March 1, 1932. J. C. HULL 1,847,964

SPRAY NOZZLE

Filed June 29, 1929

Fig. 1.

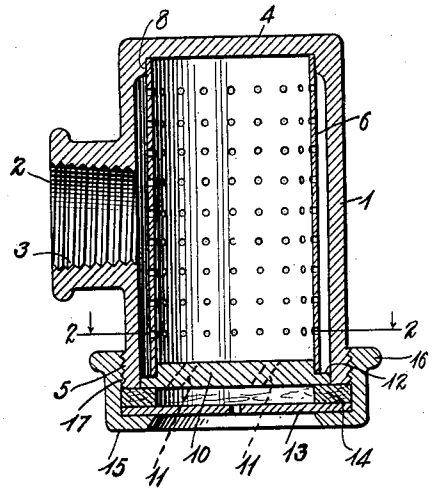
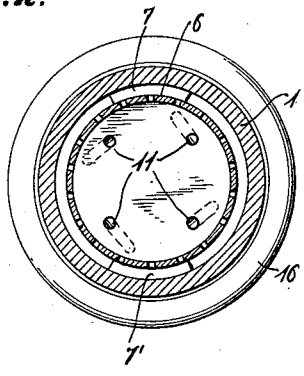


Fig. 2.



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SPRAY NOZZLE

Application filed June 29, 1929. Serial No. 374,815.

This invention relates to a nozzle structure designed with particular reference to the requirements of service in vegetable and fruit spraying and similar work although not limited thereto.

In the spraying of vegetables and the like there is a particular need for a suitable strainer construction to be incorporated in the spray nozzle due to the fact that the discharge orifice of a spray nozzle adapted for this class of service is necessarily quite small. Spray nozzles must, to be serviceable for this use, be of a relatively small size so that to prevent the clogging of the discharge orifice therein there must be a maximum straining or filtration of the material before it reaches the discharge orifice to prevent the clogging thereof by arsenate of lead or lime contained in the spray solutions.

An object of the invention therefore is to provide the casting forming the "spray nozzle" with a tubular strainer running from end to end of the casting and to provide the inlet for the solution in the side of the casting so that the solution may be strained by the entire length and circumference of the tubular strainer previous to its exit through the discharge nozzle at one end of the casting.

Other objects of the invention will be apparent from the following specification in conjunction with the drawings attached hereto and forming a part hereof, in which

Figure 1 is a vertical sectional view of the spray nozzle, and

Fig. 2 is a sectional view taken on line 2—2, Figure 1.

The numeral 1 designates generally the casting for the spray nozzle which as stated, must be of rather small construction. This casting is provided with an inlet 2 in the side thereof screw threaded as at 3 to receive a suitable conduit for conveying spraying solution. One end of the casting is closed as shown at 4 while the adjacent end is open and provided with screw threads 5.

Mounted within the confines of the elongated casting is a tubular strainer 6 extending substantially the full length of the casting as shown with one end thereof engaging the end portion 8 of the casting. This strainer is slightly spaced from the interior of the casting and the casting is provided with enlarged recesses 7 and 7′ at diametrically opposite points as shown, while the end thereof is constricted as at 8 to furnish a bearing for the strainer.

At the adjacent end of the nozzle I provide what I term as a plug 10 having a series of tangentially disposed apertures 11. This plug has a cut-out portion as at 12 in order to form a shoulder to support the end of the strainer.

A cap having a discharge orifice is indicated by reference numeral 13. This cap is spaced from the plug by the packing 14 to form a little eddy chamber. The cap and plug with the interposed packing are secured to the open ended nozzle by means of a clamping ring 15 having an extension 16 engaging the cap and screw threaded as at 17 with the casting so that pressure may be adjustably exerted on the packing ring.

From the foregoing it will be seen that the spraying solution entering the inlet at the side of the casting is distributed entirely within the confines of the casting around substantially all portions of the tubular filter so that within the minimum space provided by the casting an exceedingly large amount of filtration takes place. With this construction it is not necessary to remove the filter for cleansing purposes frequently as in the case with the usual conical or disk-shaped strainer.

Having thus described my invention what I claim is:

1. A spray nozzle of the character described comprising a body casting having a lateral inlet and an elongated body portion, a tubular strainer located within the elongated body of the casting and extending from substantially end to end thereof and spaced from the casting to permit spraying solution to contact with substantially all portions of the strainer, a cap having a discharge orifice located in alignment with the strainer and angularly disposed with respect to the inlet, a plug located within the confines of the body and having a portion interiorly engaging the strainer to center and maintain it in position

and a clamp engaging the nozzle cap and the casting to maintain the cap in position.

2. A spray nozzle of the character described comprising an elongated body portion having a lateral inlet, a strainer located within the body portion and substantially coextensive therewith, said casting having one closed end against which one end of the strainer abuts, said strainer being spaced from the walls of the body to permit the solution to engage substantially all portions of the strainer, a plug located within the body and engaging the adjacent end of the strainer to maintain it in position, said plug having orifices therein, a spray cap having a discharge orifice and a packing interposed between the plug and the cap to form a chamber therebetween and a ring engaging the cap and adjustably secured to the casting to maintain the cap and plug in position.

3. A nozzle structure for spraying solutions for treating vegetation and the like comprising an integral casting having a lateral inlet intermediate its ends adapted to be attached to a source of supply for the solution and having one end closed, a tubular strainer of cylindrical formation located within the body of the casting and substantially coextensive therewith and slightly spaced from the interior surface thereof, said casting having, at its closed end, a circumferentially extending shoulder against which the end of the strainer frictionally fits to center the same, a plug engaging the adjacent end of the strainer to maintain the same in position, said plug being provided with obliquely extending discharge openings, a spray cap, and means for detachably securing said spray cap and plug in position relative to the casting.

In testimony whereof I affix my signature.

JOHN C. HULL.