

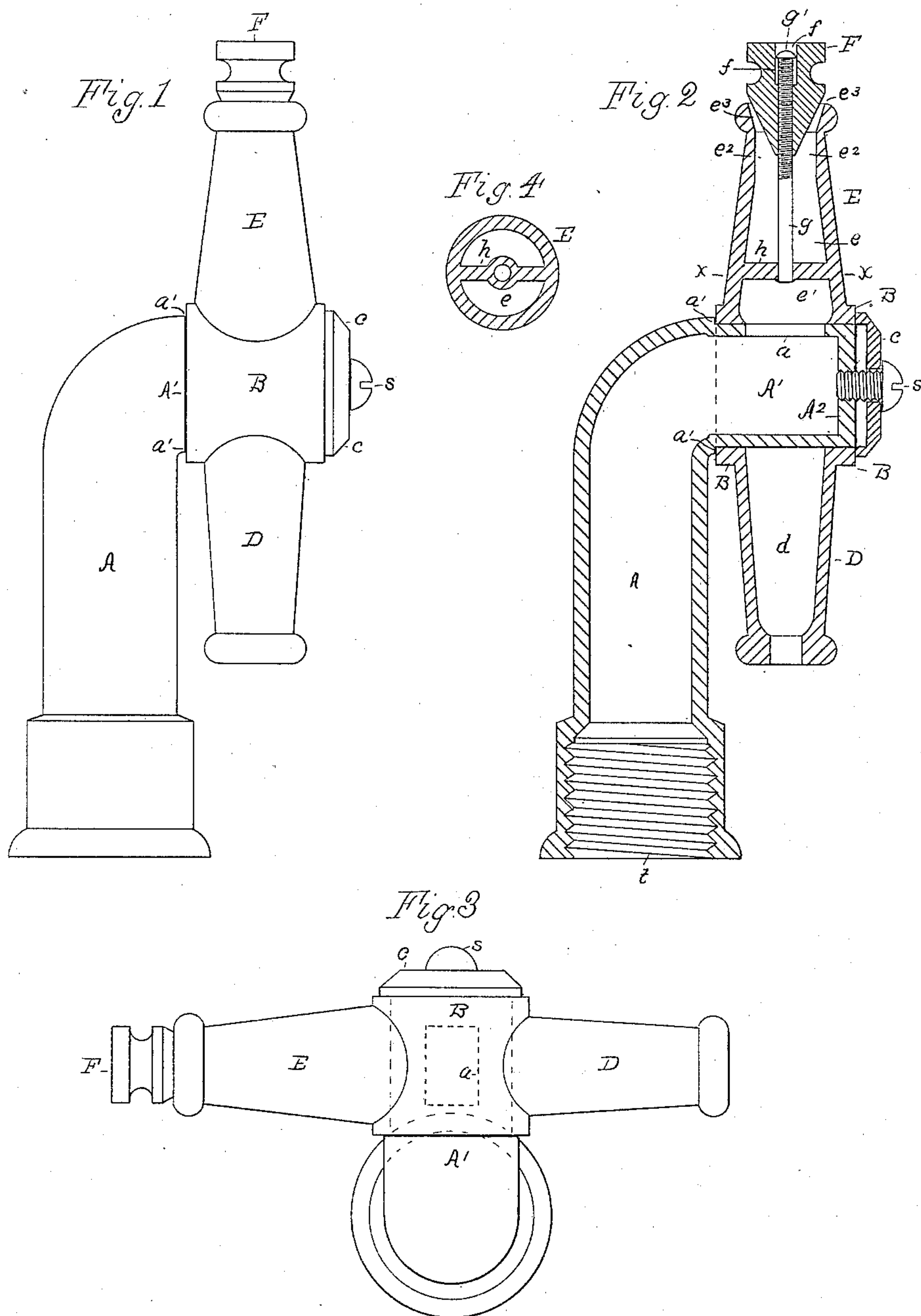
(No Model.)

C. L. TRAVIS.

NOZZLE.

