

(No Model.)

F. S. NORTH & A. RAYMOND.
COMBINED SPRAYER AND NOZZLE.

No. 523,941.

Patented July 31, 1894.

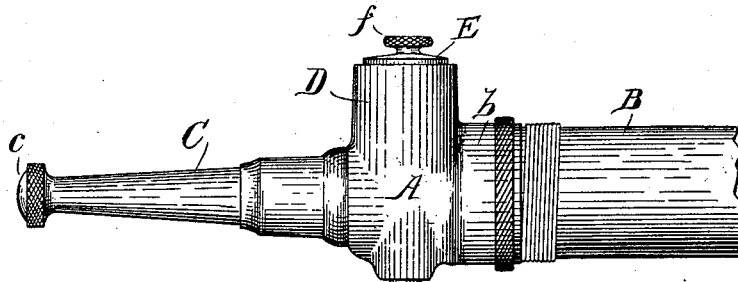


Fig. 1.

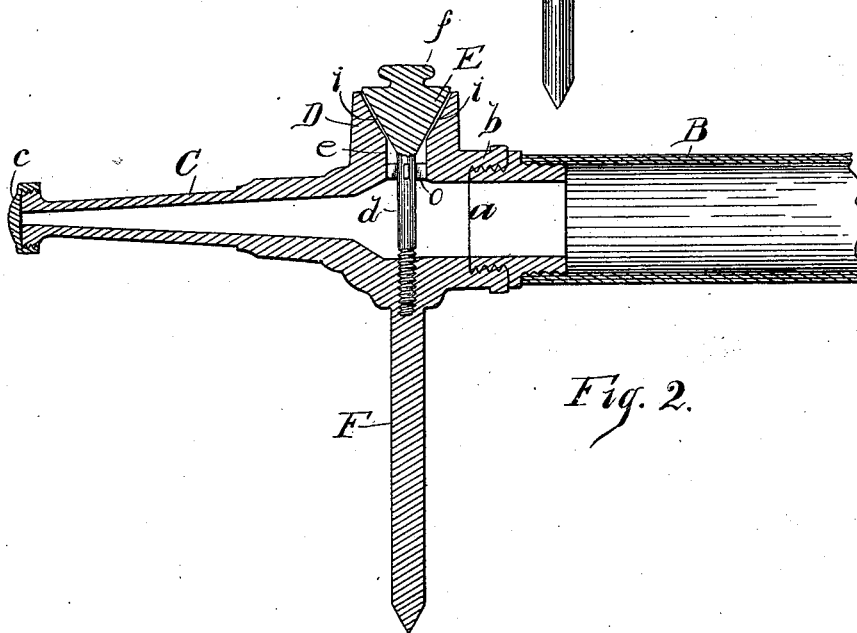


Fig. 2.

WITNESSES

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FRANKLIN S. NORTH AND ADELBERT RAYMOND, OF DETROIT, MICHIGAN.

COMBINED SPRAYER AND NOZZLE.

SPECIFICATION forming part of Letters Patent No. 523,941, dated July 31, 1894.

Application filed October 21, 1893. Serial No. 488,827. (No model.)

To all whom it may concern:

Be it known that we, FRANKLIN S. NORTH and ADELBERT RAYMOND, citizens of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have invented certain new and useful Improvements in a Combined Sprayer and Nozzle; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a combined sprayer and nozzle, and consists in a certain construction and arrangement of parts, as hereinafter fully set forth, the essential features of which being pointed out particularly in the claim.

The object of the invention is to provide a simple device that may be cheaply made, that combines a sprayer and nozzle, and in which the construction is such that by a very slight adjustment of parts, any degree of spray may be thrown, from a heavy spread of water to a mist so fine as to float upon the air. This object is attained by the device illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of our improved device. Fig. 2 is a central longitudinal section through the same.

Referring to the letters of reference, A designates the case or shell which is provided with an extension *b* having means for attaching the hose B thereto, and having an induct port *a*. Communicating with said port is a nozzle C which projects from the shell in line with the extension *b*, and is provided with a screw cap *c* to close the end thereof.

D designates an extended boss formed integral with the case and having an aperture *e* therethrough that communicates at right angles with the port or opening *a*. The outer end of said aperture *e* is beveled outward forming a conical mouth or seat, the wall of which is cupped or made slightly concave, as shown at *i* in Fig. 2.

E designates a cone-valve which coincides with the conical seat of said aperture and is

secured therein so that but a small portion of the base of said valve extends therefrom. Formed integral with said valve and extending from the apex thereof, is a valve stem *d* that passes through the aperture *e* and crosses the induct *a*, the lower end thereof being threaded and screwed into the wall of the shell. Said valve having the serrated nib or annulus *f* by means of which it is manipulated.

To provide a lateral brace for the stem *d* and prevent it from vibrating, it is provided with the radial wings *o* which bear against the walls of the aperture *e* and support the walls centrally therein.

Depending from the shell is a spike F which is adapted to be forced into the ground, to retain the device in place while the sprayer is in operation.

This device may be made to serve as an ordinary nozzle by turning the valve E so that the threads on its stem will draw it down onto its seat and removing the cap *c* from the end of the nozzle C.

When it is desired to employ the device as a sprayer, the end of the nozzle is closed by said cap, and said valve opened by turning it so as to unscrew its threaded stem. By raising the valve some distance from the seat, a heavy spray of water will be thrown around said valve in an expansive circle. Any degree of spray being attainable by simply adjusting said valve nearly to its seat, the water which is forced through the contracted opening becomes atomized and reduced to a mist so fine as to be readily borne upon the air. Rendering the device highly adaptable for sprinkling an extensive area and for watering delicate plants and flowers. This atomizing effect is accomplished through the peculiar construction of parts. The water being forced through the contracted opening around the apex of the cone, impinges upon the flaring sides thereof and is deflected against the concave wall of the seat, the force of which reduces the water to very fine particles which expand in passing outward through the increased radius of the opening and discharge in mist around the base of the cone. The device is highly efficient as a

sprinkler or sprayer, and its utility is greatly broadened because of its simplicity and cheapness of construction.

Having thus fully set forth our invention,
5 what we claim as new, and desire to secure by Letters Patent, is—

In a device for the purpose set forth, the combination of the shell provided with an induct port and a valve aperture communicating therewith, said aperture having a conical
10 outer opening, the wall of which is slightly concaved, the threaded stem passing through

said valve aperture, and having the lateral wings that engage the sides thereof, said stem screwing into the wall of said case, and the
15 cone valve on said stem, filling said conical opening.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANKLIN S. NORTH.
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Witnesses:

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E. K. ROEMER.