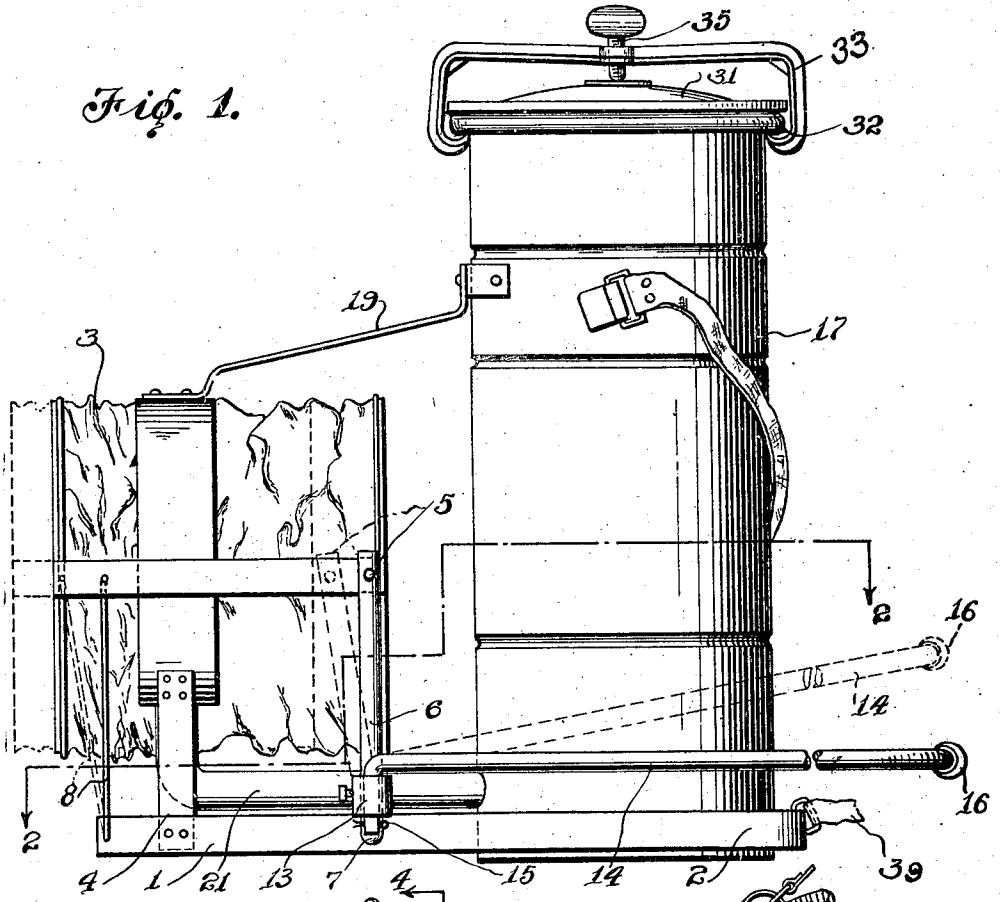
Sept. 6, 1927. 1,641,735

L. CHEESEMAN

INSECTICIDE DUSTER

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Fig. 1.