No. 378,531.

Patented Feb. 28, 1888.



Witnesses
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UNITED STATES PATENT OFFICE.

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NOZZLE.

SPECIFICATION forming part of Letters Patent No. 378,531, dated February 28, 1888.

Application filed June 14, 1887. Serial No. 241,245. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. TRAVIS, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Nozzles, of which the following is a specification.

My invention relates to nozzles for use in sprinkling lawns, &c.; and the principal object of the invention is the production of a nozzle that will serve as an effectual spreader and atomizer of the jet of water.

The improvements are illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the device. Fig. 2 is a central vertical section of the same. Fig. 3 is a top view showing the nozzles turned to position to shut off the water, and Fig. 4 is a transverse section on the line $x x$ of Fig. 2.

A in the drawings designates a short section of pipe having interior threads, t , at its lower end for connecting it to a hose or pipe. The upper portion of the pipe has a branch or bend, A' , at a right angle to the main portion A, and its end A^2 is closed. In the top of the branch or portion A' is a discharge-orifice, a .

B is a sleeve fitting closely around the lateral portion A' over the orifice a , and is capable of being rotated. The inner end of the sleeve abuts against a shoulder, a' , on the lateral portion of the pipe, and a cap, c , fastened to the head A^2 of the pipe by a screw, s , holds the sleeve on the pipe. On one side of the sleeve is an ordinary jet-nozzle, D, having its hollow d extending into the sleeve, and at the opposite side of the sleeve is a spreading-nozzle, E, also having its hollow e communicating with the interior of the sleeve. The inner portion, e' , of the hollow is tapering toward the outer portion, e^2 , which is straight for a short distance, and the nozzle-mouth is made flaring, as shown at e^3 .

F is a conical plug supported with its apex within the mouth e^3 on a rod, g , which extends centrally in the hollow of the nozzle to a cross-piece, h , to which it is secured. The cross-piece or bridge h is preferably cast with the nozzle; but it may be a separate piece soldered to the sides, and should be located near the inner end of the nozzle. The rod g has its outer portion threaded to receive the plug F, which is interiorly threaded. The outer portion of the hole in the plug has a

flat bottom countersink, f , and the rod g has a head, g' , formed on its end, so that the plug cannot be entirely removed from the rod.

If desired, the plug F may be fastened to the rod, and the lower end of the rod have threads by means of which it may be screwed into the bridge h ; but the former construction is preferable.

The volume of the discharge, as will be apparent, can be regulated by adjustment of the plug on its rod.

The relative inclinations of the cone of the plug F and the walls of the mouth e^3 should be such that the space between them will narrow outwardly, about as shown in Fig. 2. By this arrangement the jet will be discharged in funnel form, and continue in an unbroken cone-shaped sheet for a considerable distance from the nozzle, instead of being quickly broken into spray, as by the ordinary spray-nozzles. The force of the water will hold the cone centrally to the orifice, while the flexibility of the support g will permit it to be swayed laterally to allow the passage of substances thicker than the width of the normal space between the plug and nozzle-mouth. To shut off the flow of water, the sleeve and nozzles are turned a quarter-turn in either direction, so that a solid portion of the sleeve is brought over the discharge-orifice a of the pipe.

If it is desired to use the jet-nozzle D, the sleeve can be readily turned to position to have the hollow d coincident with the orifice a . It will be apparent that in shifting the position of the nozzles and sleeve there will be no escape of water until the desired nozzle is made to coincide with the orifice a .

What I claim, and desire to secure by Letters Patent, is—

The combination, with a nozzle having the lower portion of its bore tapering outward, the outer portion straight and terminating in a conical mouth, of a cone-shaped plug adjustably supported with its apex in said mouth, the inclinations of said plug and mouth being in straight courses, and the angle of the former to the axial line being greater than the latter, a threaded spring-rod for carrying and adjusting said plug centrally to the mouth, and a bridge at the base of the nozzle for supporting said rod, substantially as set forth.

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