(No Model.)

J. R. BROWN.

INSECT POWDER DISTRIBUTER.

No. 552,411. Patented Dec. 31, 1895.

Fig. 1.

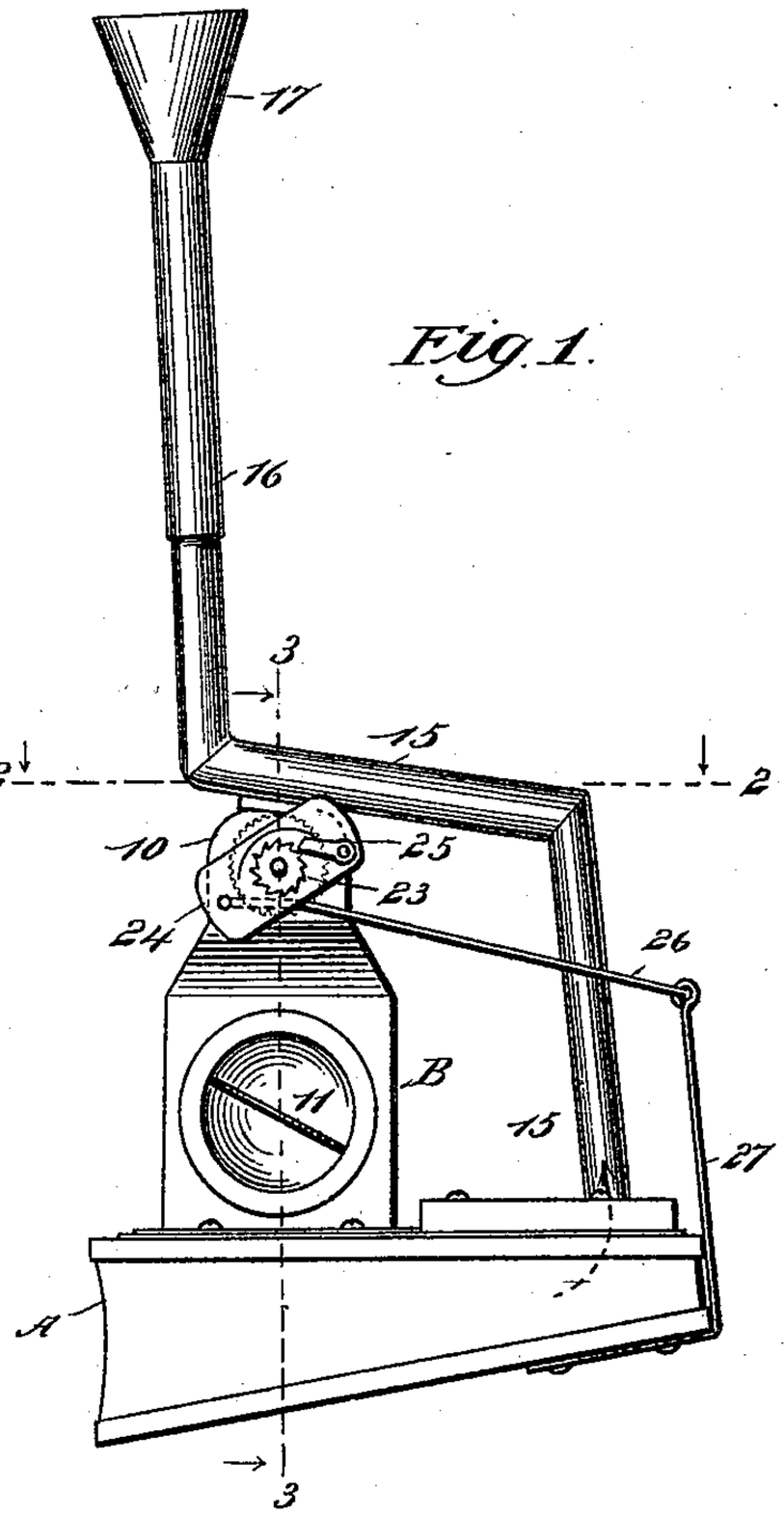


Fig. 2.