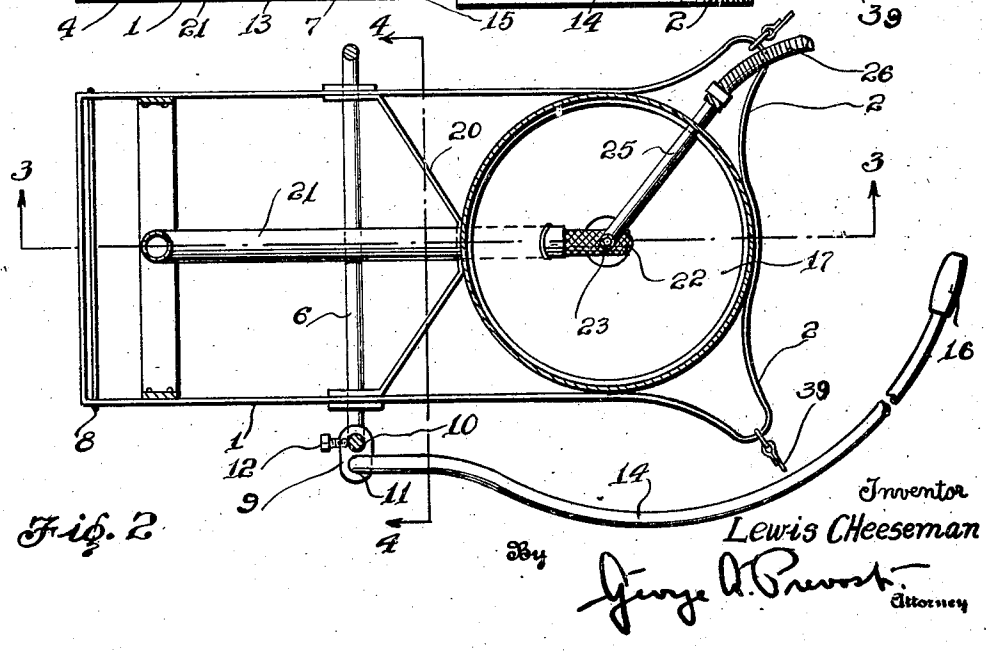


Fig. 2.

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Fig. 3.

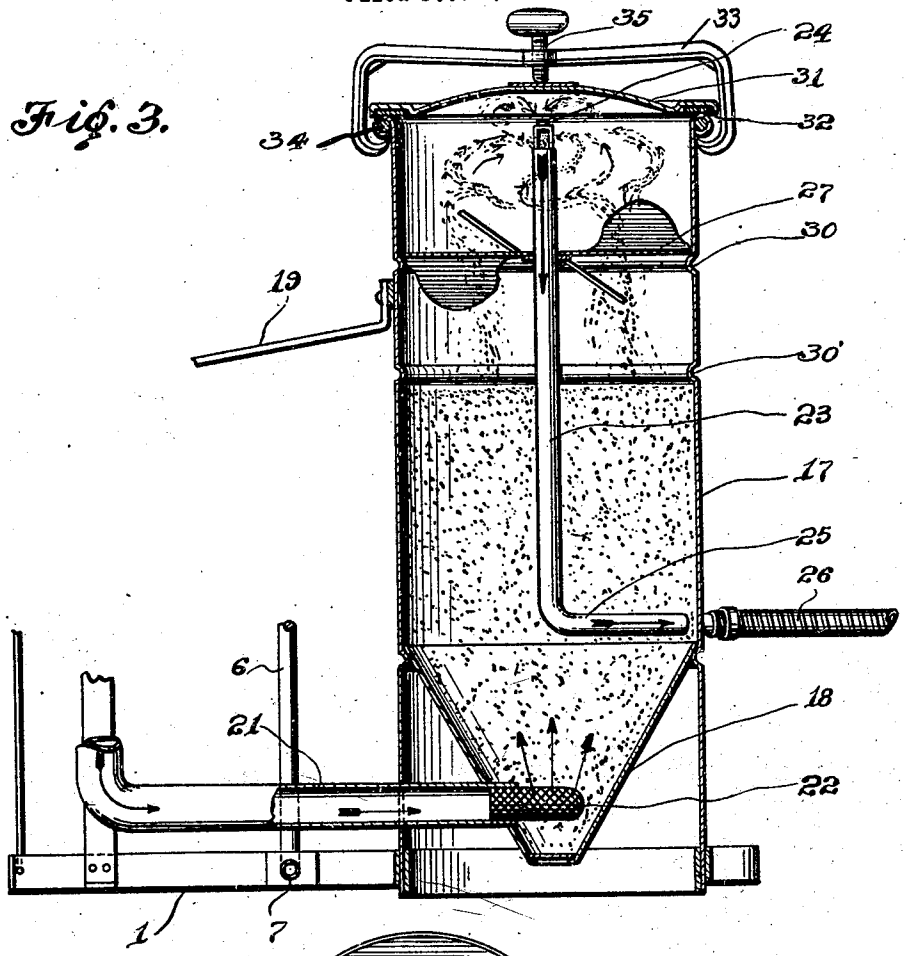
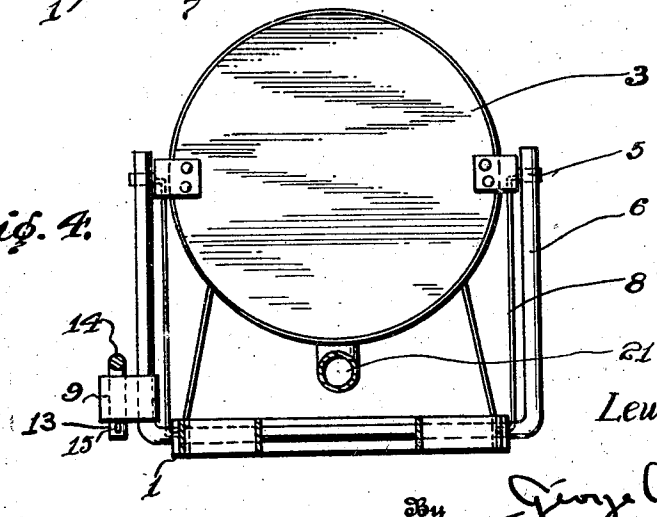


