

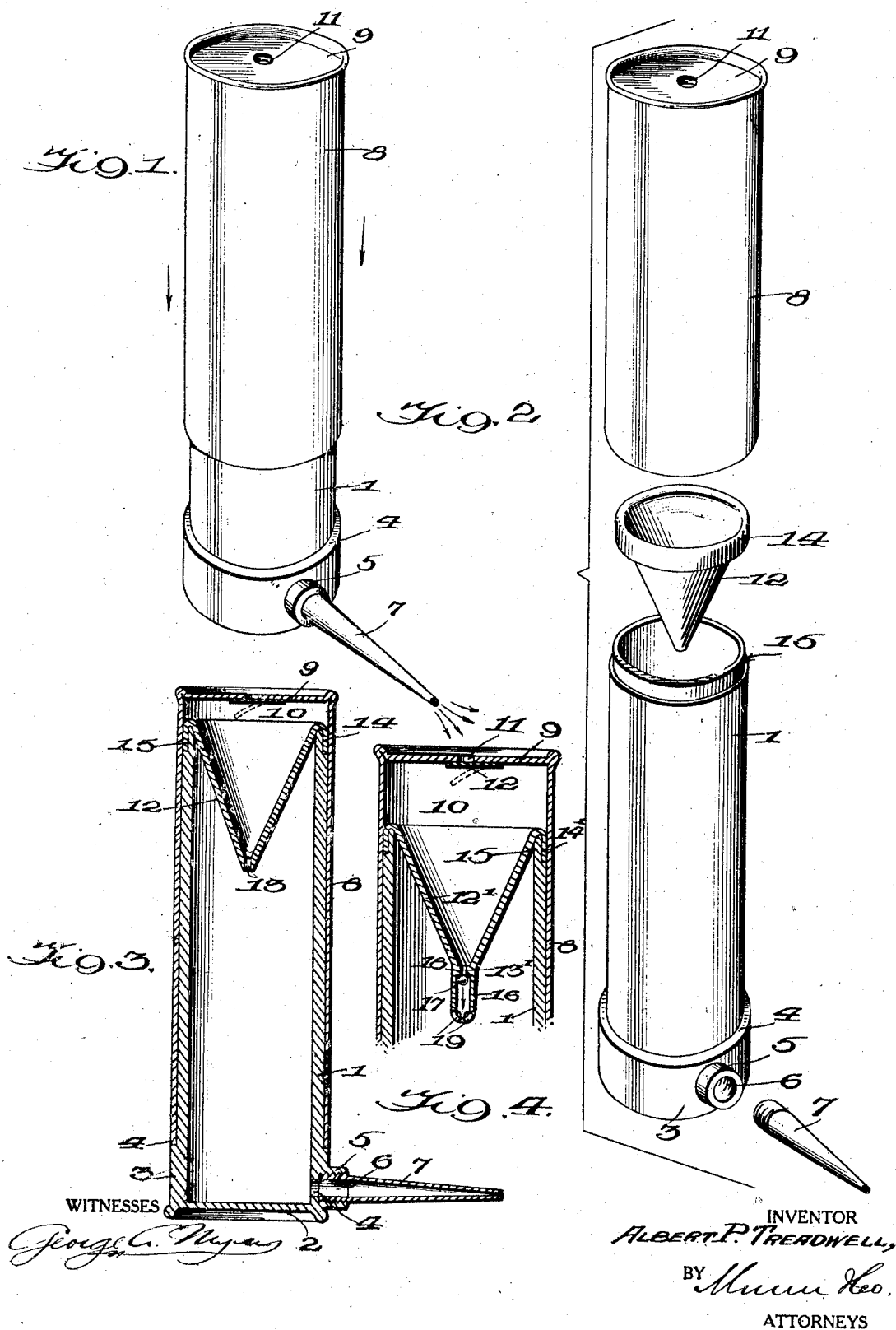
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A. P. TREADWELL

INSECTICIDE CONTAINER AND DISTRIBUTER

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INSECTICIDE CONTAINER AND DISTRIBUTER.

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To all whom it may concern:

Be it known that I, ALBERT P. TREADWELL, a citizen of the United States, and a resident of Atlanta, in the county of Fulton and State of Georgia, have made certain new and useful Improvements in Insecticide Containers and Distributers, of which the following is a specification.

My invention relates to an improvement in insecticide containers and distributors of the same class to which the insecticide container and distributor disclosed in U. S. Patent 1,500,514, granted July 8, 1924, to A. L. Milligan belongs, and it consists in the combinations, constructions and arrangements herein described and claimed.

An object of the present invention is to practically prevent the sifting of insecticide from the container section of a device of the character described into the space between the container section and an air displacing section of the device, particularly during the use of the device.

A further object of the invention is the provision of an insecticide container and distributor of the character described which affords facilities for controlling the air pressure on the contents of the container section of the device so that the insecticide will be discharged in spray formation at sufficiently high velocity to assure the distributing of the insecticide at any desired place within a considerable distance from the discharge end of the container.

A further object of the invention is to provide an insecticide container and distributor of the character described which is reliable in use, capable of being manufactured at a relatively low cost, and thoroughly practical commercially.

Other objects and advantages will be apparent from the following description, considered in conjunction with the accompanying drawings, in which:

Figure 1 is a perspective view of an insecticide container and distributor embodying the invention;

Figure 2 is a view similar to Fig. 1, showing the component parts of the device in separated positions;

Figure 3 is a longitudinal vertical section through the device, and,

Figure 4 is a fragmentary longitudinal vertical section through a modified form of the device.

