

Oct. 13, 1942.

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2,298,934

SPRAY NOZZLE

Filed Feb. 28, 1939

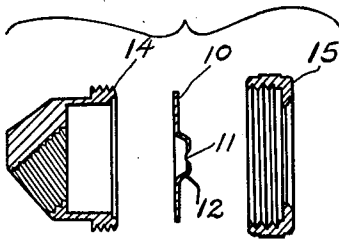


Fig. 1

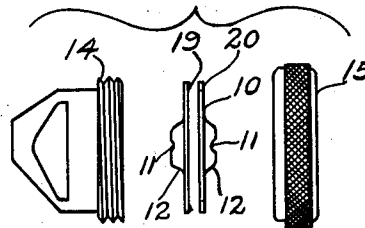


Fig. 2

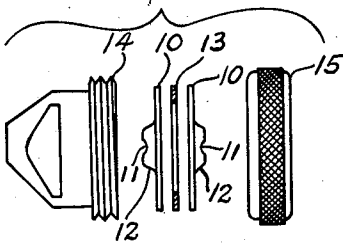


Fig. 3

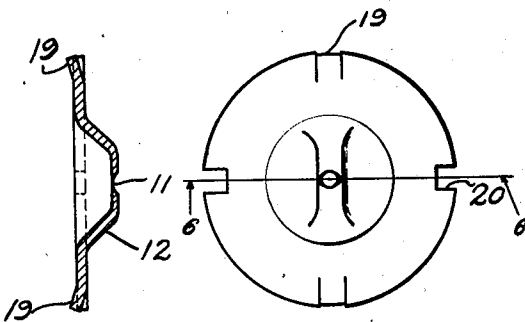


Fig. 4.

Fig. 5.

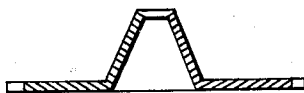


Fig. 6.

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2,298,934

SPRAY NOZZLE

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Application February 28, 1939, Serial No. 258,941

1 Claim. (Cl. 299—153)

This invention relates to improvements in pressure spray nozzles, and more particularly to a novel pressure spray nozzle designed to discharge a liquid in a fan-like flat spray.

An object of the invention is to produce a nozzle of inexpensive construction which will effectively spray a liquid such as paint or the like in a fan or spreading flat spray.

Another object of the invention is to produce a nozzle of the type which will spray uniformly through the arc of the fan. Other fan sprays of the type tend to form an uneven spray.

To obtain a flat pressure spray, it is necessary in expelling the liquid to provide opposing pressure forces therein. This may be accomplished with a nozzle having either a single or double opening.

As the description proceeds, other and further objects of the invention will appear, reference being had to the accompanying drawing, in which:

Fig. 1 is a side view in section of a nozzle, nozzle disk, and retainer cap embodying the invention.

Fig. 2 is a similar view showing the form employing a pair of opposed nozzle disks.

Fig. 3 is a like view of the form employing two opposed disks with an interposed washer.

Fig. 4 is a side sectional view of one of the single opening disks.

Fig. 5 is a face view of the disk showing the ears and notches spaced in the periphery thereof for inter-connection of opposed disks.

Fig. 6 is a sectional view of Fig. 5 as indicated by line 6—6.

Referring more particularly to the drawing, a disk 10, is apertured as at 11, with the central portion of the disk stamped to form an embossment 12 which is elongated in such a manner that the aperture 11 will have its greatest length at right angles to said elongation. It will thus be seen that the embossment is substantially V-shaped in cross-section, with the aperture encroaching a little down the sides thereof, at right angles to the length of said embossment.

As the liquid is forced down into the embossment under pressure, the force is concentrated along the narrow part thereof, and as the liquid leaves the opening the stream flattens out at right angles to the said elongated embossment.

When a pair of disks are placed together with their embossments disposed outwardly, a pressure

chamber is formed between them, and the resulting spray is more uniform and even throughout its arc. A washer, 13, may be interposed between the disks, thus enlarging said chamber.

The disks 10 are held on a nozzle head 14, by means of the threaded cap 15.

When two disks are used, the disk on the pressure side should have a slightly larger opening than that in the outer disk. As the stream of liquid leaves the inner disk, it strikes the embossment of the outer disk in spray form and thus changes the character of the spray when it leaves the outer disk.

In certain spraying operations, such as painting, it will be seen that the disk assembly aforementioned will produce a well defined spray.

In a modified form of the invention, a spray head, 16, with a threaded cap 17, is used in combination with the disk 18, which has two apertures therein. Liquid forced through said apertures will emerge as two converging streams which will terminate at a point to form a fan-like flat spray.

Projections 19 are struck out of the periphery of the disk 10, and are adapted to engage in notches 20 when two disks 10 are placed back to back, to insure the alignment of the elongated embossments.

In use, either the single disk, or the combination of two disks, with or without the interposed washer, may be employed. In the form having the disk with converged bores, only one disk is used.

It will be understood that the device is capable of various modifications in structure and design, without departing from the spirit of the invention, within the scope of the appended claim.

Having thus described the invention, what is claimed and is desired to be secured by Letters Patent of the United States, is:

In a device of the class described, a disk, and a centrally disposed elongated outwardly struck portion, the forwardmost portion thereof formed as a plane surface therein having a substantially circular central aperture, inward crimps formed so as to make substantially 90° with said forwardmost portion disposed in the elongated sides of said outwardly struck portion, the said aperture being so formed that it encroaches over said 90° corner portions.

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