Fig. 4.



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Fig. 8.

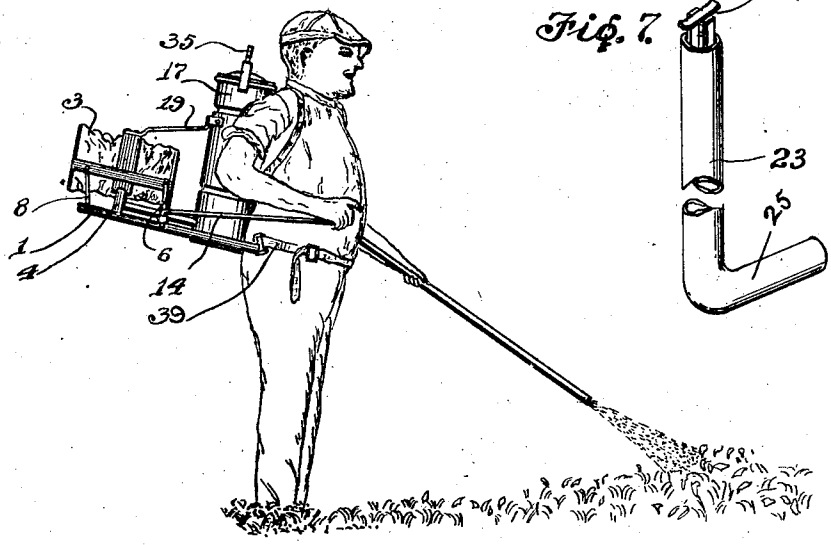


Fig. 7.

Fig. 5.

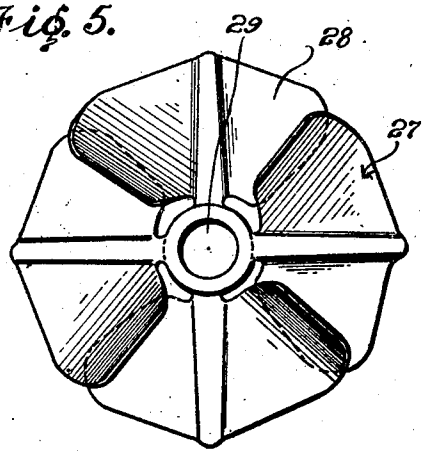
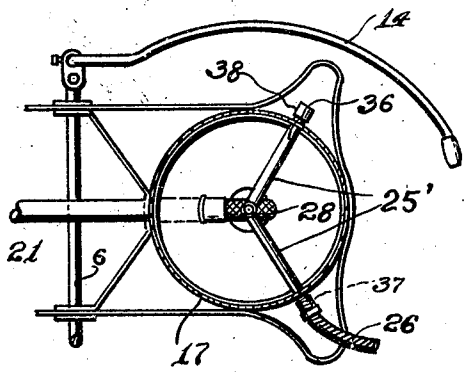


Fig. 9.



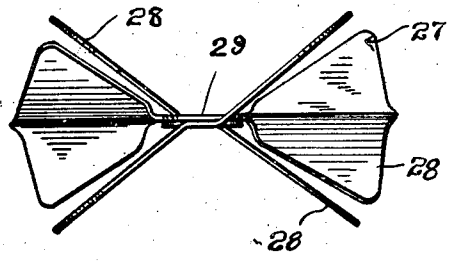


Fig. 6.

