

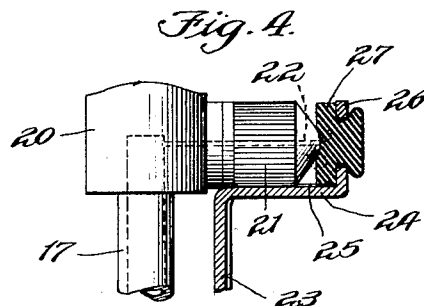
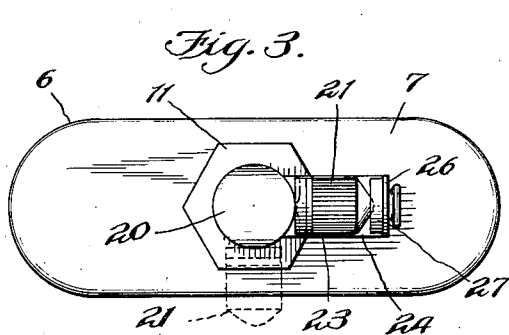
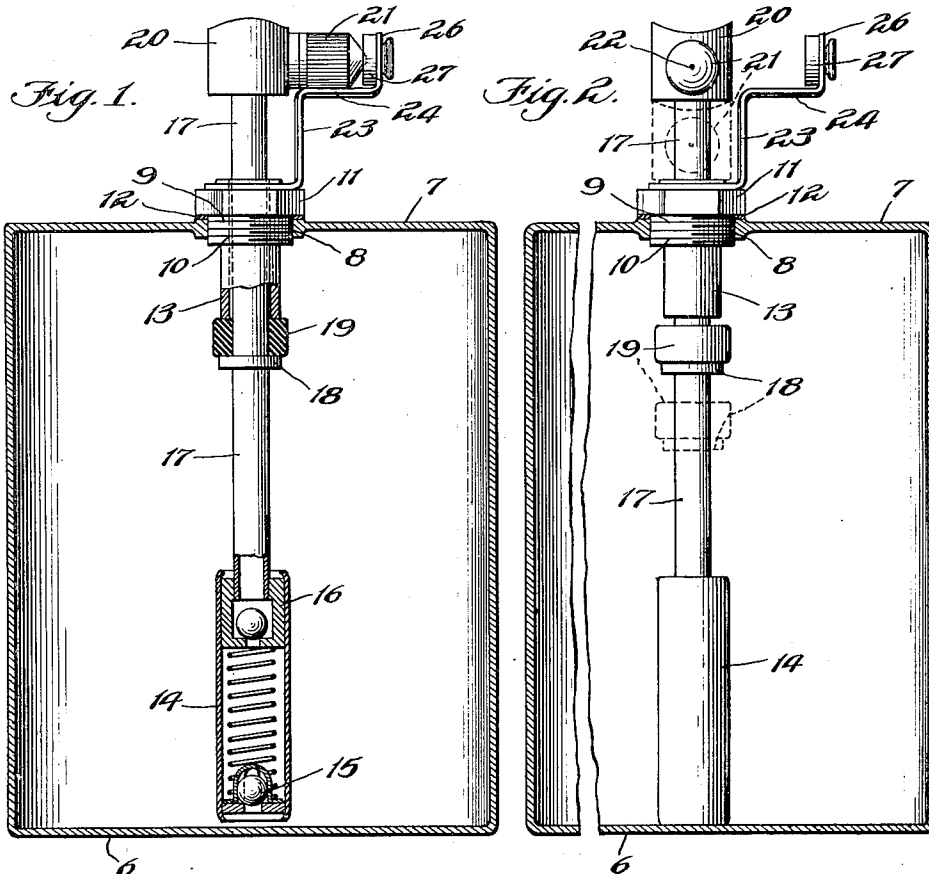
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SPRAYER

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SPRAYER

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6 Claims. (Cl. 299-97)

This invention relates to sprayers or combined receptacles and pumps for spraying liquids and is particularly directed to a device of this kind which may be conveniently carried in the pocket.

5 One of the particular uses of the present device is the spraying of automobile windshields and windows with cleaning fluid, which work is usually done by attendants at filling stations.

The objects of this invention are to provide an improved sprayer which will be rugged and substantial in construction and which may be conveniently carried in the pocket and will be sealed against leakage; to provide a receptacle having a sprayer mounted therein with a reciprocable discharge member and means for sealing the discharge member when in inoperative position; and to provide such other advantages and improved features in construction as will appear herein-after.

20 In the accompanying drawing illustrating this invention,

Figure 1 is a longitudinal sectional view of the container with the pump or sprayer mounted therein shown in inoperative position and with parts shown in section;

25 Figure 2 is a view similar to Figure 1 showing the sprayer in operative position;

Figure 3 is a plan view; and

30 Figure 4 is an enlarged detail of the nozzle supporting and sealing means.

In the particular form of the invention as shown in the drawing, the receptacle 6 is relatively flat and rounded at the ends so that it may be conveniently carried in the pocket and for this reason is preferably made of some non-breakable material such as metal. The top 7 has a threaded opening 8 in which is secured a plug 9 having a threaded portion 10 and a hexagonal or enlarged head 11 which seats against a gasket 12 for making a tight closure. The plug 9 is provided with a downwardly extending sleeve or bearing 13 for supporting the pump or sprayer proper.

