

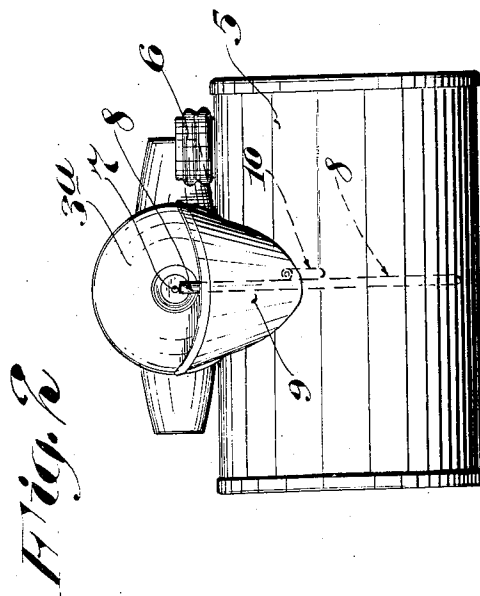
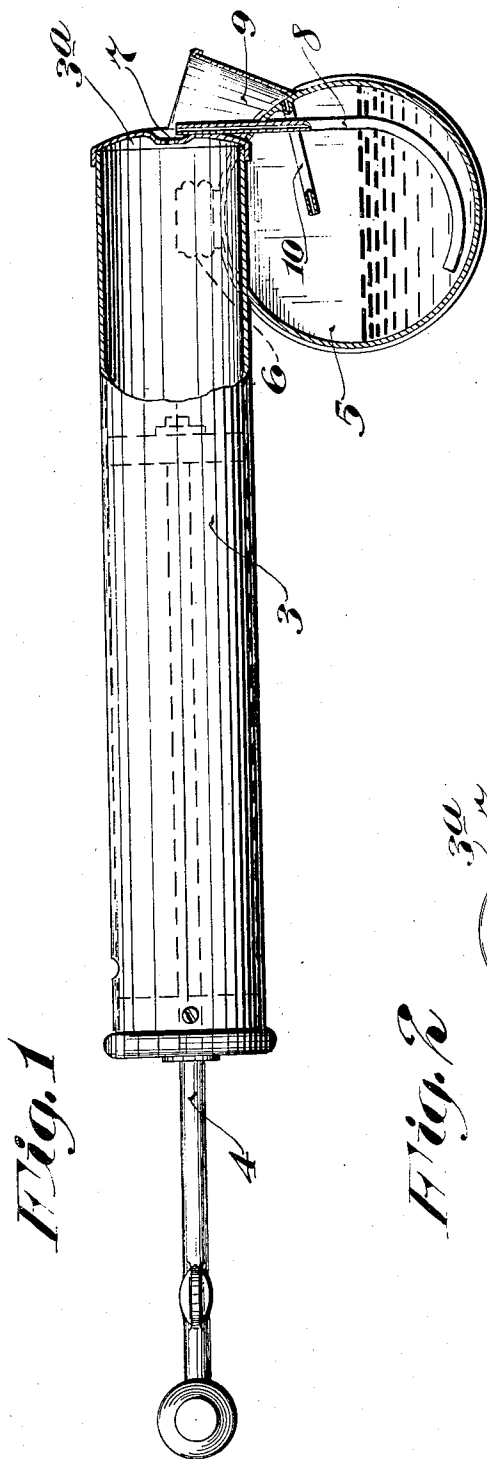
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H. D. HUDSON

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SPRAYER

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UNITED STATES PATENT OFFICE.

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SPRAYER.

