

(No Model.)

J. BUCHEL.
DISTRIBUTING OR SPRAY NOZZLE.

No. 568,659.

Patented Sept. 29, 1896.

Fig. 1.

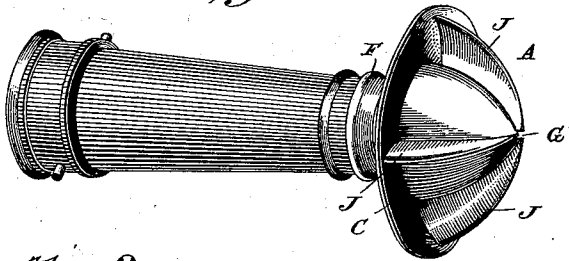


Fig. 2.

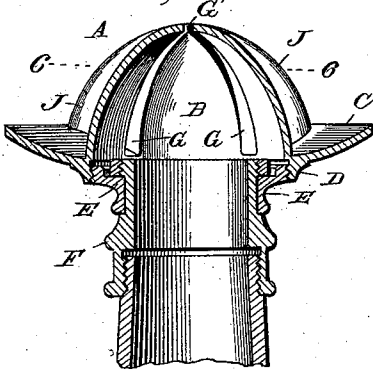


Fig. 4.

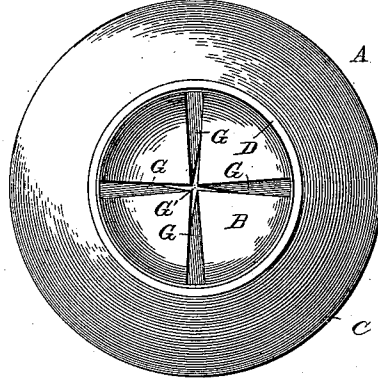


Fig. 3.

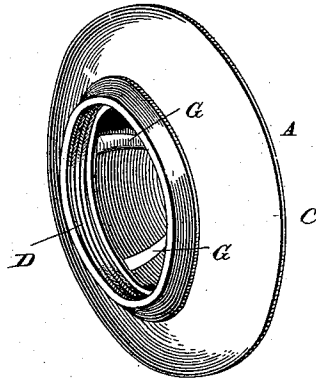
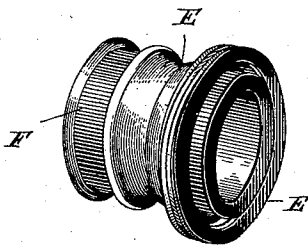


Fig. 5.

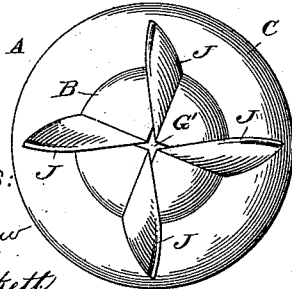
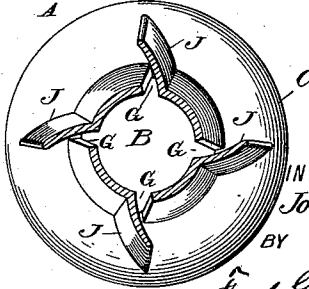


Fig. 6.



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JOSEPH BUCHEL, OF PORTLAND, OREGON, ASSIGNOR OF ONE-HALF TO
W. A. LAIDLAW, E. D. TIMMS, AND A. T. LEWIS, OF SAME PLACE.

DISTRIBUTING OR SPRAY NOZZLE.

SPECIFICATION forming part of Letters Patent No. 568,659, dated September 29, 1896.

Application filed December 3, 1895. Serial No. 570,908. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH BUCHEL, residing at Portland, in the county of Multnomah and State of Oregon, have invented a new and
5 Improved Distributing or Spray Nozzle, of which the following is a specification.

My invention is in the nature of a nozzle attachment for water-distributing hose; and it primarily has for its object to provide a
10 nozzle adapted to throw a circular spray from one circumference toward the center and also a direct or central spray thrown directly ahead centrally of the circular spray.

My invention also has for its object to provide a rotary nozzle of this character which
15 can be readily attached to the ordinary shut-off nozzle of a pipe-section of hose and which will effectively serve for its intended purposes.

