ as shown in Figs 4 and 5 may be screwed into the conical portion 2 so as to provide outlets of different sizes. A sheet 11 of spring metal as shown in Fig. 3, somewhat less in circumference than the inner circumference of the bowl 1, may be inserted in this bowl and turned until its edge 12 overlaps the side 13 of the inlet 10 to the desired extent thereby partially closing this inlet. The edge 12 will preferably be bent inwardly along its upper portion as shown at 14 so as to divert the liquid slightly in a downward direction as it whirls around by centrifugal force along the inner surface of the bowl 1 and thus the liquid will be caused to descend in spiral paths to the outlet 7. The spring sheet 11 is normally held in position by the natural outward springing of the curved sheet. The friction of cap against the curved sheet may also be utilized to hold the sheet in place, or a set screw can be passed through the cover 4 or bowl 1 to hold the sheet in place.

In the modification shown in Figs. 6 and 7 instead of having a separate sheet of metal 11 as shown in Fig. 3, the cover 4 is provided with an annular depending flange 16 which has holes 17 of different sizes therein. One edge of these holes is beveled as shown at 18 so as not to interfere with the entry of the liquid into the bowl 1, and by adjusting the cap 4 to different positions the inlet 10 can be shut off or restricted to any desired extent by the material that lies at the edge of any one of the holes 17.

I claim:

1. In a spray nozzle comprising a cylindrical bowl, a tangential inlet and an axial conical outlet, and an adjustable baffle inside said bowl adapted to vary the size of said inlet.

2. In a spray nozzle comprising a cylindrical bowl, a tangential inlet and an axial conical outlet, and adjustably curved means inside said bowl utilizing centrifugal force for urging incoming material in a direction away from the inlet.

3. In a spray nozzle comprising a cylindrical bowl, a tangential inlet and an axial conical outlet, and an adjustable curved sheet, having a bent upper corner, for varying the size of said inlet, said outlet and bent upper corner being oppositely disposed.

4. In a spray nozzle comprising a cylindrical bowl, a tangential inlet and an axial conical outlet, and an adjustable curved sheet spring-held in position for varying the size

of said inlet and shaped to direct the flow of material to the oppositely disposed outlet of said nozzle.

5. In a spray nozzle comprising a cylindrical bowl, a tangential inlet and an axial conical outlet, and an adjustable curved sheet spring-held in position for varying the size of said inlet, an upper corner of said sheet being turned inwardly and oppositely disposed from said outlet.

In testimony whereof I affix my signature.

LESTER WITTENBERG.