Sept. 17, 1935. A. G. SUELFLOW ET AL 2,014,789

PLANT DUSTER

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Fig. 1.

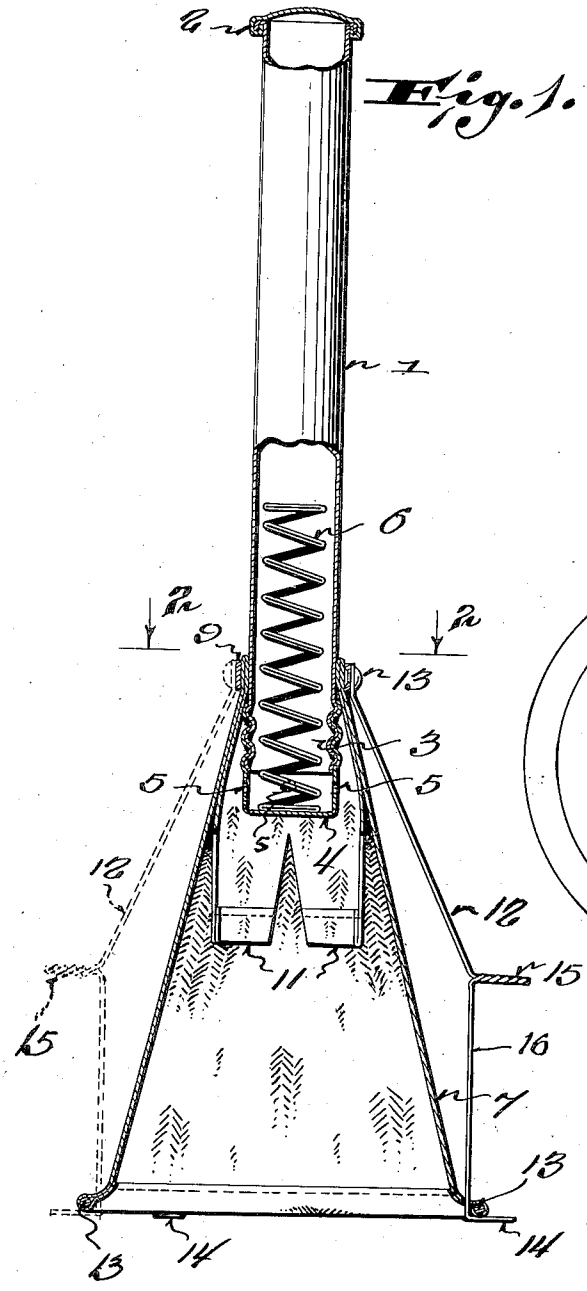
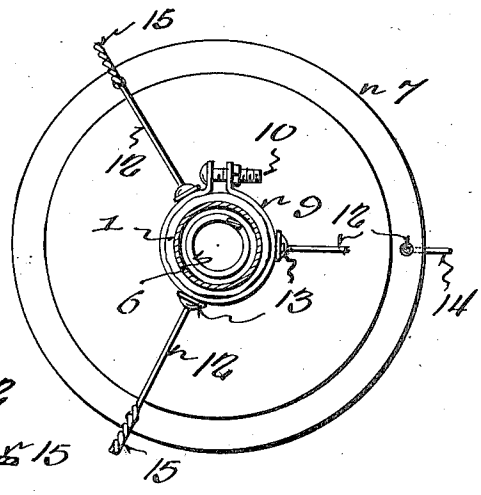


Fig. 2.



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PLANT DUSTER

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4 Claims. (Cl. 43—145)

This invention pertains to improvements in plant dusters, and more particularly to a device for dusting small plants with an insectile powder, and at the same time confining the powder to the plant and preventing the same from being carried away by the wind during the dusting operation.

The invention has primarily for its object to improve devices of the foregoing type by the provision of an exceedingly simple, inexpensive and efficient duster, in which filling of the reservoir is materially facilitated by removal of a bottom closure positioned within the skirt or shield, in combination with means for centering and guiding the skirt during vertical reciprocation with the duster, thus insuring desired confining of dust to the plant.

Incidental to the foregoing, a more specific object of the invention resides in the provision of means for centering and guiding the skirt, said means being provided with stops for abruptly limiting the movement of the lower portion of the skirt, thus jarring the same and preventing accumulation of dust thereon.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the novel construction, combination and arrangement of parts, substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the herein disclosed invention may be made as come within the scope of the claims.

In the accompanying drawing is illustrated one complete example of the physical embodiment of the present invention constructed according to the best mode so far devised for the practical application of the principles thereof.

In the drawing:—

Figure 1 is a vertical section through a duster constructed in accordance with the present invention, and

Figure 2 is a transverse section taken on the line 2—2 of Figure 1.