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My invention relates to hand-operated sprayers of the cylinder and piston type such as are especially adapted for spraying fly-destroying solutions, disinfectants, germicides and the like, and provides an extremely simple and highly important device for preventing such liquids or solutions from leaking or running over the exterior of the sprayer. Many of the solutions or liquids used in these sprayers contain oil and others contain chemicals that will soil or damage furniture or articles upon which the sprayer is laid, and which, moreover, make the sprayer objectionable in handling. Such leakage and running of the liquid from the sprayer is due to several causes. For instance, as sprayers of the above type have hitherto been constructed, air is confined in the fluid tank from which the liquid delivery tube is extended in such a way that, when the tank is slightly heated, as when placed in the sun, the air thereby expanded within the tank, (which tank has usually been made air-tight except through its oil delivery tube), will force oil out through the said oil delivery tube and this will run over a considerable surface of the sprayer and will soil things coming into contact with the sprayer. Another cause of leakage is due to dribbling from the sprayer. Of course, capillary attraction will cause a spreading of the oil or spraying fluid over much of the surface of the sprayer.

I have found that, by the proper application of a drip cup or pocket to the front end of the sprayer, immediately below the discharge orifice thereof, drippings resulting from the actions above described will be caught and prevented from running over the exterior of the tank and cylinder. I have further found that, by opening a vent or drain passage from the lower portion of the pocket into the upper portion of the tank, air expanded into the tank will escape and will not force the liquid out through the delivery tube; and, moreover, that if the said drain passage be made in the form of a tube, splashing of the liquid from the tank into the pocket may be prevented.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a view partly in side elevation and partly in vertical axial section, showing a sprayer embodying the invention; and

Fig. 2 is a front elevation of the sprayer.

Of the parts of the sprayer, the numeral 3 indicates a pump cylinder, the numeral 4 the piston equipped piston rod and the numeral 5 the transversely disposed cylindrical liquid-containing tank that is secured to the lower front end portion of the cylinder by solder or other means, and, as shown, is provided with a removable filler cap 6. The cylinder head 3^a at the discharge end thereof is provided with the customary small air discharge orifice 7. The numeral 8 indicates a liquid delivery tube extended from the bottom of the tank and secured with its open upper end terminated just below the air discharge orifice 7 so that the liquid from the tank will be discharged with an atomizing action when air is discharged under pressure through said orifice.

The drip cup or pocket is formed by a sheet metal flange 9 that is cut to fit against the lower half portion of the cylinder head 3^a in which the orifice 7 is formed, and to fit the adjacent portion of the tank 5, and, of course, is soldered or otherwise secured to said cylinder head 3^a and tank with liquid-tight joints. It is important to note that the upper portion of this drip cup 9 extends the full width or diameter of the cylinder head 3^a, so that it will catch the drippings from the said cylinder head, but that at its forward portion it is dropped below the axial line of the discharge orifice 7, so that it will not disturb the normal discharge of the air.

The numeral 10 indicates a small drain tube that is applied to the interior of the tank 5 and extended from the bottom of the drip cup 9.

From the foregoing, it is obvious that the drip cup applied as described, or in any similar manner, will catch the drippings resulting from the causes above enumerated.

By setting the delivery end of the cylinder down into the top of the spray tank, a very good connection may be made between the cylinder and tank and, moreover, by applying the drip cup to the tank and to the end of the cylinder substantially as described, the said drip cup is caused to act as a brace to reinforce the connection between said cylinder and tank.

What I claim is:

1. A sprayer comprising a pump having a piston and cylinder, the cylinder having a head with an orifice therein, a tank hav-

ing a seat formed in its wall to receive a portion of substantial arcuate extent of the lower side only of the pump cylinder, the under side only of the forward end of the
5 pump cylinder being fitted into the seat and soldered thereto, a drip cup fitting against the side of the tank and the lower half of the cylinder head and fastened to both the tank and cylinder head, and a tube
10 extending from the opening in the cylinder head down through the side of the tank and to a point near the bottom of the tank.

2. A sprayer comprising a pump piston

and cylinder having a head with an orifice therein, a tank soldered in a line along the side of the cylinder, a tube extending from
15 near the bottom of the tank with its upper end terminating just below the orifice in the cylinder head and a drip cup formed of a single sheet of metal bent around the
20 upper end of the tube and having its lower edge soldered along the side of the tank and its side edges along the head of the cylinder.

In testimony whereof I affix my signature.

HERBERT D. HUDSON.