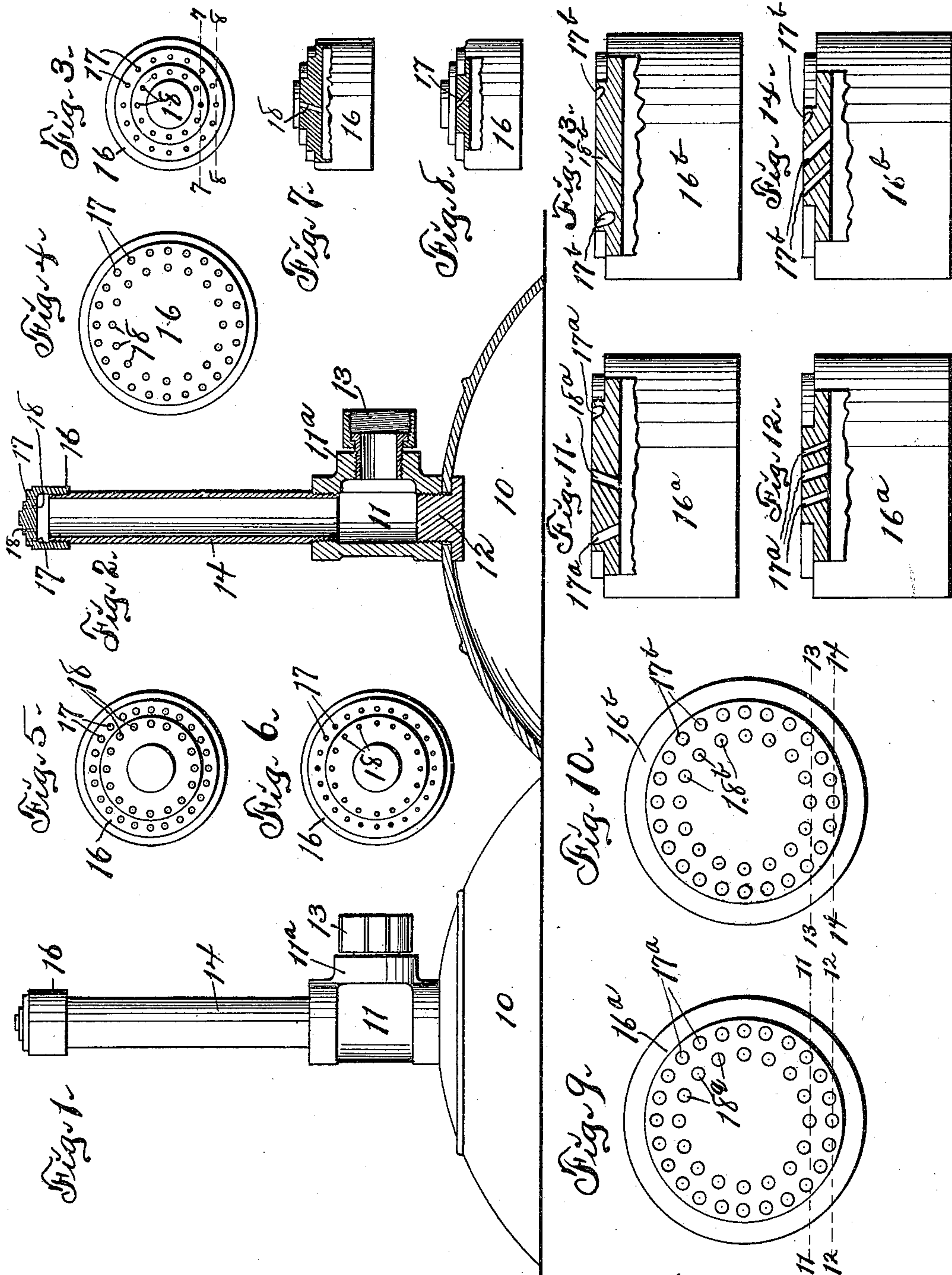


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Patented May 30, 1911.



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# UNITED STATES PATENT OFFICE.

JOHN H. BOLITHO, OF BOONE, IOWA.

HOSE-NOZZLE AND SPRINKLER.

993,498.

Specification of Letters Patent.

Patented May 30, 1911.

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*To all whom it may concern:*

Be it known that I, JOHN H. BOLITHO, a citizen of the United States of America, and resident of Boone, Boone county, Iowa, have invented a new and useful Hose-Nozzle and Sprinkler, of which the following is a specification.