Referring now more particularly to the accompanying drawing, the numeral 1 designates a tubular magazine for reception of the dusting powder, which is inserted into the magazine through its open lower end, the upper end of the magazine being provided with a closure 2, either beaded or secured to the end of the tube 1 in any other suitable manner.

The lower end of the tube is provided with threads 3 for the reception of a cap 4 that serves to close the lower end of the magazine, and as best shown in Figure 1, that portion of the cap, depending below the lower end of the tube 1, is provided with a plurality of spaced radial openings 5 through which the dust is discharged upon rapid vertical reciprocation of the magazine.

In order to prevent packing of the dust in the lower end of the magazine, and possible obstruction in the openings 5, an agitator 6 is loosely positioned within the magazine, and upon vertical reciprocation the agitator will work back and forth within the magazine, continually loosening the powder to prevent packing or caking. While the agitator may be constructed in various ways, it has been found that an ordinary coil of wire, such as illustrated, provides the most desirable results.

In order to confine the dust directly to the plant being treated, a shield 7 is provided, comprising a conical skirt formed from suitable fabric, or similar flexible material. The throat or upper end of the shield is secured to the lower end of the magazine above the threaded cap 4 by means of an annular split clamp 9, which is locked upon the tube by means of a bolt 10, thus permitting the same to be readily removed for cleaning or replacement of the skirt 7. To further direct the powder discharged through the openings 5 directly downward upon the plant being treated, the upper end of the shield is preferably turned inwardly to provide a plurality of depending flaps 11 with which the discharge powder comes into direct contact, and then drops downwardly on the plant, the primary purpose of the skirt being to prevent wind from blowing the powder laterally away from the plant.

To prevent flapping of the shield during operation of the duster, and centering the same with relation to the magazine, a plurality of depending guides 12 are secured to the clamp 10 by the rivets 13, or any other suitable connecting means. Preferably the guides 12 are made from resilient wire, and have their lower ends projected through the fabric of the skirt adjacent the inner edge of the bail or wire ring 13, stitched or otherwise secured within the lower edge of the shield. The lower ends of the guides 12 terminate in lateral stops 14, upon which the ring 13 is normally supported, while intermediate their ends the guides are provided with upper stops 15 formed by twisting the wire laterally. That portion 16 of the guides is substantially vertical, thus serving to guide the ring 13, and lower edge of the shield, as the same is reciprocated with manipulation of

the magazine, which is accomplished by short and rapid vertical reciprocative movement.

In operation it will be quite obvious that as the ring 13 abuts the stops 14 and 15, a jarring action will be imparted to the shield, thus loosening and preventing accumulation of dust upon its inner surface and insuring a full discharge upon the plant being treated.

It will further be noted that filling of the magazine is materially facilitated, in that it is merely necessary to turn the same upside down to remove the cap and shift the agitator to the upper portion of the magazine. In this position the shield serves as a funnel to direct the powder into the end of the magazine, and thus avoids spilling and enables the magazine to be quickly filled without any especial care.

From the foregoing explanation, considered in connection with the accompanying drawing, it is believed that the advantages of the invention will be quite apparent, in that an exceedingly simple and inexpensive structure has been provided, which is easily assembled, and which not only confines the dust directly to the plant being treated, but prevents objectionable accumulation of dust on the inner surface of the shield to later be deposited upon a shelf or support upon which the duster is placed. Also, inasmuch as the shield is centered and guided, no particular care is required during the dusting operation, it being merely necessary to direct the end of the magazine downwardly upon the plant. Further, the guides 12 normally serve as supports for the duster when the same is not in use, thus eliminating tilting and undesired discharge of powder through the lower openings 5.

We claim:

1. A duster comprising a container tube closed at its upper end and open at its lower end, a detachable perforated closure for the lower end of said tube, a fabric skirt detachably secured to the lower end of said tube, and means for centering the bottom of said skirt with relation to said tube.

2. A duster comprising a container tube closed at its upper end and open at its lower end, a detachable perforated closure for the lower end of said tube, a fabric conical skirt carried by the lower end of said tube, a clamp for securing the skirt on said tube, and guides for said skirt carried by said clamp.

3. A duster comprising a container tube closed at its upper end and open at its lower end, a detachable perforated closure for the lower end of said tube, a fabric conical skirt carried by the lower end of said tube, a clamp for securing the skirt on said tube, and guides for said skirt carried by said clamp, said guides being provided with stops for limiting the movement of the lower end of said skirt.

4. A duster comprising a container tube closed at its upper end and open at its lower end, a detachable perforated closure for the lower end of said tube, a conical fabric skirt carried by said tube, a clamp for securing said skirt on said tube above said perforated closure, a plurality of wire guides carried by said clamp and projecting through the lower end of said skirt, said guides being provided with stops for limiting the movement of said skirt, and a ring carried by the lower end of said skirt and normally supported upon the lower stops of said guides.

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