No. 858,811. PATENTED JULY 2, 1907.

J. C. HULL.

SPRAYING NOZZLE.

APPLICATION FILED JAN. 24, 1907.

Fig. 1.

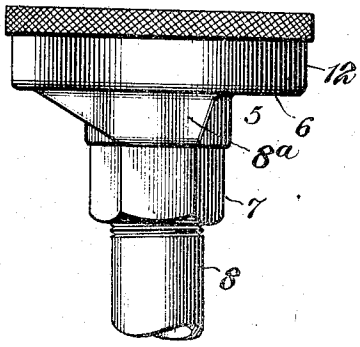


Fig. 2.

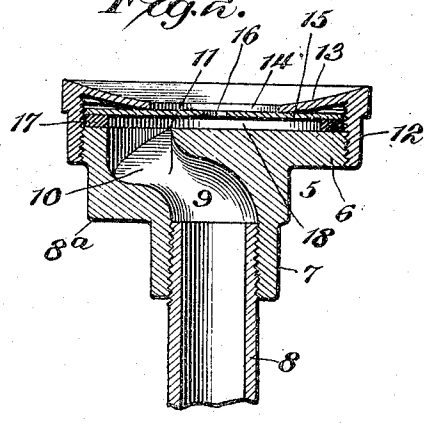


Fig. 3.

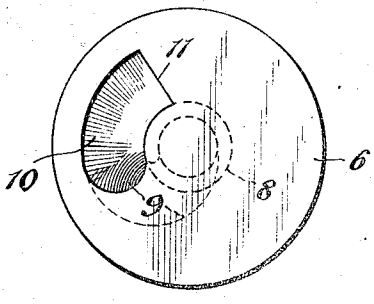
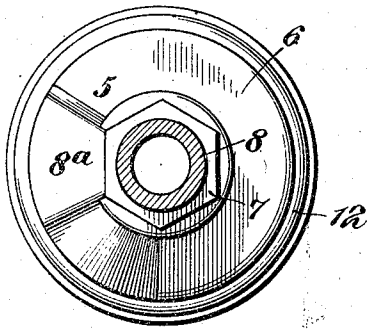


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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SPRAYING-NOZZLE.

No. 858,811. Specification of Letters Patent. Patented July 2, 1907.

Application filed January 24, 1907. Serial No. 353,891.

To all whom it may concern:

Be it known that J, JOHN C. HULL, a citizen of the United States, residing at Gasport, in the county of Niagara and State of New York, have invented a new and useful Spraying-Nozzle, of which the following is a specification.

The object of the present invention is to provide a novel and simple article of manufacture, which will eject a finely diffused spray, and is so constructed that the number of parts is reduced to a minimum, lessening the cost of maufacture, and avoiding the necessity of elements that are liable to become corroded and stuck in place during long use or removed and lost when the sprayer is dismembered.

The preferred form of construction is illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation of the nozzle. Fig. 2 is a longitudinal sectional view therethrough. Fig. 3 is an end view of the nozzle body. Fig. 4 is a rear elevation of the nozzle.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

In the embodiment illustrated, a single-piece nozzle body 5 is employed, comprising a face plate 6, from the rear side of which projects a centrally disposed boss 7 that is interiorly threaded to receive the usual supply conduit 8. The face plate 6 and central boss 7 furthermore have at one side, an integral tapered enlargement 8^a. A tortuous conducting channel 9 extends centrally through the boss 7, and has a helical portion 10 extending through the enlargement 8^a, and opening as shown at 11 through the front face of the body plate 6 eccentrically to or at one side of the center thereof.

The periphery of the body plate 6 is threaded, and screwed thereupon is the annular wall 12 of a hood cap having an inwardly concaved front wall 13 provided with a central opening 14. A flat detachable front wall or disk 15 is located within the hood, and has a central discharge orifice 16 of comparatively small diameter. The margins of the disk 15 are spaced from the inner face of the front wall 13, as shown in Fig. 2, and a packing washer 17 of compressible material is interposed between the margins of the disk and the front face of the body plate 6, being located outside the discharge end 11 of the channel, and also surrounding the discharge orifice 16. It will be observed by reference to Fig. 2 that this packing washer spaces the disk 15 from the body plate 6, forming between the same, a chamber 18 with which the channel 9 and the discharge orifice 16 communicate. Further said washer bears against the said spaced margins of the disk, thereby securing a yielding pressure that produces an effective liquid-tight joint. Experience has demonstrated that this nozzle is very effective, and that it will produce a finely comminuted spray. There are no internal removable parts to the body, which are liable to become corroded in place or lost when the nozzle is taken apart. The channel from the conduit is comparatively large, so that there is no danger of clogging. Moreover, because of the conformation thereof, the liquid is forced outwardly through said channel, and is driven against the cap or disk at an angle which causes the liquid to flow rapidly in the little chamber, said liquid being finally discharged through the orifice in the disk, while the same has a whirling motion, thus causing a very fine spray under ordinary pressure.

From the foregoing, it is thought that the construction, operation, and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention. For instance while one channel is illustrated, the number and size thereof are not essential features.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is:—

1. As an article of manufacture, a spraying nozzle comprising a body having a tortuous channel therethrough, a cap threaded on one end of the body and having an inwardly dished plate provided with an opening, a disk located inside the cap and having a discharge orifice, said disk bearing against the inner face of the front wall of said cap around the opening but having its margins spaced from said wall, and a packing washer interposed between the spaced margins and the opposing face of the body.

2. As an article of manufacture, a spraying nozzle, comprising a single-piece body having a substantially flat front face and a substantially central rearwardly projecting boss that is threaded to receive a conduit, said body and boss having an offset enlargement at one side and a tortuous channel extending through the boss and having a helical portion in the enlargement that opens through the flat front face of the body at one side of its center, a hood cap threaded on the front end of the body and having a detachable front wall or disk provided with a central discharge orifice, and a packing washer located in the hood and interposed between said front wall or disk and the front face of the body, said washer surrounding the discharge end of the channel and the discharge orifice and forming a chamber between the front wall or disk and the front face of the body.

3. As an article of manufacture, a spraying nozzle comprising a single-piece body having a substantially central rearwardly projecting boss that is threaded to receive a conduit, said body also having a substantially flat front

face, and a tortuous channel extending from the boss and opening through the said substantially flat face at one side of the center and in spaced relation to its outer edge, a hooded cap threaded on the front end of the body and having a central opening, a detachable front wall or disk located within the cap and having a central discharge orifice, and a packing washer located in the cap and interposed between the said front wall or disk and the front face of the body, the packing washer bearing against the portion of the front face of the body between the end of the tortuous channel and the edge and forming a contracted chamber with which said tortuous channel communicates.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN C. HULL.

Witnesses:
GEORGE E. RE....
BURT AIKEN.