No. 620,272. Patented Feb. 28, 1899.

A. J. BRUMMELER.

IMPLEMENT FOR SPRAYING PLANTS.

(Application filed July 26, 1898.)

(No Model.)

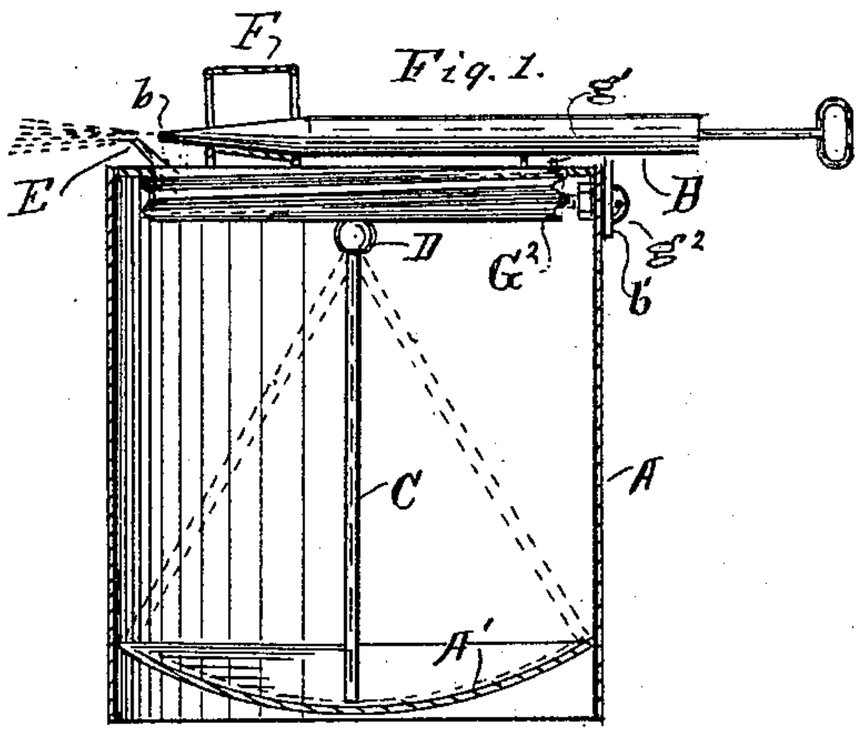

Fig. 1.

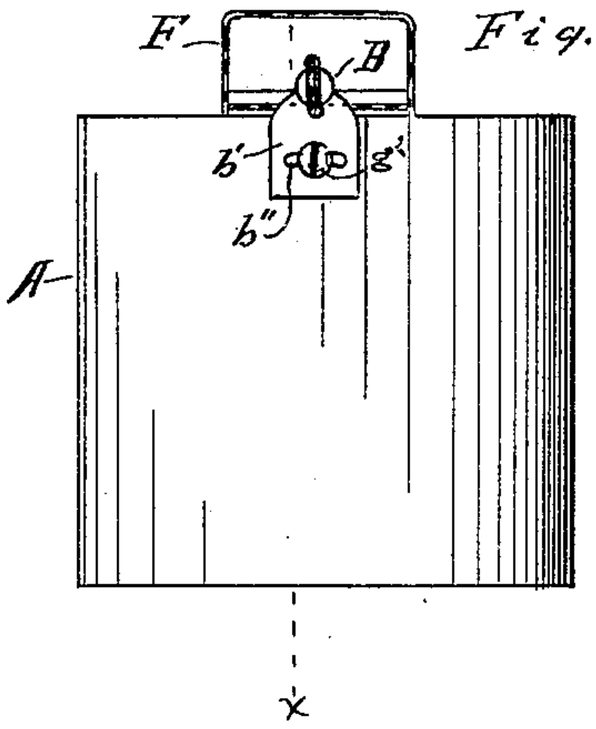

Fig. 2.

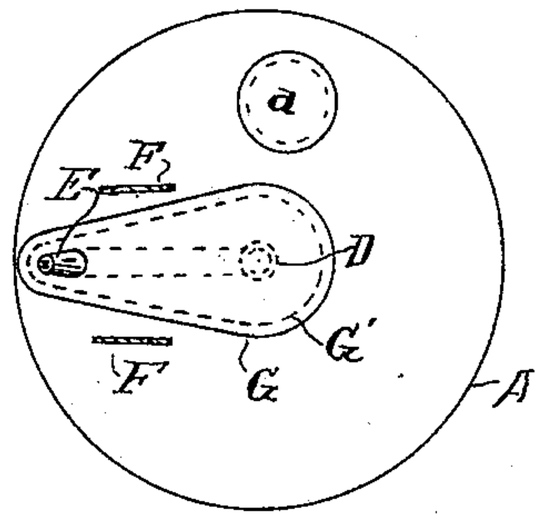

Fig. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

ALFRED J. BRUMMELER, OF GRAND RAPIDS, MICHIGAN.

