(No Model.)

L. SCHUTTE.

SPRAYING NOZZLE.

No. 551,875. Patented Dec. 24, 1895.

Fig. 1.

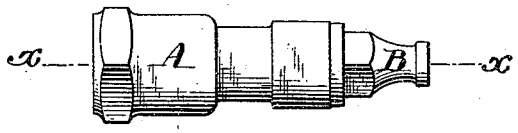

Fig. 2.

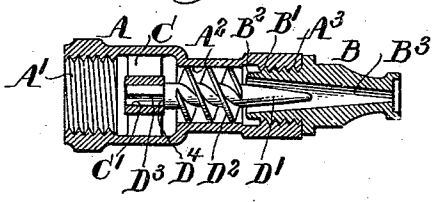

Fig. 3.

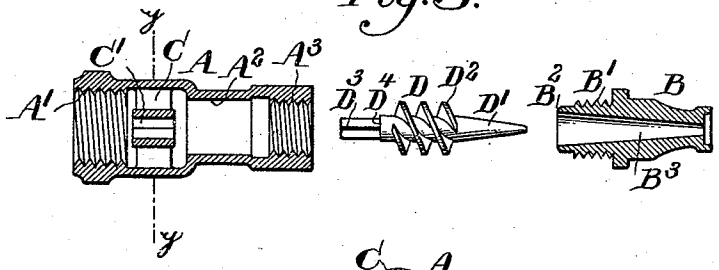

Fig. 4.

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SPRAYING-NOZZLE.

SPECIFICATION forming part of Letters Patent No. 551,875, dated December 24, 1895.

Application filed March 8, 1895. Serial No. 540,997. (No model.)

To all whom it may concern:

Be it known that I, LOUIS SCHUTTE, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a certain new and useful Improvement in Spraying-Nozzles, of which the following specification is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to the construction of nozzles used for spraying liquids, and has for its object to provide a nozzle of simple, durable and efficient construction, and in which a spiral is held in place axially and kept from revolving, and which admits of prompt examination and cleaning without disconnecting from supply-pipe.

The nature of my improvements will be best understood as described in connection with the drawings in which they are illustrated, and in which—

Figure 1 is a side view of my nozzle; Fig. 2, a longitudinal section on line $x\ x$ of Fig. 1; Fig. 3, a similar sectional view showing the various parts separated, and Fig. 4 a cross-section on line $y\ y$ of Fig. 3.

A is the main or body portion of the nozzle. It is provided with a thread A′ where it screws onto a supply-pipe (not shown) and at its other end it is also threaded, as shown at A^3, in order to couple with the nozzle-tip B. In the body A, I form a cylindrical bore A^2 to receive the spiral spraying device D, which is inserted through the delivery end of the body-piece and is prevented from passing too far backward by a lug or projection from the body A, which must also engage the spraying device in such a way as to prevent it rotating in the bore A^2. Preferably I form a spider C with a central orifice C′, into which passes a shank D^3 of the spraying-spiral, the shank D^3 and orifice C′ being square, as shown, or of other form which will prevent rotation. A shoulder D^4 rests against the spider and prevents the spraying device from moving toward the supply end of the nozzle beyond a determined point. D^2 indicates the spiral flange of the spraying device, and D′ a conical finger projecting from its front end. The tip B is threaded at B′ so as to screw into the threaded end A^3 of the body-piece, and its end B^2 affords an abutment which prevents the spraying device from being forced forward out of position. In fact the tip, when in place, practically clamps the device D between its end B^2 and the spider C, though in order to insure a tight joint between the tip and body I do not actually bring the end B^2 into pressing contact with device D. B^3 is the bore of the tip and should be tapered as shown.

In operation water or other fluid entering the nozzle is given a spiral motion by the flange D^2 of the device D, which is intensified by the contracted orifice of the tip, and in consequence of which the fluid is thrown from the tip as a spray. To spray water by giving it rotary motion is not new, and my invention consists in the special construction of the nozzle by which the spraying device D, though separate from the body and tip, is movable when in position, but by which the nozzle can be taken apart and cleaned or repaired without removing its main body from the supply-pipe.

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

1. A spraying nozzle having in combination a body A, a removable tip B and a spiral fluid rotating device D, said device D lying within and being engaged with the body A to prevent its rotary movement without interfering with its withdrawal when the tip is removed and secured between projecting portions of the body and tip to prevent its longitudinal displacement.

2. A spraying nozzle having in combination a body A, a removable tip B, having a tapered orifice B^3, and a spiral fluid rotating device D, having a conical finger D′, said device D being engaged with the body A to prevent its rotary movement and secured between projecting portions of the body and tip to prevent its longitudinal displacement.

3. A spraying nozzle having in combination a body A provided with a cylindrical bore A^2 and a spider C, having an orifice C′ of other than cylindrical form, a tip B adapted to screw into the end of the body, and a spiral spraying device D adapted to fit in bore A^2 and having a shank D^3 adapted to fit in the orifice C′ of the spider, the spiral flanges D^2 of the spraying device being adapted to lie between the spider and the end B^2 of the tip.

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