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Patented Sept. 6, 1927. 1,641,735

UNITED STATES PATENT OFFICE.

LEWIS CHEESEMAN, OF FELLSMERE, FLORIDA.

INSECTICIDE DUSTER.

Application filed December 7, 1925. Serial No. 73,618.

My invention relates to new and useful improvements in insecticide dusters for use in exterminating insects and fungus growths on plants and other vegetation.

An object of my invention is to produce a duster which will thoroughly mix the different chemicals used therein, by imparting thereto a whirling movement, thus breaking up any lumps which may have been caused by dampness or packing.

Another object is to adapt my improved duster to be easily carried upon the back of an operator, the operating parts being in convenient positions for the manipulations of the same.

A still further object of my invention is to provide a duster which may be operated by either hand for the convenience of "left-handed" persons, or in case one hand should become tired.

With the above and other objects in view which will appear as the description proceeds, my invention consists in the novel features herein set forth, illustrated in the accompanying drawings and more particularly pointed out in the appended claims.

Referring to the drawings,

Fig. 1 is a side elevation of my improved duster, showing in dotted lines, the movement of the operating lever and bellows.

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 2.

Fig. 4 is a sectional view taken on line 4—4 of Fig. 2.

Figs. 5 and 6 are detail views of the baffle used in creating a vortex in the container.

Fig. 7 is an enlarged fragmentary view of the discharge pipe.

Fig. 8 is a view showing my improved duster in place on the back of an operator.

Fig. 9 is a modification showing the use of a plurality of outlets, which allows the handle or lever to be used on either side by simply changing the position of the spraying tube.

In the drawings, 1 represents a metal frame or support, which is bent at one end to conform with the shape of the small of the back of a person operating the device, as shown at 2, Fig. 2. At the other end I provide bellows 3 of any suitable kind, which are rigidly secured to the frame 1 by means of a band 4, preferably riveted thereto.

The inner end of said bellows is pivotally secured at 5 to a substantially U-shaped rocking member 6, which preferably consists of a piece of pipe, bent in the proper form, and pivotally mounted transversely of the frame 1, in the apertures 7 of said frame.

At the other end of the bellows 3, I provide another rocking member 8, which is mounted in the same manner as the U-shaped pipe 6, and which supports the outer end of the bellows.

At the lower extremity of one of the upright portions of the U-shaped pipe 6, I employ a removable lug 9, which is provided with two apertures 10 and 11. The aperture 10 fits over the upright portion of the pipe 6, and is held in place by a set screw 12, while the other aperture 11 is adapted to receive the bent end 13 of a lever 14, said lever being held in place by a cotter pin 15.

The lever 14 preferably consists of a metal rod bent at right angles at one end as before mentioned, the main portion being curved, as clearly shown in Fig. 2, to bring the handle 16 transversely in front of the operator.

At the end 2 of the frame 1, I provide a cylindrical dust container 17, having a cone shaped bottom 18, secured inside the walls of said container. The container is braced near its upper extremity by a metal strip 19 which extends from the bellows 3, and at its lower extremity by a substantially V-shaped strip 20 secured to the frame 1.

The bellows 3 are connected to the container 17 by a conduit 21, which passes through the lower portion of the cylindrical wall and into the conical bottom 18, the end of said conduit inside the container being provided with a screen nipple 22, which prevents any of the dust in the container from backing up into the conduit or bellows.

At approximately the central portion of the container 17, I provide a vertically extending discharge pipe 23, its upper extremity having a baffle arrangement 24, as clearly shown in Figs. 3 and 7, which breaks

any lumps of chemicals that might be thrown up in the vortex, before allowing the dust to enter said pipe 23. The lower extremity of said discharge pipe is bent approximately at right angles as at 25, and extends horizontally through the wall of the container at an angle, as shown in Figs. 2 and 3, where it is rigidly secured, the portion extending through said wall being adapted to receive a spraying tube 26, preferably of a flexible metallic structure.

