Oct. 14, 1958 C. E. HUNZIKER 2,856,236

SPRAY NOZZLE

Filed Sept. 15, 1955

Fig 1

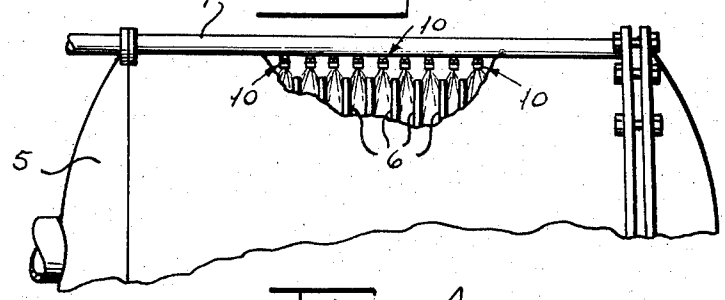


Fig 2

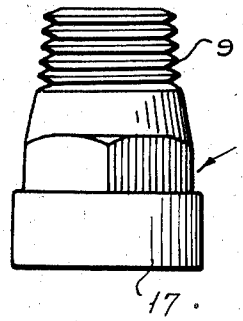
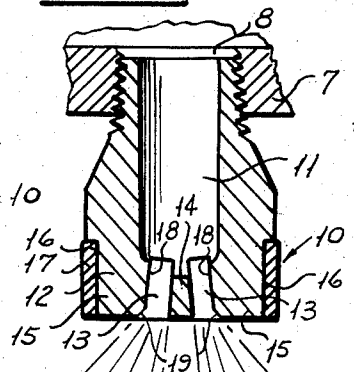


Fig 4



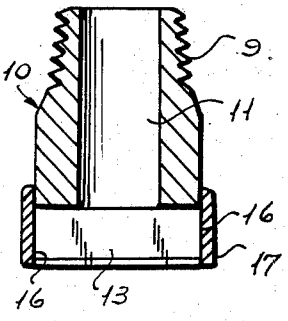


Fig 5

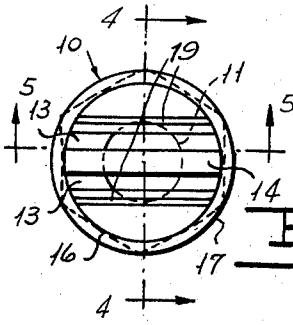


Fig 3

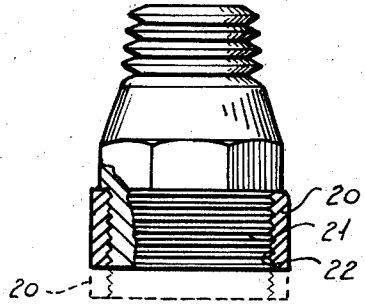


Fig 6

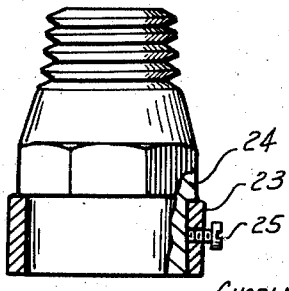


Fig 7

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SPRAY NOZZLE

Charles E. Hunziker, Ridgewood, N. J.

Application September 15, 1955, Serial No. 534,468

4 Claims. (Cl. 299—141)

My invention relates to spraying and more particularly to discharge spray tips or nozzles, this application being a continuation-in-part of my application Serial No. 287,199, filed May 10, 1952, now abandoned.

One of the objects of my invention is to provide a spray tip or nozzle so constructed and arranged as to effect spraying of fluid over a plurality of independent paths from a common supply.

Another object of my invention is to provide a nozzle of the foregoing described character adapted to be connected to a liquid supply and arranged to direct sprays over opposed spaced surfaces, for instance, the confronting faces of the leaves of a filter pack.

A further object of my invention is to provide a nozzle of the foregoing described character equipped with means adjustable in a manner whereby the widths of the sprays may be readily varied.

Another object of my invention is to provide a nozzle of the foregoing described character which is simple in construction, durable in use, efficient in operation and economical in manufacture.

With the above and other objects in view, as will hereinafter appear, the invention consists in the combination and arrangement of parts hereinafter set forth and illustrated in the accompanying drawings from which the several features of the invention and the advantages attained thereby will be readily understood by those skilled in the art.

Referring to the drawings wherein like reference characters designate like parts throughout the several views:

Figure 1 is a fragmentary side elevation of a filter having my invention incorporated therein.

Figure 2 is an enlarged side elevation of my novel form of nozzle.

Figure 3 is a plan view of the nozzle.

Figures 4 and 5 are sectional views taken on the lines 4—4 and 5—5 of Figure 3, respectively.

Figures 6 and 7 are side elevations, partly in section, of modified forms, respectively, of the nozzle.

