

B. WILKIE.
SPRAY.

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1,405,810.

Patented Feb. 7, 1922.

Fig. 1.

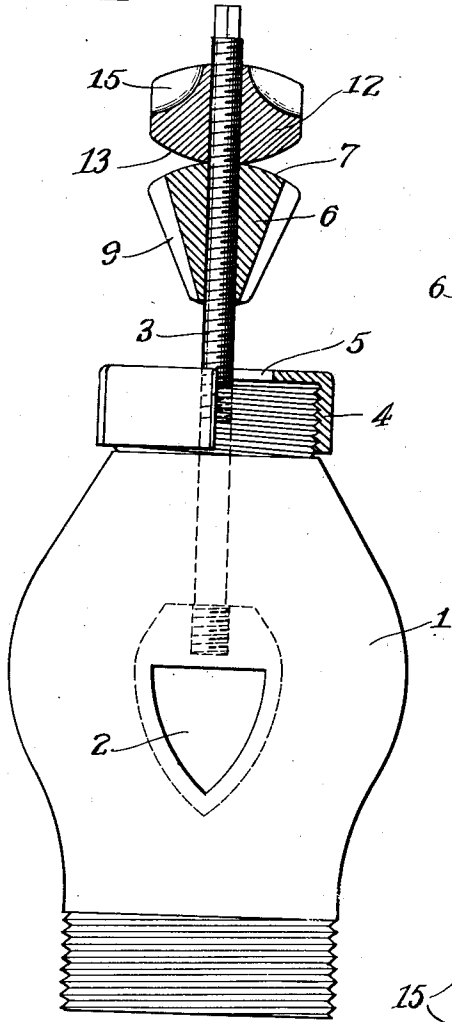


Fig. 2.

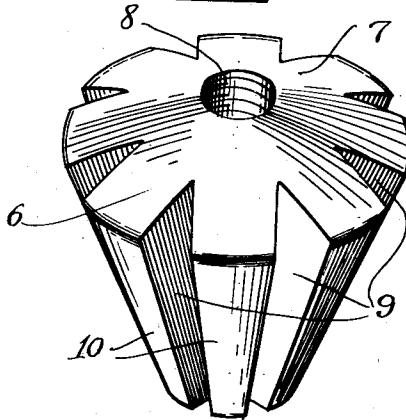
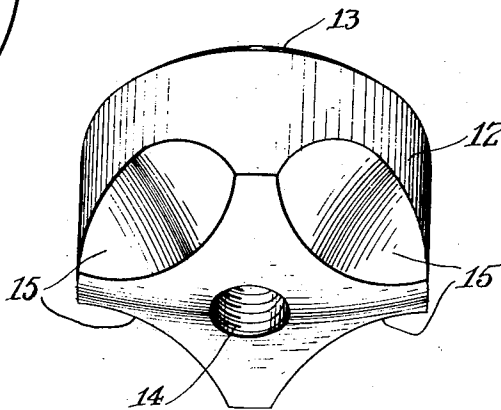


Fig. 3.



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SPRAY.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, BOYD WILKIE, a citizen of the United States of America, residing at Mount Vernon, New York, have invented a new and useful Spray, of which the following is a specification.

My invention relates to a spray device.

It is an object of my invention to provide a spray device which will give a good distribution of fluid and produce a spray having an attractive appearance.

It is another object to provide a spray which cannot easily get out of order and which can be readily adjusted to vary the character of the spray. Other objects will appear as the specification proceeds.

In the preferred form of my invention, I provide a nozzle of any suitable type. A stem is secured to the nozzle and preferably extends through the outlet end thereof and a spray head is secured to the stem in the path of the outflowing fluid. If desired, a second spray head may be secured to the stem and act as a lock nut for the spray head which is in operative position.

In the drawings which show merely a preferred form of the invention,

Fig. 1 is a side view of a nozzle with spray heads positioned in place, parts being shown in section.

Fig. 2 is a detail perspective view of one form of spray head.

Fig. 3 is a similar view of a different form of spray head.