The sprayer has a cylinder 14 which is provided with the usual intake valve 15, the lower end of the sprayer being ordinarily slightly spaced from the bottom of the container when in inoperative position as shown in Figure 1. The cylinder 14 is provided with the usual piston 16 which is secured to the lower end of the hollow piston rod or outlet pipe 17 which is slidably mounted in the bearing 13. The hollow piston rod has a collar or projection 18 adjacent to the lower end of the bearing and a packing or gasket ring 19 is mounted above the collar and is adapted

ed to make a tight closure against the lower end of the bearing 13 when the parts are fastened in sealing position as shown in Figure 1. A thumb piece or head 20 is secured to the top of the rod 17 and is provided with a lateral nozzle 21 of any ordinary or preferred form having an outlet or discharge hole 22.

A bracket or support 23 of angular form is secured to the top of the plug 9 as by means of riveting or welding and extends upwardly adjacent to the pump rod 17 and has a lateral shoulder or shelf 24 for supporting the nozzle 21 and parts connected therewith in inoperative position. In order to more securely hold the nozzle this shelf is preferably slightly recessed or concave on its upper surface as shown at 25. One branch 26 of the bracket 23 extends upwardly adjacent to the end of the nozzle and has a resilient closure or stopper 27 mounted therein as shown in Figure 4, this stopper being preferably made of rubber or other suitable material and being adapted to engage with the end of the nozzle 21 to close the outlet hole therein.

When the sprayer is adjusted for carrying in the pocket or to inoperative position, the nozzle 21 is turned to engage with the shoulder or shelf 24 as shown in Figures 1 and 4, and the end rubs against or engages with the button or closure 27 which serves to hold the nozzle in such adjusted position and also to close the outlet opening 22. The upper surface of the support 24 is positioned so that when the nozzle engages with the same it is raised a short distance so that the collar or projection 18 will force the packing 19 against the lower end of the bearing 13 thereby sealing the passageway through the bearing and preventing any leakage therethrough. This movement may also raise the cylinder 14 off from the bottom as indicated.

When the sprayer is to be used the nozzle is turned to free it from the support 24 and bring it into operative position as shown in Figure 2, when the head or thumb piece 20 may be engaged by the finger and the device operated by one hand in the usual manner.

While I have shown the invention as a combined receptacle and sprayer or as applied to a pocket device, it will be noted that it may be made in various forms for different purposes or uses which will come within the scope of the invention. Having thus described the same what I claim and desire to secure by Letters Patent is:

1. The combination with a receptacle, of a tubular bearing mounted in the wall thereof, a pump having a cylinder in the receptacle and having

a discharge tube reciprocally mounted in the bearing, a projection on said tube, a packing around the tube adapted to be compressed between the projection and the inner end of the bearing, a nozzle carried by the tube and arranged at an angle thereto, a bracket carried by the receptacle and adapted to be engaged by the nozzle to hold said packing in compressed condition, and a stopper carried by the bracket for closing the nozzle when in engagement with the bracket.

2. The combination with a receptacle having an opening therein, of a plug engaging with said opening and having an inwardly extending bearing, a spray pump mounted in the receptacle and having a hollow piston rod extending outwardly through said bearing, a collar on said rod, a resilient ring around the collar which is adapted to be pressed against the inner end of the bearing to make a tight closure between the rod and the bearing, a head on said rod having a lateral discharge portion, a bracket secured to the plug having a seat for supporting the discharge portion in inoperative position to compress said ring, and a resilient closure carried by the bracket which is engaged by the discharge end of the outlet portion to close the opening therein when in inoperative position.

3. The combination with a receptacle having a threaded opening therein, of a threaded plug engaging with said opening and having a bearing, a pump having a cylinder mounted in the receptacle and adapted to engage with the bottom thereof when in operating position, said pump having a discharge tube extending outwardly through the bearing and having a spring tending to hold the tube and parts connected therewith in raised position, a collar on said tube, a packing ring on the tube above the collar for engagement with the bearing to make a tight closure between the tube and the bearing when

in inoperative position, a thumb piece at the upper end of the tube, a nozzle extending laterally from said thumb piece, a bracket carried by the plug and having a seat adapted to be engaged by the nozzle to hold the tube in raised position, and a resilient closure mounted in the bracket and adapted to engage with the end of the nozzle and to close the same when the nozzle is in adjusted position on the bracket.

4. In a device of the character set forth, the combination with a pump having a hollow piston rod, of a discharge nozzle for said rod, a bearing engaging with said rod, means carried by the rod for making a tight closure between the rod and the bearing when in normally raised position, a support connected with the bearing and adapted to be engaged by said discharge nozzle to hold the same in normally raised position, and a resilient closure carried by said support for closing the nozzle discharge opening when in raised position.

5. In a sprayer construction, a fixed closure assembly, a pump discharge tube movable through the closure, packing around the discharge tube on one side of the closure, a member carried by the tube for engaging said packing, a bracket carried by the closure and means on the tube adapted to engage with the bracket for locking the tube in fixed relation to the closure with the packing against the closure.

6. The combination with a container having a closing plug, of a pump mounted in the container and having a cylinder engaging with the bottom of the container, and a spring pressed tubular rod extending out through the plug, of means for fastening the rod in normally raised position comprising a bracket carried by the plug and a discharge nozzle on the rod which engages with the bracket.

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