No. 773,347. PATENTED OCT. 25, 1904.

DE WANE B. SMITH.

SPRAYER.

APPLICATION FILED NOV. 15, 1902.

NO MODEL.

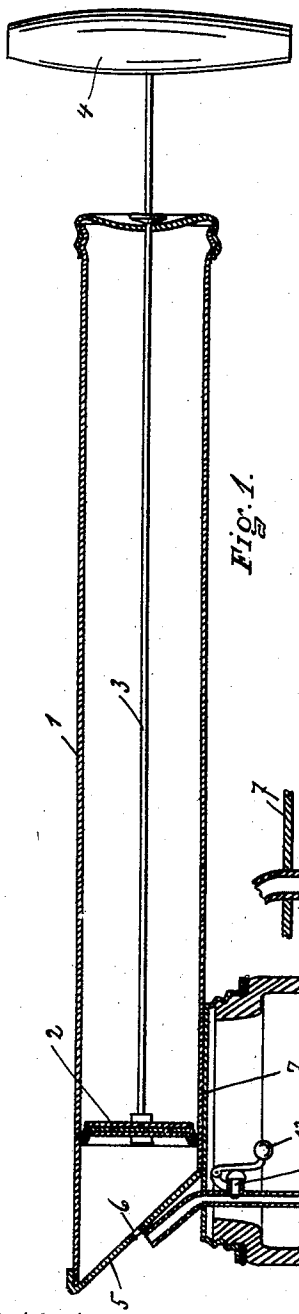


Fig. 1.

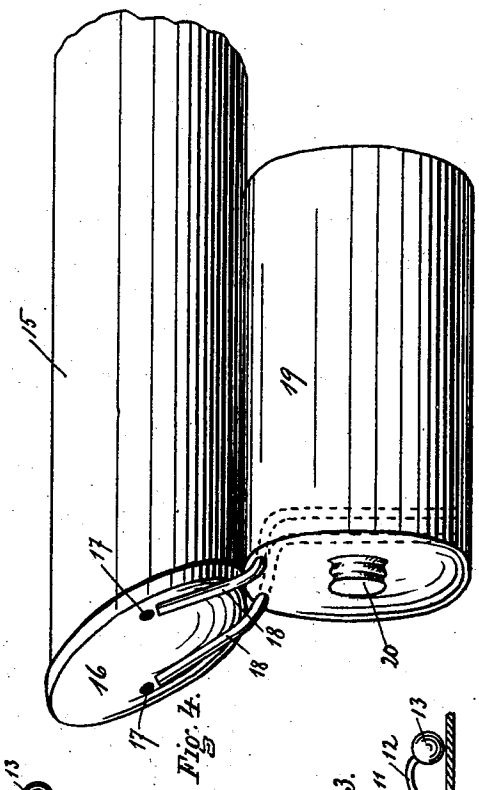


Fig. 4.

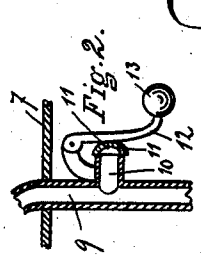


Fig. 2.

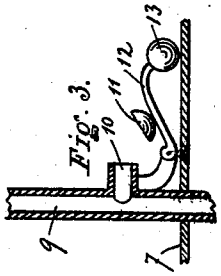


Fig. 3.

WITNESSES

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No. 773,347. Patented October 25, 1904.

UNITED STATES PATENT OFFICE.

DE WANE B. SMITH, OF DEERFIELD, NEW YORK.

SPRAYER.

SPECIFICATION forming part of Letters Patent No. 773,347, dated October 25, 1904.

Application filed November 15, 1902. Serial No. 131,468. (No model.)

To all whom it may concern:

Be it known that I, DE WANE B. SMITH, of Deerfield, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Sprayers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

The object of my invention is to provide a sprayer having an air-compressing cylinder and fluid-receptacle adapted to direct its spray downwardly or upwardly or in any intermediate direction by simply rotating the sprayer in the hand.

In the drawings, Figure 1 shows a longitudinal section of a sprayer of my improved construction. Fig. 2 shows an automatic valve device employed in the construction in its closed position. Fig. 3 shows the same in open position. Fig. 4 shows in perspective an end view of a modified form of construction of my improved sprayer.