The object of this invention is to provide an improved construction for sprinklers and fire nozzles.

My invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in my claims and illustrated by the accompanying drawing, in which—

Figure 1 is a side elevation of a complete sprinkler. Fig. 2 is a vertical section of the same. Figs. 3, 4, 5 and 6 are end views of the cap of the sprinkler. Figs. 7 and 8 are chord sections on the indicated lines 7—7 and 8—8 of Fig. 3. Figs. 9 and 10 are end views of a fire nozzle. Figs. 11 and 12 are chord sections on the indicated lines 11—11 and 12—12 of Fig. 9. Figs. 13 and 14 are chord sections on the indicated lines 13—13 and 14—14 of Fig. 10.

In the construction of the device as shown in Figs. 1 to 8 inclusive the numeral 10 designates a base or stand preferably made of cast iron and of parti-spherical form. The base 10 is formed with a central aperture at its apex. A tee 11 is mounted on the apex of the base 10 and a plug 12 extends through the aperture of the base and is screwed into one end of the tee. A coupling 13 is screwed into a lateral 11<sup>a</sup> of the tee 11 and is adapted to receive connection with a pipe or hose not shown. A nozzle-pipe 14 is screwed into the end of the tee 11 opposite to the plug 12 and a cap 16 is screwed on the opposite end of said nozzle-pipe. The nozzle-pipe 14 may be of any desired length. The cap 16 is formed with a plane outer face and concentric rows of ports 17, 18 through its outer end. The ports 17, 18 may vary in diameter as desired (see Figs. 3, 4, 5 and 6) but preferably are circular in cross-section and are inclined relative to the plane face of the cap 16. The ports 17 may be inclined different from the ports 18 as illustrated in Figs. 7 and 8 and I prefer that the ports 17 form angles of approximately forty-five degrees with the face of the cap while the ports 18 form angles of approximately eighty-five degrees with the face of said cap.

In Figs. 9, 10, 11, 12, 13 and 14 I illustrate adaptations of the cap 16 for use on fire nozzles. In these views caps 16<sup>a</sup>, 16<sup>b</sup> are shown with annular rows of ports 17<sup>a</sup>, 18<sup>a</sup> and 17<sup>b</sup>, 18<sup>b</sup> differently arranged relative to each other and at different angles relative to the outer face of the cap. This adaptation is desirable in use with fire nozzles in that it provides an expanded and relatively broad water wall between a nozzle man and fire or smoke being approached by him, which water wall will extinguish and subdue flames below a certain degree of intensity and will saturate and precipitate, drive back and expel smoke and poisonous gases in advance of such nozzle man.

In the practical use of the device illustrated in Figs. 1 to 8 inclusive, the stand is placed at any desired point on a lawn, garden or other place of use, the water is introduced to the tee 11 through the coupling 13 and lateral 11<sup>a</sup> by the pipe or hose not shown. The water is discharged from the tee 11 through the nozzle-pipe 14, and ports in the cap 16. Because of the inclined arrangement of each port the jet of water discharged therefrom moves laterally from a line intersecting the mouth of the port parallel with the axis of the annular row of ports and the arrangement of such ports in an annular row causes the column of water discharged therefrom (and composed of a plurality of jets) to appear to twist throughout its length until such tendency is overcome by gravity. The jets discharged from the ports 17, 18 and their counterparts in the caps 16<sup>a</sup>, 16<sup>b</sup> extend unbroken for a considerable distance on straight lines influenced by gravity and then break up into drops simulating to a remarkable degree falling rain, varying in intensity, as does the rain, as the water pressure or diameter of the ports may vary.

I claim as my invention—

1. A hose nozzle or sprinkler formed with a cap, said cap having an annular row of jet ports, each port forming a like angle with a plane passing through the center of the port and the axis of the row of ports.

2. A hose nozzle or sprinkler formed with a cap, said cap having concentric rows of ports, each port in any one row forming a like angle with a plane passing through the center of the port and the axis of the row of ports, the angles of the inner row of ports

differing from the angles of the outer row of ports.

3 3. A hose nozzle or sprinkler formed with a cap, said cap having concentric rows of ports, each port in any one row forming a like angle with a plane passing through the center of the port and the axis of the row of ports, ports of the inner row being in-

clined in the opposite direction from those of the outer row.

Signed by me at Des Moines, Iowa, this 3d day of July, 1909.

JOHN H. BOLITHO.

Witnesses:

W. W. FINK,  
S. C. SWEET.

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

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