

May 22, 1928.

1,670,675

F. F. WOLF

NOZZLE

Filed March 19, 1927

Fig. 1.

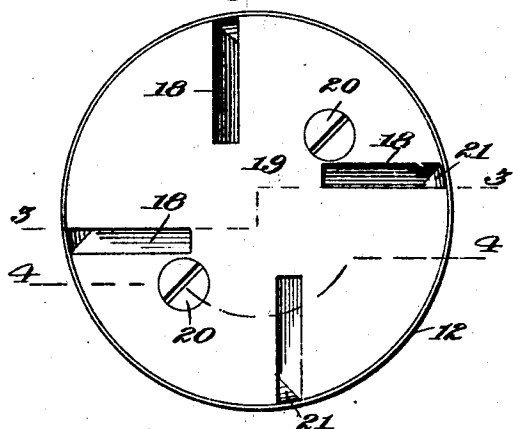


Fig. 2.

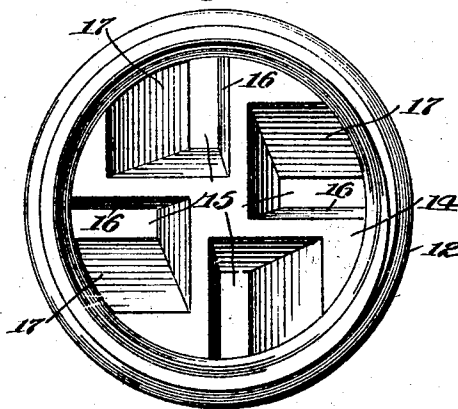


Fig. 3.

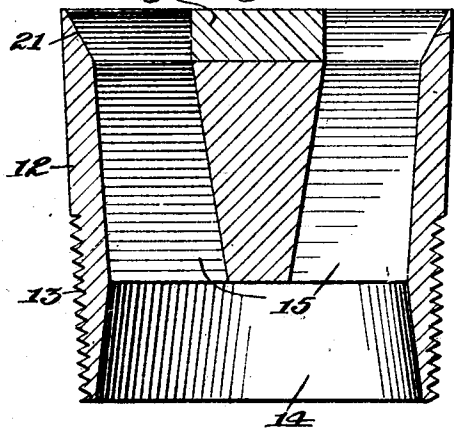
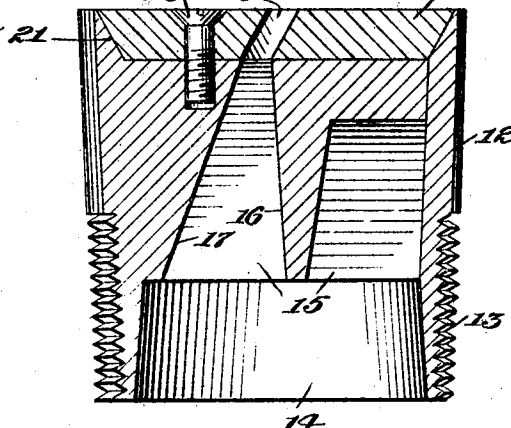


Fig. 4.



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Patented May 22, 1928.

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UNITED STATES PATENT OFFICE.

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NOZZLE.

Application filed March 19, 1927. Serial No. 176,705.

This invention relates to nozzles for liquid distribution pipes or the like, and has for its object to provide a nozzle which will cause a series of jets to be projected therefrom in such a manner as to cause somewhat of a whirling action to be imparted to the discharged liquid. The improved nozzle is more especially designed for use in machines or apparatus for washing ice cream and other cans, but may be used for other purposes.

In the accompanying drawing Fig. 1 is a plan view of the discharge end of the improved nozzle. Fig. 2 is an inside view of the same. Fig. 3 is a sectional view of the same taken on line 3—3 of Fig. 1, and Fig. 4 is a partial section taken on line 4—4 of Fig. 2.

Referring to the drawing, 12 denotes the body of the nozzle having a threaded portion 13 for attachment to a liquid-conducting pipe. The body portion 12 comprises an entrance chamber 14 communicating with which are a series of passages 15. One wall 16 of each of these passages is a straight, vertical or nearly vertical wall, which is radial, or approximately so, while the opposite wall 17 of each passage is inclined, these inclined walls being all inclined in the same direction. Owing to these inclined walls the passages 15 all taper towards the discharge end of the nozzle and terminate in discharge slits 18, which are approximately radial to the body of said nozzle.

The outer ends of these slits 18 are, for convenience of construction, preferably formed in a disk 19 attached to the body 12 by screws 20; although the entire nozzle, including the discharge end having the slits, might be an integral or one piece casting. The slits 18 through the disk 19 are inclined relative to the length of the nozzle, so as to form continuations of the inclined tapering passages 15 in the body of the nozzle. The walls at the outer ends of the slits 18 are inclined outward, this outward inclination of the discharge slits being, in the present instance, afforded by a flaring rim 21, at the top of the body 12 of the nozzle. The periphery of the disk 18, in the construction shown, is beveled to fit against the beveled wall affording the flaring rim 21 just referred to.

It will be understood from Figs. 1 and 2 of the drawings that the passages 15, which

taper toward the discharge end of the nozzle, are rectangular in cross section and communicate with the inclined outlet or discharge slits 18 which are also of rectangular form in cross section and which are disposed substantially radially of the nozzle. It will also be seen that these outlet slits are inclined in what may be termed a forward direction, this term "forward" being in contradistinction to inward or outward. These inclined discharge slits 18 afford outlets of such a character that broad, flattened, inclined jets of liquid will issue therefrom, these flattened jets being very efficient in the can washing operations in that they will, in their spread, sweep broadly over the surfaces to be cleansed.

In the operation of this improved nozzle a series of inclined jets of liquid will be discharged from the nozzle, these jets being all inclined in the same direction so as to cause a whirling or swirling action of the liquid when projected against the inside of an inverted can placed over the nozzle; and the inclined walls at the ends of the discharge slits will cause the jets to flare outward against the inside of the can to be cleansed. The inner walls of the slits 18 are vertical, or approximately so, so that the jets issuing from the nozzle will be projected outward, as will be understood.

The invention is not to be understood as being limited to the specific construction herein shown, or to any particular number of passages and slits, as these may be varied, according to circumstances, without departing from the scope of the invention as defined by the claims hereunto appended.

Having thus described my invention I claim and desire to secure by Letters Patent:

1. A liquid discharge nozzle having a series of passages tapering towards the outlet end of the nozzle and of rectangular form in cross section, said passages terminating, at said outlet end, in forwardly inclined discharge slits which are disposed substantially radially of the nozzle.

2. A liquid discharge nozzle having a series of passages tapering towards the outlet end of the nozzle and terminating, at said outlet end, in discharge slits which are disposed substantially radially of the nozzle, said slits being forwardly inclined and of rectangular form in cross section.

3. A liquid discharge nozzle having a se-

ries of passages tapering towards the outlet
end of the nozzle and terminating, at said
outlet end, in forwardly inclined discharge
slits which are disposed substantially radi-
5 ally of the nozzle, said nozzle comprising a
body portion in which said passages are
formed, said body portion having a flaring
rim, and a disk attached to said body por-
tion and fitting against said rim and in
10 which said inclined slits are formed.

4. A liquid discharge nozzle having a se-
ries of passages tapering towards the outlet
end of the nozzle and terminating, at said
outlet end, in forwardly inclined discharge
slits, said nozzle comprising an entrance 15
chamber with which the larger ends of said
passages communicate.

In testimony whereof I affix my signature.

FRANK F. WOLF.