

L. E. FITZSIMONS.
 SPRAY NOZZLE.
 APPLICATION FILED JULY 10, 1912.

1,087,006.

Patented Feb. 10, 1914.

Fig. 1.

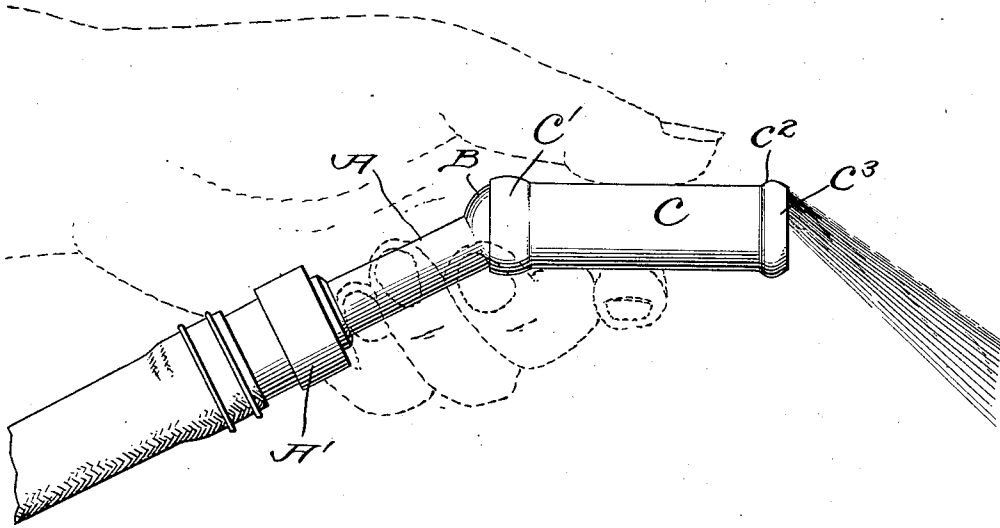


Fig. 2.

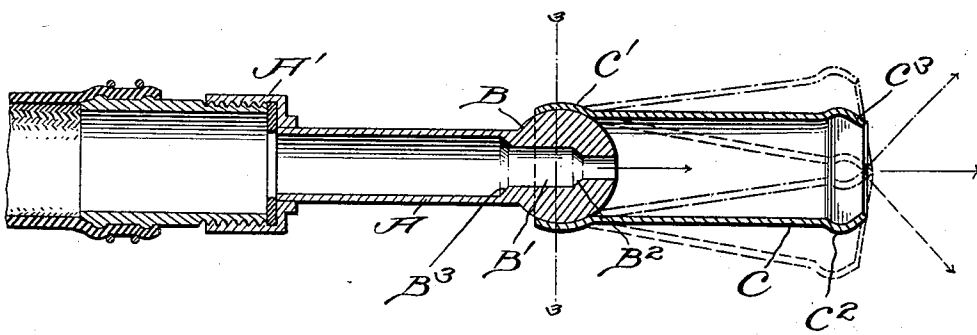
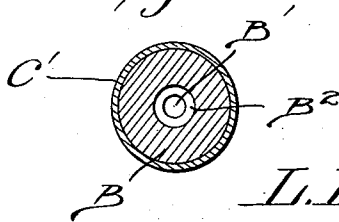


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

LOUIS E. FITZSIMONS, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE NOVELTY MANUFACTURING COMPANY, OF WATERBURY, CONNECTICUT, A CORPORATION OF CONNECTICUT.

SPRAY-NOZZLE.

1,087,006.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LOUIS E. FITZSIMONS, a resident of Waterbury, in the county of New Haven and State of Connecticut, have
5 invented a new and useful Improvement in Spray-Nozzles, of which the following is a specification.

This invention is a novel construction of nozzle adapted to be used upon the end of a
10 hose, and the object of the invention is to provide a nozzle which can be used for the purpose of delivering a straight and solid stream or a spray as preferred.

Another object of the invention is to provide a nozzle which by a simple and easy
15 manipulation of the holding hand can regulate the direction of the spray and also the degree thereof.

With these objects in view the invention
20 consists in the novel features of construction and combination, all of which will be fully described hereinafter and pointed out in the claim.

In the drawings forming a part of this
25 specification: Figure 1 is a view illustrating the practical application of my invention. Fig. 2 is a vertical sectional view. Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 2.

In carrying out my invention I employ a
30 metallic tube A, which is provided with a threaded sleeve or collar A', by means of which it is screwed to the ordinary hose connection. This tube A, may be of any length
35 and diameter and at its forward end this tube is united to a ball or sphere B, which ball or sphere may be an integral part of the tube or united thereto in any suitable manner. This ball or sphere has a central opening or bore B', said bore being of varying
40 diameters, that is, the diameter of the rear portion is larger than the diameter of the forward portion and at the juncture of these two portions there is arranged an oblique
45 shoulder B². It will also be noted that the rear portion of the bore of the sphere or ball is somewhat less than the internal diameter

of the tube A, and when the tube A and ball or sphere B meet there is arranged an interior inclined shoulder B³, so that the water
50 in passing from the tube or pipe A out through the center opening of the ball or sphere is congested or concentrated so as to be delivered with considerable force and in a perfectly straight line.

Connected to the sphere or ball and movable freely thereon in all directions to a limited extent is the spraying sleeve or nozzle C, the rear end C' being spun around
55 the exterior of the ball or sphere at a point slightly beyond its vertical diameter so that it is impossible for the sleeve to be pulled off the ball or sleeve but can still have a considerable universal movement. At its
60 forward end this spraying sleeve is first swelled slightly outwardly as shown at C² and is then contracted slightly as shown at C³, and the effect of these oppositely disposed swells at the points indicated serve to break up the stream of water into a fine
65 spray whenever the spraying sleeve is turned at an angle as most clearly shown in Fig. 2, the dotted lines showing the sleeve deflected both upwardly and downwardly, and it is
70 obvious that by giving the sleeve a slight deflection the stream of water which is projected in a straight line through the center of the sphere or ball comes in contact with
75 the side of said sleeve and is guided along the sleeve until it contacts with the contracted mouth thereof when it is broken up into a fine spray and the degree of fineness will
80 depend to a very large extent upon the manipulation of the sleeve so as to increase or decrease the angle of contact. It is obvious that the inner nozzle can be held in
85 one hand and the spraying sleeve shifted or adjusted quickly and easily between the thumb and fingers as preferred, and furthermore it will be readily understood that the
90 spray can be directed either up or down or to the right or left and instantly shifted by simple manipulation of the sleeve by the thumb and finger.

It will thus be seen that I provide a nozzle capable of carrying out all the objects hereinbefore referred to.

What I claim is:—

- 5 A nozzle comprising a pipe or tube and a ball or sphere at the forward end thereof, said ball or sphere having an opening of varying diameters, and a sleeve having its rear end spun around the ball or sphere pro-

viding a universal joint, the forward end of said sleeve having a slightly expanded portion and a contracted portion beyond the expanded portion.

LOUIS E. FITZSIMONS.

Witnesses:

JENNIE P. DAVIDSON,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