In practicing my invention, as illustrated in Figures 1 to 5 of the drawing, I provide a pressure filter of the rotating leaf type comprising an elongated cylindriform tank or casing **5** in which is mounted the usual rotatable filter pack having a plurality of spaced leaves **6**. The outer cylindrical face of the casing **5** is provided with a lengthwise extending header **7** which may be formed integrally with the casing or attached thereto by welding or other suitable securing means, the header **7** being formed with openings **8** arranged in spaced longitudinal relation and communicating with the interior of said casing.

Disposed within each of the openings **8** is the threaded shank or end portion **9** of a discharge spray tip or nozzle **10** having a bore **11** communicating with the interior of the header. The opposite end portion or head **12** of the nozzle is provided with a pair of spaced transversely disposed slots **13** defined by an interjacent wall or partition **14** and side walls **15** having arcuate outer faces **16** embraced by a ring or band **17**. The ring or band **17** is

disposed about and fixed to the head in any suitable manner and closes the ends of the slots **13**, the latter communicating with the bore **11** as clearly illustrated in the drawing. The outer edges of the inner faces **18** of the side walls are bevelled as at **19** and cooperate with the side faces of the partition **14** and the band **17** to define the paths of the sprays emanating from the slots **13** with the band serving to control the widths of the sprays. From the foregoing, it will be apparent that a header equipped with my novel spray nozzles will permit each of the nozzles to effect spraying of the confronting faces of pairs of leaves to cleanse the same.

In the modified form disclosed in Figure 6, the ring or band **20** is threaded on the head **21** as at **22** and may be adjusted axially thereon to regulate and control the widths of the sprays as desired, while, in the modified form disclosed in Figure 7, the band **23** is longitudinally adjustable on the head **24** and maintained in an adjusted position thereon by means of a set-screw **25** or the like to thereby regulate the widths of the sprays.

Without further elaboration, the foregoing will so fully explain the invention that others may, by applying current knowledge, readily adapt the same for use under various conditions of service. Moreover, it is not indispensable that all the features of the invention be used conjointly since they may be employed advantageously in various combinations and subcombinations.

It is obvious that the invention is not confined solely to the use herein disclosed in connection therewith as it may be utilized for any purpose to which it is adaptable. It is therefore to be understood that the invention is not limited to the specific construction as illustrated and described, as the same is only illustrative of the principles involved which are capable of extended application in various forms, and the invention comprehends all construction within the scope of the appended claims.

What I claim is:

1. A spray nozzle having a shank adapted to be connected to a fluid conduit and provided with a bore for communicating with the interior of said conduit, and a head secured on said shank and formed with a ternary of spaced transverse walls defining a pair of slots therebetween communicating with said bore, a pair of said walls being distally arranged relative to each other and having bevelled edges coacting with said other wall to define the paths of a pair of fluid sprays emanating from said slots and with said edges being arranged relative to said other wall to direct said sprays in opposed directions, and spray engaging means closing the ends of said slots and defining the widths of said sprays.

2. A spray nozzle having a shank adapted to be connected with a fluid conduit and provided with a bore for communicating with the interior of said conduit, a head mounted on said shank and formed with a plurality of transverse slots communicating with said bore, said head being provided with spaced side and interjacent walls and with the said side walls having bevelled edges coacting with said interjacent wall to define the paths of sprays emanating from said slots, and a member disposed about said head in contact with said side walls and the ends of said interjacent wall and closing the ends of said slots for defining the widths of said sprays.

3. A spray nozzle adapted to be connected with a fluid conduit and having a longitudinally extending fluid passageway for communicating with the interior of said conduit, said nozzle including a discharge end portion having a pair of spaced side walls and a laterally extending partition disposed on the center line of said passageway in spaced relation to each of said side walls and extending entirely across said discharge end portion, the inner faces of said side walls and the confronting faces of said partition forming a pair of open-ended, laterally extending

slots for the discharge of fluid from said nozzle, the inner face of each of said side walls being substantially parallel to the confronting face of said partition over most of the length thereof but diverging therefrom at its discharge end portion, and means closing the ends of said slots.

4. A spray nozzle adapted to be connected with a fluid conduit and having a longitudinally extending passageway for communicating with the interior of said conduit, said nozzle including a head portion of generally circular cross section with said passageway disposed along the axis thereof and surrounded by a wall of substantial thickness, said head being provided with a pair of spaced transversely extending slots disposed in diverging relationship on opposite sides of said axis, and with a transverse partition of less axial extent than said slots disposed between and substantially filling the space between said slots at the discharge end of said head to form two oppositely directed discharge paths for the fluid, and a member disposed about said head portion in contact with said

wall and closing the sides of said slots for defining the widths of the discharge paths, said member being axially adjustable to vary said widths.

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