With other objects in view, which will hereinafter be referred to, the invention consists in the peculiar, novel, and detail construction of parts, such as will be first described in detail, and then be specifically pointed out
20 in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a hose discharge-pipe with my improved nozzle applied. Fig. 2 is a longitudinal section of the nozzle
30 and a portion of the pipe to which it is attached. Fig. 3 is a perspective view illustrating the coupling member and the spray-cap detached. Fig. 4 is an inverted plan view of the spray-cap. Fig. 5 is a top plan view
35 of the same; and Fig. 6 is a horizontal section thereof, taken practically on the line 6 6 of Fig. 2.

My improved nozzle comprises a revolving disk A, having a central hollow chamber B, partly oval in vertical section, which at the
40 base is of less diameter than the disk A, to form an annular rim C on the top or outer face, which is made dish-shaped or concave, as most clearly shown in Fig. 2.

The hollow chamber B terminates at the lower end in an internally-threaded flange D, which is adapted to screw onto the revolving collar E, held to turn on the union or coupling member F, as shown.

By referring now more particularly to Fig.

4 it will be observed the hollow or cone-like chamber B has four, more or less, radial slits or openings G G, extending from the base to the apex of the said chamber, and at the apex-point such slits G G merge into a single
55 central discharge or spray opening G'.

The outer wall of the chamber B has a series of flanges or wings J, one for each slit G, which taper from the top to base and gradually increase in width from the top to the bottom, so that their lower end is of a width
60 nearly equal the rim C.

The wings J in horizontal section are curved in a direction opposite to the pitch of the thread which connects the cap to the rotary
65 ring on the union, so that the said cap and ring are held locked together as the nozzle is rotated by the water-pressure, as will presently more fully appear. The wings are also
70 set tangentially to the central axis of the nozzle, they being preferably at an angle of about forty degrees, so that the water escaping through the slits G will cause an active revolution of the nozzle.

The slits G are made wide at the bottom and taper to a reduced width at the top, so as to equalize the volume of water passing from the chamber, in harmony with the varied width of the wings. Thus as the greatest width of the wings is at the bottom, the
80 slits are widest at the base, so that the water volume passing from the chamber B will be largest at the base of the nozzle and smallest at the apex to provide for a continuous circular or dish-shaped spray of a large diameter encircling a central straight spray.

The diameter of the sheet of water discharged from my improved nozzle may be varied to adapt it to certain different classes of work by placing the flanges at different angles.

When used in connection with a fire-hose this nozzle can be used without a shut-off.

The nozzle can be readily attached to any pipe or nozzle-section now in use by cutting threads for such purpose.

My improved nozzle will be found especially desirable for use as a garden-sprinkler.

I am aware that it is not new to provide a nozzle which throws from the center to the circumference. My invention operates di- 100

rectly reverse to the same, in that it throws the water from the base to the apex.

My spray-nozzle can also be used for the purpose of driving smoke ahead of firemen, so the firemen can approach close to the fire and be protected from the heat.

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

10 1. An improved nozzle member comprising a base having a cone-like hollow chamber, having a central discharge at the apex, and radial slits and external wings or flanges to receive the force of the water through the side
15 slits all arranged as shown and described.

2. A rotary nozzle member consisting of a cone-like hollow body having a central discharge-opening in the apex, radial slits extending from the base and merging at the top
20 with the central discharge-opening said slits tapering from the bottom to the top in width and external flanges on the cone-like body

arranged to receive the force of the water passing through the slits as specified.

3. A nozzle formed of a hollow cone-like body, having radial side slits, an annular rim at the base, and wings or flanges, tapering in width from the bottom to the top substantially as shown and for the purposes described.

4. An improved nozzle comprising a hollow cone-like body having at the base a flange for securing it to a turn-coupling, said body having a central discharge in the apex and radial slits increasing in width from the top to the base and having an annular dished rim at the base, wings formed on the outer face of the cone-like body, said wings having their greatest width at the bottom and tapering to emerge with the top or apex of the body substantially as shown and for the purposes described.

JOSEPH BUCHTEL.

Witnesses:

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A. T. LEWIS.