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SPRAY NOZZLE

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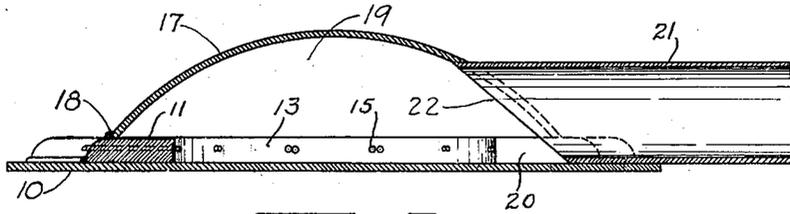


FIG. 2.

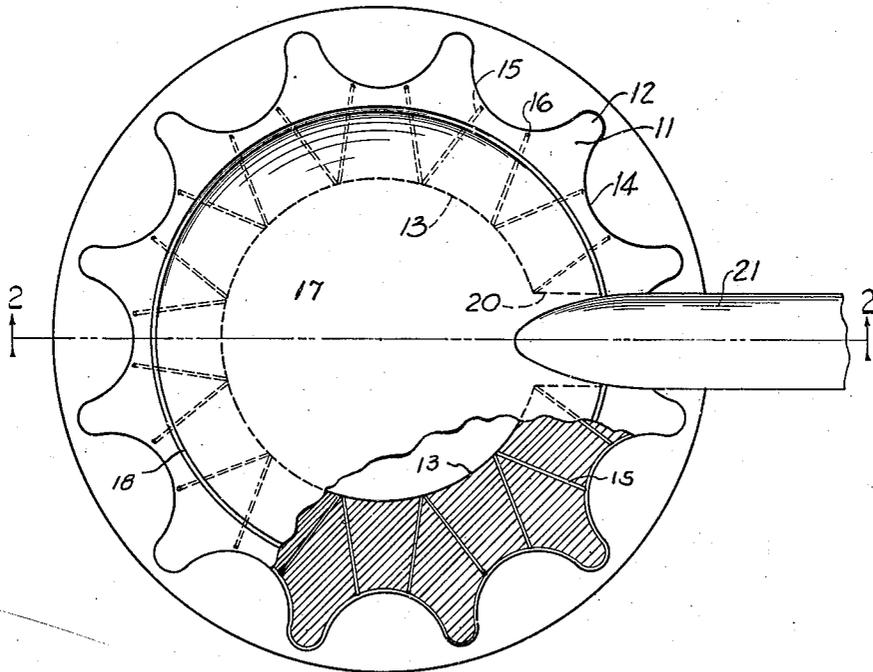


FIG. 1.

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UNITED STATES PATENT OFFICE

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SPRAY NOZZLE

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1 Claim. (Cl. 299—141)

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This invention relates to spray nozzles and more particularly to a nozzle for forming a mist which may be produced from relatively high pressure liquid.

An object of this invention is to provide a spray nozzle which includes a pressure chamber and a plurality of jet openings radiating from the chamber, the nozzle being formed of tempered metal which will withstand relatively high pressures.

A further object of this invention is to provide a nozzle of this kind which includes a base plate of disc-shape and an apertured plate welded or otherwise fixed to the base plate and also includes a dome-shaped chamber forming member which is welded to the apertured nozzle plate, the entire assembly being of welded construction so as to provide a substantially unitary device which will withstand hard usage and can be used either in a horizontal position or any other desired position for forming a mist or fog which, when used in combat, may provide a cover for troops or the like.

To the foregoing objects, and others which may hereinafter more fully appear, the invention consists of the novel construction, combination and arrangement of parts, as will be more specifically referred to and illustrated in the accompanying drawings, but it is to be understood that changes, variations, and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawing:

Figure 1 is a detail top plan partly broken away and in section of a nozzle constructed according to an embodiment of this invention, and

Figure 2 is a sectional view taken on the line 2—2 of Figure 1.

Referring to the drawing, the numeral 10 designated generally a base plate which is of disc-shape and which has secured to the upper side thereof a nozzle plate, generally designated as 11. The nozzle plate 11 is substantially ring-shaped having a substantially smooth inner diameter 13 and the outer diameter or surface of the nozzle plate 11 is formed with projections or points 12, which merge with each other by means of a concave outer edge 14. The plate 11 is formed with a pair of jet openings 15 and 16 in each concave surface 14, the inner ends of the openings 16 opening through the annular inner edge 13 of the plate 11. A dome-shaped top member 17 is disposed on the upper side of the nozzle plate 11 being secured thereto, as by welding 18 or the like.

The top member 17 forms a pressure chamber 19 within which liquid under pressure is adapted to be received so that this liquid will be forced out through the jet openings 15 and 16. In practice the nozzle plate 11 is split, as indicated at 20,

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so that an intake pipe 21 may be extended between the open ends 20 of the plate 11 and is then formed on an angle, as indicated at 22, and welded or otherwise firmly secured to the plate 11 and to the dome-shaped member 17. The intake nipple or pipe 21 may be of any desired length and may have coupling means at its outer end for coupling the pipe or nipple 21 to a source of liquid pressure supply. Under combat conditions the nozzle structure hereinbefore described may be used on a vessel being extended along the side of the vessel or at other suitable positions so as to form a fog in order to conceal the vessel. This device may also be used for other purposes for which a spray nozzle of this kind may be adapted.

The exact configuration illustrated is regarded as the optimum, but some of the desirable results inherent in this disclosure may be obtained by various slight modifications including some departure from the exact configuration shown, and it is therefore requested that the scope of the invention should be regarded as limited only by the terms of the claim.

What I claim is:

A spray device of the class described, comprising a disc-shaped base member, an annular flat nozzle ring secured to the top surface of said base member and concentric therewith, the outer edge of said ring being formed with a plurality of circumferentially spaced apart concaved depressions, a dome member secured to the top surface of said ring to provide a pressure chamber, a plurality of pairs of outwardly converging horizontal nozzle bores formed through said ring, a pair of bores being provided for each of said concaved depressions and the outer ends of said pair of bores being disposed symmetrically with respect to the center of the related depression whereby the portions of said ring on the opposite sides of each of said depressions provide shields for the outer ends of said nozzle bores to prevent clogging thereof and premature admixture of the fluid ejected from the pairs of bores.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
159,156	Corey	Jan. 26, 1875
943,172	Ballreich	Dec. 14, 1909
1,226,003	Peeper	May 15, 1917
1,478,255	Reid	Dec. 18, 1923
2,343,305	Larter	Mar. 7, 1944

FOREIGN PATENTS

Number	Country	Date
94,238	Sweden	Oct. 6, 1938