

J. G. MASTIN.
NOZZLE.
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949,489.

Patented Feb. 15, 1910.

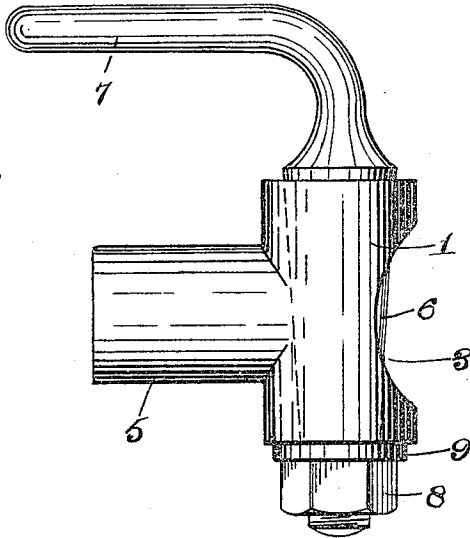


Fig. 1.

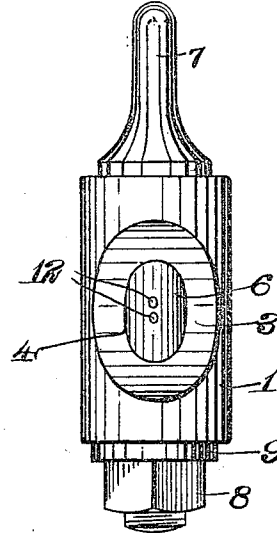


Fig. 2.

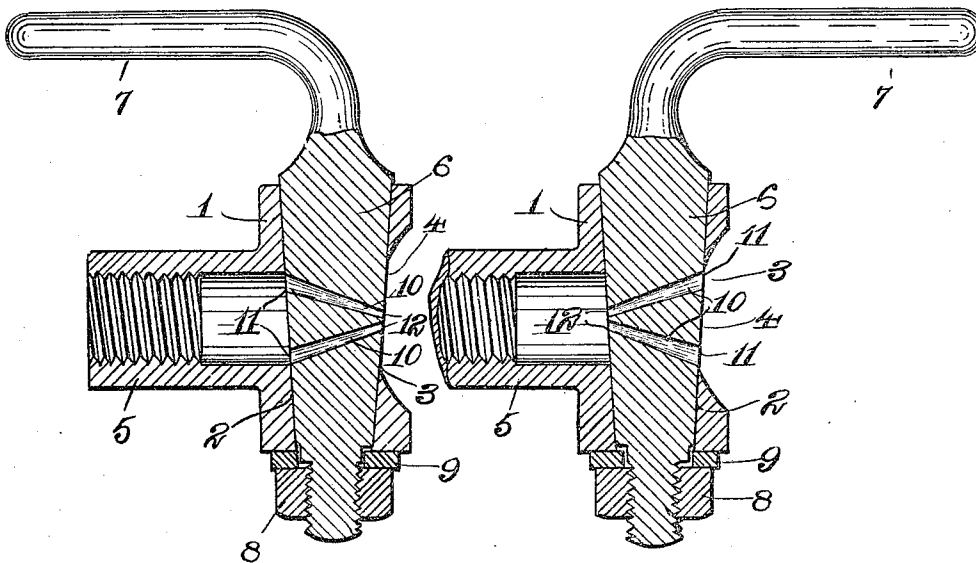


Fig. 3.

Fig. 4.

Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES G. MASTIN, OF CHICAGO, ILLINOIS.

NOZZLE.

949,489.

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To all whom it may concern:

Be it known that I, JAMES G. MASTIN, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Nozzles, of which the following is a specification.

My invention relates to nozzles and more specifically to that class of the same design for the ejection of liquids.

The object of my invention is the provision of a nozzle of the character mentioned especially adapted for use in the spraying of liquid insecticides in the treatment of trees and shrubbery with the latter.