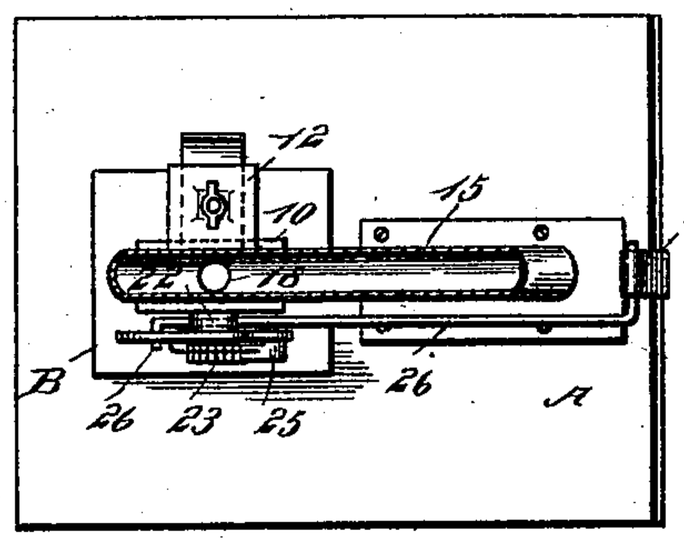
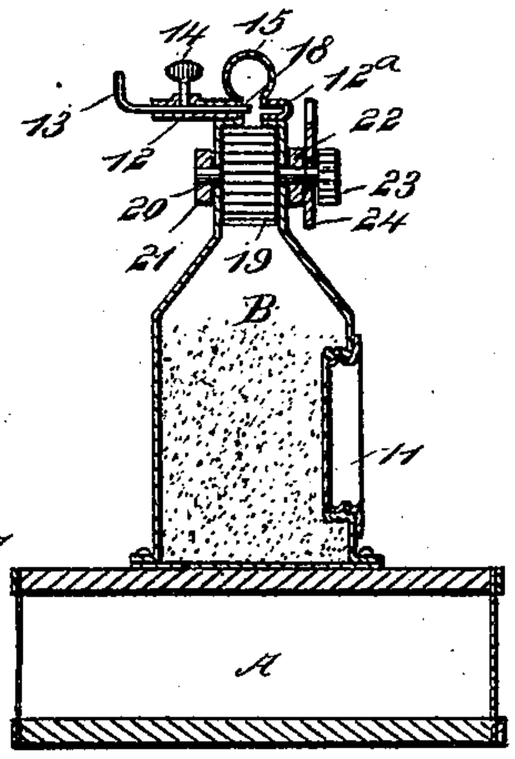


Fig. 3.



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INSECT-POWDER DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 552,411, dated December 31, 1895.

Application filed May 7, 1895. Serial No. 548,395. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. BROWN, of Eau Claire, in the county of Eau Claire and State of Wisconsin, have invented a new and Improved Machine for Distributing Insect-Powder, of which the following is a full, clear, and exact description.

My invention relates to a machine especially adapted for distributing insect-powder, such as paris-green; and the object of the invention is to so construct the machine that the flow of powder therefrom may be regulated as desired through the manipulation of the machine, and whereby a valve may be also used to control the flow of powder from the reservoir to the exit portion of the machine.

Another object of this invention is to provide a machine for distributing insect-powder by means of which the powder may be placed upon plants, no matter how far apart they may be planted, without wasting any appreciable portion of the powder by scattering it on the ground between the plants.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the machine. Fig. 2 is a horizontal section taken substantially on the line 2 2 of Fig. 1, and Fig. 3 is a vertical section taken practically on the line 3 3 of Fig. 1.

In carrying out the invention, a bellows A constitutes the base of the machine, and upon this bellows a reservoir or receptacle B is secured, the top 10 whereof is more or less contracted, the body being provided with a removable cover 11 to disclose an opening for the purpose of filling said receptacle. At one side of the top portion of the said receptacle a housing 12 is formed, a similar housing 12^a being produced at the opposite side, and that portion of the receptacle between the housings is more contracted than the section 10, as shown in Fig. 3. The housing 12 is adapted to carry the slide-valve 13, which will enter the housing 12^a when the valve is used to completely close the top or outlet of the said receptacle, and the valve is held in the desired position through the medium of a set-screw 14 or its equivalent. A pipe 15 is secured upon the top of the said receptacle B and the said pipe is carried downward and connected with the valve of the bellows, whereby, upon operating the bellows, air will be forced upward into the pipe 15 and across the top of the reservoir. The pipe 15 is made likewise to extend in an upward direction, and is joined to a second pipe 16, which may be made tapering, being smallest at its upper end, or may be made to terminate in a funnel 17, the contracted pipe being used for concentrating and the funneled pipe for broadcast-distributing purposes. The funneled pipe only is shown in the drawings.