Referring to the reference-figures in a more particular description of the device, 1 indicates the cylindrical body, which serves for an air-compressor and receives the piston-head 2, which is operated by the piston-rod 3 and the handle 4. The cylindrical body 1 is provided with a head 5, formed and placed at an acute angle with the axis of the cylinder and provided with a perforation 6, forming a blast-opening. To the under side of the cylinder—that is to say, the short side, on account of the inclination of the head 5—I secure the fluid-receptacle head or cover 7, one edge of which projects somewhat beyond the point of the angle between the head and the side of the cylinder and, further, does not project beyond the extreme end of the cylinder as formed by the other angle made by the inclined head with the side of the cylinder. The head or cap 7 is similar to those ordinarily provided for fruit-jars, and the fluid-receptacle consists, preferably, of a glass jar 8, externally screw-threaded at its upper end to engage with the screw-threaded flange of the cap 7, similar to fruit-jar constructions. Passing through that portion of the fluid-receptacle head which projects in advance of the lower portion of the inclined head 5 there is provided the fluid tube or pipe 9. This tube or pipe is secured in the head 7 and has its open outer end at a point approximate to the blow-hole 6, while the inner end is open and located substantially at the bottom of the fluid-receptacle when secured in position to the cap. The fluid-pipe 6 is provided with an additional opening or inlet at 10 immediately inside of the cap 7, which opening is controlled by a valve or cover 11, controlled by gravity by means of the pivot-lever 12 and the weight 13.

The fluid-tank 8 may be filled when removed by unscrewing it from the cap. The spray is formed by operating the piston in the cylinder, the blast of air passing out through the opening 6, producing a suction in the pipe 9 and drawing up the fluid. It will be noted that the spray is delivered at an angle with the axis of the barrel, and when the device is in the position shown in Fig. 1 the blast will be delivered in a downward direction, adapting it to spray the body of a plant or any other thing on which it may be directed. In using sprayers of this kind it is often necessary to direct the spray upwardly to get at the under side of a plant or other object. This may be readily done with the device shown, as the body, by means of which it is held by one hand of the operator, can be rotated in the hand so that the inclination of the head 5 will be exactly opposite to that at which it is shown in the drawings. When rotated so that it is bottom side up, or substantially so, the gravity-valve in the body of the fluid-receptacle will automatically open, allowing the fluid to be received at that point and dismissed or forced into a spray as it comes out of the end of the pipe 9.

In the modified form of construction shown in Fig. 4 there is shown a portion of a cylinder-body 15, having a similarly-inclined head 16 to that before described, but provided with two blast-openings 17 17 and two pipes 18 18, extending from points approximate to the

blast-openings down into the fluid-receptacle 19. The fluid-receptacle 19 is an elongated cylindrical affair secured on the side of and parallel with the cylinder 15. It is provided with a filling-opening closed by a cap 20.

The usual and convenient way of using sprayers of the class shown both in Figs. 1 and 4 is with the barrel inclining downward from a horizontal position. As to the device shown in Fig. 4, when it is used in the position with the fluid-receptacle hanging below the barrel 15 the fluid will run to the lower end, and the inner end of the tubes will be submerged in the fluid, also when the device is turned over, so that the receptacle 19 is on top of the barrel, but the barrel is held in a downwardly-inclined position, as would be natural in getting under a bush or plant or other object to be sprayed, the fluid in the receptacle will also run to the lower end, so that the inner ends of the suction or fluid tubes will still be submerged.

The arrangement of the inclined head in the end of the cylinder is not only important for securing the blast to be delivered at an angle to the axis of the barrel, but it also serves to permit the blow-holes and suction-tubes which are delicate and easily disarraged to be located externally, where they can be examined and readily placed and adjusted and still be well protected from danger in ordinary usage.

What I claim as new, and desire to secure by Letters Patent, is—

1. A sprayer, having a cylindrical body formed at one end to an acute angle with its axis, an inclined head applied to said end of the cylinder and having a blast-opening through the wall of the head adapted to direct a blast at an angle with the axis of the cylinder, a fluid-receptacle secured to the shorter side of the cylinder, and a fluid-tube extending from the interior of the receptacle along the face of the head to a point at close proximity to the blast-opening, substantially as set forth.

2. The combination in a sprayer of the cylinder having a blast-opening adapted to deliver a blast at an angle with the axis of the cylinder, a fluid-receptacle, a fluid-tube extending from a point approximate the blast-opening into the fluid-receptacle and having two openings therein, a gravity-valve controlling one of said two openings, substantially as set forth.

3. The combination in a sprayer of a cylinder having a piston, an inclined end and blast-opening in its end of a fluid-receptacle cap secured to the barrel with its edge projecting beyond the adjacent edge of the head of the cylinder and having a depending screw-threaded flange, a removable fluid-receptacle having a screw-threaded end adapted to engage the cap and a fluid-tube extending from a point approximate the blast-opening through the projecting edge of the cover into the receptacle and secured in the cover, substantially as set forth.

In witness whereof I have affixed my signature, in presence of two witnesses, this 13th day of November, 1902.

DE WANE B. SMITH.

Witnesses:
E. WILLARD JONES,
S. A. BROWN.