The body of the nozzle 1 may be of any suitable style and proportions. Within the body is a spider or rib 2 which is preferably sharp on the lower edge to prevent obstructions in the liquid from clogging the nozzle. A stem 3 extends through the outlet end of the nozzle and is secured to the spider 2. In order to restrict the flow of fluid through the outlet end of the nozzle, there is provided a threaded cap 4 having a suitable opening 5 and cooperating with threads on the end of the nozzle to provide for adjusting the cap and nozzle body relatively to each other. A nozzle such as that just described forms parts of the subject matter of my pending application, Serial No. 374,415, filed April 16th, 1920.

The form of spray head shown in Fig. 2, comprises a substantially cylindrical or

conical body 6. One or both ends of the body may be rounded or conically shaped, as shown at 7 and an aperture 8, preferably threaded, extends axially through the head. Around the periphery or outside of the head I have provided a number of grooves 9—9 which extend from end to end of the nozzle. The space 10 between the grooves is preferably of substantial size for deflecting fluid. The grooves in the head extend at one end to a point adjacent the axial opening.

In the form of head shown in Fig. 3, there is provided a substantially cylindrical body 12. One or both ends of this body may be rounded or convex as indicated at 13 and an axial opening 14 extends through the head. The body of this head is likewise provided with a plurality of grooves 15 in the sides and these grooves preferably extend into one end of the head to a point adjacent the aperture. In the form shown, these grooves are relatively shallow and serve to deflect fluid outwardly and only slightly upwardly.

The operation of my invention is as follows: One of the spray heads is screwed on to the stem 3 in the path of the outflowing liquid. If desired, another spray head may be screwed on to the stem and serve as a lock nut for the first spray head to prevent the latter from moving relatively to the nozzle. With the parts in the position shown in Fig. 1, liquid issuing from the outlet 5 will pass through the grooves 9 in a direction only slightly inclined to the vertical. Liquid will also impinge upon the surfaces 10 and be deflected in a direction inclined more than the liquid within the grooves 9. Liquid may likewise impinge upon the lower end of the head and be deflected in a substantially horizontal direction.

By removing the head 6 from the stem and replacing it in an inverted position, a different character of spray will be produced. In this inverted position the liquid will be for the most part deflected almost horizontally and a smaller portion of liquid will pass through the grooves 9 and upwardly.

By placing the head 12 shown in Fig. 3 into the operative position on the stem, still

a different character of spray will be produced. In this case the liquid will be directed upwardly and outwardly in comparatively well defined streams by means of the 5 grooves 15. A part of the liquid may also be deflected by the lower end of the head and be deflected substantially horizontally. If now the head shown in Fig. 3 be placed on the stem in an inverted position from 10 that just described, that is with the unbroken conical surface 13 facing the nozzle, the liquid issuing from the nozzle will be formed into a substantially funnel shaped spray.

15 As illustrated in Fig. 1, the head not in the spraying position may be screwed on to the stem and serve as a lock nut for the head which is in the spraying position.

20 It will be seen that I have provided a very simple spray device which cannot easily get out of order and one in which the character of spray produced may be easily varied.

25 While I have described in great detail specific embodiments of my invention, I wish it to be understood that various changes and modifications may be made

therein within the scope of the appended claims.

I claim:

30 1. In a spray device, a nozzle body for attachment to a pipe, a stem secured in said nozzle body and projecting centrally through the outlet end thereof, a spray head 35 secured on said stem, said spray head having a convex rounded end facing the outlet end of said nozzle body and provided with a plurality of grooves in the side thereof extending longitudinally of the axis of the 40 head and extending through both ends of said spray head, whereby liquid will be deflected in one direction by said grooves, and in another direction by the outer frusto-conical sides of said head, and in still another direction by the convex rounded end 45 of said spray head.

2. As an article of manufacture, a spray head to be attached to a nozzle body comprising, a head having opposite convex rounded ends and having an aperture passing longitudinally through said body, said 50 head having grooves in the side thereof.

BOYD WILKIE,