A further object is to provide a nozzle as mentioned designed for the ejection of the liquid passed therethrough in a single thin sheet, and further which will be so constructed as to be adapted to be readily and quickly adjusted to effect the dislodging of particles deposited from the liquid, lodging therein and clogging the liquid ejection passage therethrough.

A still further object is to provide a nozzle which will be of great efficiency and which will be simple and economical of construction.

Other objects will appear hereinafter.

With these objects in view my invention consists in a nozzle characterized as above mentioned and in certain details of construction and arrangement of parts all as will be hereinafter fully described and more particularly pointed out in the claim.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a side elevation of my nozzle in its preferred form, Fig. 2 is a front elevation thereof, Fig. 3 is a central vertical section thereof showing the same arranged for the spraying of the liquid passed therethrough, and Fig. 4 is a similar section showing the same arranged to effect the dislodging of clogging particles.

Referring now to the drawings, 1 indicates the tubular metallic casing of my nozzle through which is formed a tapering or conical seat 2. The front side of said body is formed with a concave depression 3 of such a depth as to penetrate the wall of said body forming an outlet opening 4 therein. A threaded nipple 5 formed upon and rearwardly projecting from said body serves as

a means of connection thereof with a suitable liquid supply pipe.

Rotatably mounted in the casing 1 is a conical member 6, the same being of such a design as to form a snug connection with the conical seat 2. By means of a stem 7 formed at the upper extremity of the member 6, the latter may evidently be rotated. A nut 8 threaded upon the lower extremity of the member 6 locks the latter against longitudinal movement in said casing. A washer 9 interposed between the nut 8 and the lower extremity of the casing 1, the same being preferably locked against rotation upon the latter, serves an obvious purpose. Formed in the member 6 intermediate the extremities thereof, the axis of the same being positioned therein in planar alinement, preferably in a plane extending through the longitudinal axis of the member 6, are tapering, convergently arranged passages 10 so positioned that the larger extremities 11 thereof are spaced apart to the greatest extent, the opposite or smaller extremities 12 thereof terminating in the outer wall of the member 6 in close proximity with each other. The passage through the nipple 5 is of such a diameter and the opening 4 is of such a longitudinal dimension as to adapt either to communicate simultaneously with both of the extremities 11 of the passages 10, as shown in Figs. 3 and 4.

In operation, it will be clear that, upon positioning the member 6 as shown in Fig. 3, that is, with the extremities 12 thereof exposed, the liquid passed therethrough will be ejected in a single thin sheet disposed at substantially right angles to the plane including the axis of the passages 10, it being evident that with such construction the respective streams of liquid ejected from the latter will impinge upon each other with the result stated. Further, with such construction, the greater the angular separation of the passages 10, the more forcibly will one stream impinge upon the other, and consequently the larger will be the ejected sheet, the converse being likewise true; hence I do not wish to limit myself to the exact angular disposition of said passages.

With the construction described, upon one or both of said passages becoming clogged, it is only necessary, by means of the stem 7, to reverse the position of the member 6 in the casing 1 as shown in Fig. 4, in which event the larger extremities of the passages

10 will be exposed. The latter being so positioned it is evident that clogging particles deposited therein will be readily discharged by the force of the stream. To entirely stop
5 passage through the nozzle, the member 6 needs only to be turned to any of its positions intermediate those shown providing the extremities of the passages 10 are not exposed by the opening 4.
10 While I have shown what I deem to be the preferable form of my nozzle I do not wish to be limited thereto as there might be various changes made in the details of construction and arrangement of parts described without departing from the spirit of
15 the invention comprehended within the scope of the appended claim.

Having described my invention what I

claim as new and desire to secure by Letters Patent is:

A nozzle, comprising a casing having inlet and outlet openings; a rotary member in said casing and provided with straight converging conical passages extending entirely through said rotary member, the said inlet and outlet openings being of such a size and so located as to expose both ends of said passages, substantially as described. 20 25

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 30

JAMES G. MASTIN.

Witnesses:

HELEN F. LILLIS,
JOSHUA R. H. POTTS.