IMPLEMENT FOR SPRAYING PLANTS.

SPECIFICATION forming part of Letters Patent No. 620,272, dated February 28, 1899.

Application filed July 26, 1898. Serial No. 686,956. (No model.)

To all whom it may concern:

Be it known that I, ALFRED J. BRUMMELER, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Implements for Spraying Plants, of which the following is a specification.

My invention relates to improvements in implements for spraying insecticidal solutions upon plants, &c.; and its objects are, first, to provide a spraying implement from which the air-pump and the spraying-tube may be readily removed to give free access to the interior of the reservoir, and, second, to provide a cylindrical reservoir from which the solution may be drawn from any portion of the surface of the bottom, thus rendering it unnecessary to hold the reservoir in a special position in order to exhaust the whole of the solution from the reservoir. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the reservoir on the line *x x* of Fig. 2. Fig. 2 is an elevation of the reservoir, showing the manner of securing the pump thereto; and Fig. 3 is a plan thereof, showing a modified form of attachment for the spraying-tube.

Similar letters refer to similar parts throughout the several views.

In the construction of this implement I form a cylindrical reservoir or can A for containing the solution. I place a spraying-tube E in the top of this reservoir or can with the inner end at the radial center thereof near the top, where I form a ball-and-socket joint D for the support and free swinging motion of the tube C. To make this feature of my invention fully operative, I form a concave bottom A′, having its radii concentric with or converging to the center of the ball-and-socket joint D and of the exact length of the tube C, so that said tube may swing freely over any portion of its surface, as indicated by the dotted lines in Fig. 1, so that it will completely drain the solution from the reservoir no matter what position the reservoir is held in so long as the solution is contained in this bottom.

In my better class of sprayers I place a screw-top G^2 in the top in the usual manner and securely attach the conical end of the air-pump to it, as with the handpiece F at the end and by soldering, as at g', at the edge of the screw-top, so that the screw-top may be readily removed in the usual manner and with it the air-pump. To further secure the air-pump, I solder a lug b' to it in position to rest just at the periphery of the reservoir, and secure this to the reservoir by means of a small bolt, as g^2. It is preferable that the nut by which this bolt is secured be soldered to the inner surface of the reservoir, so that no difficulty will be experienced in screwing the bolt into it.

With my cheaper form of implement I form a small plate, as G, to which I secure the spraying-tube E, as indicated in Fig. 3, and solder the plate to the top of the reservoir, so that it may be readily removed by unsoldering at the line of contact. Under this plate I cut an aperture through the top of the reservoir, as indicated by the dotted lines G′, of sufficient size to allow the spraying-tube and ball-and-socket joint to be passed through without trouble.

For placing the solution into the reservoir I use an ordinary screw-cap *a*, as indicated in Figs. 1 and 2.

I am aware that the manner of combining the spraying-tube and the air-pump is old. I therefore do not claim this particular feature as comprising any portion of my invention only so far as it is necessary to complete an operative combination, the whole tenure of my invention being, first, the mechanism by which I am enabled to exhaust the last particle of the solution from any portion of the bottom of the reservoir, and, second, the means for securely attaching the removable air-pump and spraying-tube.

As it is hard to determine the exact point at which the screw-top will set, in my better class of implements I find it well to make a slot b'' in the lug b', as shown in Fig. 5, so that it will allow for considerable variation in the position of the air-pump relative to the periphery of the reservoir.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a spraying implement, a cylindrical reservoir, a screw-top to said reservoir, a

spraying-tube and an air-pump secured to said top, a ball-and-socket joint at the inner end of the spraying-tube and at the radial center of the reservoir, and a concave bottom to said reservoir the radial lines of which converge to the center of the ball-and-socket joint, substantially as and for the purpose set forth.

2. In a spraying implement, a reservoir having a large screw-top, a spraying-tube and air-pump properly secured thereto, a lug and bolt for securing the pump to the periphery of the reservoir, a ball-and-socket joint at the inner end of the spraying-tube and within the reservoir, a tube swingingly supported in said joint and extending thence to the bottom of the reservoir, and a concave bottom whose radii converge to the center of the ball-and-socket joint, substantially as set forth.

Signed at Grand Rapids, Michigan, July 18, 1898.

ALFRED J. BRUMMELER.

In presence of—
I. J. CILLEY,
G. E. CILLEY.