The pipe 15, where it passes over the top of the receptacle B, is provided with an opening 18, registering with the outlet-opening of said receptacle. Within the contracted portion of the receptacle a feed-wheel 19 is journaled, the peripheral portion of which wheel is toothed, serrated or otherwise roughened. The trunnions 20 of this wheel extend out beyond opposite sides of the receptacle, and are provided at one end with a nut 21 and at the other end with a washer or spacing-block 22, together with a ratchet-wheel 23, while between the ratchet-wheel and the spacing-block or washer a link 24 is loosely mounted on the trunnion of the feed-wheel, and this link is fitted with a dog 25, engaging with the ratchet-wheel 23, the dog being located at what may be termed the "rear end" of the link and spring-controlled, while one end of a rod 26 is pivotally connected with the forward portion of the said link 24, as shown in Fig. 1, the link being carried rearward, and it is pivotally connected with an upright 27 secured to the bottom of the bellows at the back, as is likewise shown in Fig. 1.

In the operation of this machine the valve 13 is set to regulate the supply of material from the receptacle B to the delivery-pipe 15, and the wheel 19 when revolved will break up any lumps that may be formed in the powder, and will feed the powder in finely-pulverized condition into the said delivery-pipe. It is evident that the valve 13 having been once set the amount of material to be

delivered at the delivery end of the machine will be thoroughly under the control of the operator, since by operating the bellows the feed-wheel 19 will be rotated through the medium of the connecting-rod 26, the link 23 and the ratchet and dog mechanism above set forth, and air will be forced at the same time through the pipe 15, causing the powder to be blown out at the delivery end of the pipe 16, the funnel serving to spray the powder to a greater or less degree, and likewise to prevent it from spreading more than is necessary. As the material can pass to the pipe 15 only while the wheel 19 is being rotated, the feed of the material to said pipe will be proportionate to the speed to which the bellows is operated. Consequently when the bellows is operated slowly the feed will be slow, and the delivery of the material is under the complete control of the operator and the material will not be spilled between the plants, as the machine need be operated only when the plant to be treated is approached.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a machine for distributing insect powder, the combination, with a bellows, a receptacle carried thereby and having its free end contracted, a feed wheel located in the contracted portion of the receptacle, substantially filling the same and operated from the bellows, the outlet of the receptacle being above the said wheel, and a valve located above the outlet of the said receptacle, of a delivery and force pipe connected with the bellows and connected with the outlet of the receptacle, and means, substantially as shown and described, for controlling the distribution of the material at the outlet end of the delivery pipe, as and for the purpose set forth.

2. The combination of a bellows, a powder receptacle secured thereto and having a contracted upper end, a serrated feed wheel within said upper end, a valve closing the upper end, a force pipe connected to the bellows and communicating with said upper end of the receptacle, and a connection between the bellows and the feed wheel, substantially as described.

3. In a machine for distributing insect powder, the combination of a bellows, a receptacle carried thereby and having an open upper end, a valve commanding said open upper end, a wheel within the upper end and capable of feeding and crushing the powder, means for operating the wheel, and a force pipe connected to the bellows and communicating with the upper end of the receptacle, substantially as described.

4. In a machine for distributing insect powder, the combination of a bellows, a receptacle affixed thereto, said receptacle having a contracted upper end with an opening therein, a serrated feed wheel located in said contracted end, the contracted end having an open housing at one side and contiguous to a closed housing communicating with the interior of the receptacle, a valve operating in said housings, a force pipe connected to the bellows and communicating with the contracted end of the receptacle, and means for operating the feed wheel, substantially as described.

5. In a machine for distributing insect powder, the combination of a bellows, a receptacle secured thereto and having an open upper end, a valve commanding said end, a serrated feed wheel within the receptacle and adjacent to the valve and having one end of its axis extended beyond the receptacle, a ratchet wheel fixed to the said axis and outside of the receptacle, a link loosely mounted on the extended axis, a dog on the link and operating with the ratchet wheel, and means for swinging the link, substantially as described.

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