A practical embodiment of the invention comprises a container section having a cylindrical body 1 closed at its forward end as by means of an imperforate end wall 2 and having the forward end portion thereof enlarged externally, as at 3, to provide an annular shoulder 4, which is located adjacent to but spaced from the forward end of the container section. The body of the container section is formed with a lateral opening 5 in the enlarged portion 4, from which a lateral tubular boss 5 may extend, the boss being provided with internal screw threads as at 6 for engagement with the externally screw threaded inner end portion of a nozzle or spout 7.

It will be obvious that the opening 4 and the tubular boss 5 respectively, may be provided in and carried by the end wall 2 without departing from the spirit and scope of the invention as will hereinafter more clearly appear.

The device also includes an air displacing section having a tubular body 8 adapted to fit slidably on the body 1. The body 8 is covered at its rearward end by a rear wall 9 and is of slightly greater length than the portion of the body of the container section extending from the rear end of the latter to the shoulder 4 so that there will always be an air space at 10 between the end 9 of the air displacing section and the adjacent or rearward end of the container section when the body of the air displacing section is in any one of the various positions to which it may be moved slidably on the body of the container section. The shoulder 4 provides a stop which limits the slidable movement of the body 8 on the body 1 toward the forward of the container section and the outer diameter of the body 8 is the same as the outer diameter of the enlarged portion 3 of the body of the container section so that the outer wall of the device as a whole will be continuously smooth and apparently unin-

interrupted except for the tubular boss 5, when the body 8 is in abutting relation with the forward end of the shoulder 4. The end wall 9 is provided with a central intake opening 11 which is covered at its inner end by an inwardly opening flap valve 12.

The body 1 is covered at its rearward end by a member 12 having substantially the shape of a funnel or inverted cone and which is provided at its inner and smaller end with an axial opening 13, which is of relatively small area in cross section. The member 12 is merged at its wider and outer end or mouth into an encircling flange 14 which fits over the externally reduced rearward end portion 15 of the body 1, and which may be secured to the latter in any suitable known manner as by crimping the flange.

The outer diameter of the flange 14 is equal to the outer diameter of the major portion of the body 1 so that the flange is adapted to move in close sliding contact with the inner wall of the body 8 when the latter is reciprocated on the body 1. The contact of the flange 14 and of the portion of the body 1 which extends between the inner end of the flange 14 and the shoulder 4 with the inner wall of the body 8 of the air displacing section, is such as to tend to prevent passage of finely divided powder such as is commonly used as an insecticide between the relatively movable portions of the container and air displacing sections of the device, even though insecticide should be present in the space 10. However, it will be manifest that provision of the funnel-shaped member 12 having the opening 13 which is of relatively small area in cross section at the inner end of the space 10 will practically prevent the passage of insecticide from the space within the container section into the air space 10, even when the air displacing section is moved rearwardly of the body 1 to enlarge the space 10. The provision of the air intake in the end 9 of the air displacing section cooperates with the funnel-shaped member 12 to prevent the drawing of insecticide into the space 10 when the air displacing section is moved rearwardly of the body 1 since such movement of the air displacing section on the body 1 will result in the drawing of air, through the opening 11 into the space 10 without causing any appreciable suction on the opening 13.

From the foregoing description of the various parts of the device the operation thereof will be readily understood. Retrograde movement of the air displacing section on the body 1 of the container section will enlarge the space 10 and cause such space to be filled with air which flows thereinto through the air intake opening 11. Forward movement of the air displacing section will decrease the space 10 and cause

the air to be forced therefrom at relatively high velocity through the opening 13 into the space within the container section. The resultant pressure on the insecticide within the container section will cause the discharge of insecticide through the opening 4 and the nozzle or spout 7 at a relatively high velocity and in spray formation. The regular tapering of the inner wall of the member 12 causes the air which is forced through the opening 13 to move in a whirling form which will result in the blowing of even the last particle of insecticide from the interior of the container section.

The modification which is partially shown in Fig. 4 differs from the form of the device which has been described in the foregoing only in the details which will now be pointed out. The same reference numerals have been employed to designate like parts of the two forms of the device.

The funnel shaped member at the rearward end of the body 1 of the modification is designated at 12' and has a flange 14' which overfits the external reduced rearward end portion 15 of the body 1 of the container section. The opening at the inner and smaller end of the funnel shaped member is designated at 13'. A short tubular member 16 extends inwardly from the inner end of the funnel shaped member 12 and constitutes a valve casing in which a ball valve 17 is movable. The diameter of the ball valve is less than the inner diameter of the tubular casing 16 but greater than the diameter of the opening 13', a shoulder 18 which serves as a valve seat thus being provided at the inner end of the opening 13'. The ball valve 17 therefore is freely movable within the tubular casing 16, but held against displacement from the latter at its inner end by inwardly extending fingers or lugs 19.

The operation of the modified form of the device is identical in essential respects with that of the preferred form of the device and therefore need not be repeated herein. It will be understood that the ball valve 17 will be moved to position to cover the opening 13' at its inner end when the air displacing section of the device is moved rearwardly on the body 1. Passage of the insecticide from the container section through the opening 13' into the space 10 thus will be positively prevented during the retrograde movement of the air displacing section on the container section.

Obviously, the invention is susceptible of embodiment in forms other than those which are illustrated in the accompanying drawings and I therefore consider as my own all such modifications and adaptations thereof as fairly fall within the scope of the appended claim.

I claim:

In an insecticide container and distributor, a container section comprising a tubular body closed at its forward end and provided with an outlet adjacent to its forward end, said tubular body being reduced externally adjacent to its rearward end, a funnel-shaped closure member adapted at its wider end to fit within the rearward end portion of said body and having at its wider end a flange adapted to fit on the externally reduced rearward end portion of the body, and an air displacing section having a tubular body fitting slidably on the body of the container section and having an end member at its rearward end.

ALBERT P. TREADWELL.