Just below the top, inside the container 17, I provide a baffle 27, which consists of a plurality of alternating angularly disposed blades 28, preferably stamped out of galvanized iron and soldered together as shown in Figs. 3, 5 and 6. The baffle is provided with an aperture 29 which engages the vertical portion of the discharge pipe 23, said baffle being supported by a rib 30, on the inner wall of the container 17.

The object of this baffle 27, is to impart a whirling movement to the chemical or dust as it is blown up from the bottom of the container 17, against the top of same and into the discharge pipe 23, as clearly shown by the arrows in Fig. 3.

The top consists of a plate 31 of suitable material, provided with a washer or gasket 32, which renders the device air tight, said plate 31 being secured to the container 17 by means of a clamp 33, which grips the head 34 on the upper extremity of the container, and is tightened by a set screw 35 engaging the plate 31.

The operation of the device is as follows:

The container 17 is filled, preferably up to the rib 30′ with the chemical or dust in powdered form, used in exterminating insects, etc., on the vegetation to be treated. The complete duster is then secured to the back by the straps 39, in the position shown in Fig. 8, the end 2 of the frame and the container 17, resting against the operator's back.

The lever 14 is gripped at 16, by one hand of the operator, while the spraying tube 26, is held in the other hand. The vertical reciprocation of the lever 14, rocks the U-shaped member 6, which in turn actuates the bellows 3, forcing a current of air through the conduit 21 into the conical bottom 18 of the container 17. The force of the air entering the container raises the dust in a rapidly ascending current through the baffle 27, which creates a vortex as described. The dust, still in this whirling movement, enters the top of the discharge pipe 23, any lumps being broken or deflected by the baffle 24, and is forced through the spraying tube 26, which can be manipulated by the hand of the operator.

In Fig. 9 I have shown a modified form of my invention which consists in employing a discharge pipe 23 provided with a Y-shaped member 25′ having two outlets 36 and 37. The object of this form is that it enables the user to change the lever 14 and lug 9, over to the other side when one hand becomes tired, and operate the spraying tube with the right hand, by simply disconnecting the tube 26 from the outlet 36 and placing it on the outlet 37, closing the former outlet with a threaded cap 38.

This form might also prove advantageous to a left handed person.

While I have described a bellows of any kind, for supplying air to the container 17, I prefer and have shown a double acting bellows which provide a constant air pressure from the under side of the baffle 27, and insures a continuous whirling movement of the dust particles.

It might also be stated that while I have shown and described bellows, a tank containing compressed air may be used with equally as good effect.

From the foregoing, it is believed that my invention may be clearly understood without further description, and in closing I may say that numerous changes may be made in the details of construction without departing from the spirit of the invention as disclosed in the following claims.

What I claim and desire to secure by Letters Patent is:—

1. An insecticide duster, including a cylindrical container, a baffle consisting of a plurality of alternating angularly disposed blades for creating a vortex in said container, means for forcing air into said container, discharging means and means secured to said discharging means for spraying the contents of said container on vegetation to be treated.

2. An insecticide duster, as claimed in claim 1 wherein the container is equipped with a conical bottom.

3. An insecticide duster as claimed in claimed 1, wherein the discharging means consists of a vertically arranged tube, having an intake opening at its upper extremity and being bent at an angle at its lower extremity, said bent portion extending through the wall of said container and forming an outlet.

4. An insecticide duster including a container having a conical bottom, a horizontally disposed baffle mounted in said container and extending substantially across the same for creating a vortex therein, a vertical discharge pipe arranged substantially in the center of said container, being bent at its lower extremity and projecting through the walls of said container, a baffle secured to the top portion of said discharge pipe, spraying means secured to the other end of said discharge pipe, bellows for forcing air into said container at a point in the conical bottom, a frame for supporting said con-

tainer and bellows, and means on said frame and container for securing the device to the body of an operator.

5. An insecticide duster, including a container, means for forcing air into said container, a discharge pipe, the upper extremity of which is near the top of the container and the lower end of which passes through the side wall of the container, a horizontally disposed baffle mounted on said discharge pipe intermediate its ends, adapted to create a vortex the apex of which is substantially at the inlet of the discharge pipe.

In testimony whereof I affix my signature.

LEWIS CHEESEMAN.