A. McWHORTER.

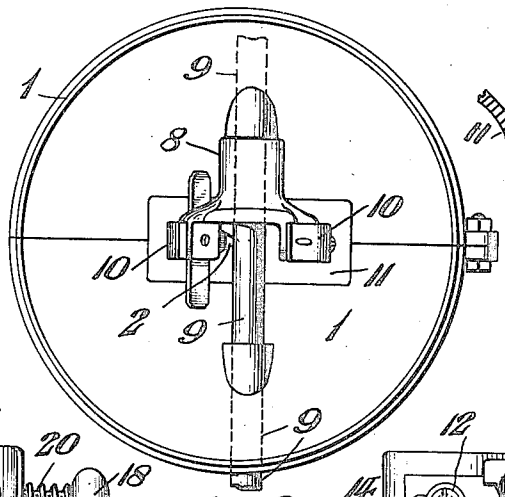
POISON DISTRIBUTER.

APPLICATION FILED AUG. 24, 1916.

1,229,994.

Patented June 12, 1917.

Fig. 1.



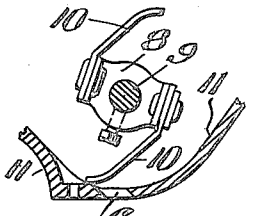


Fig. 2.

Fig. 3.

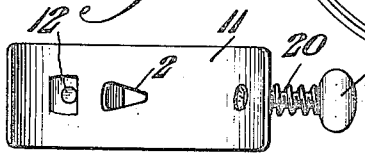


Fig. 4.

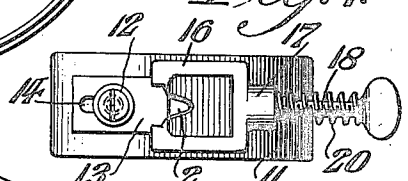
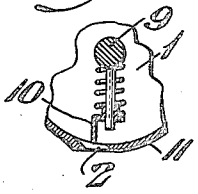


Fig. 5.



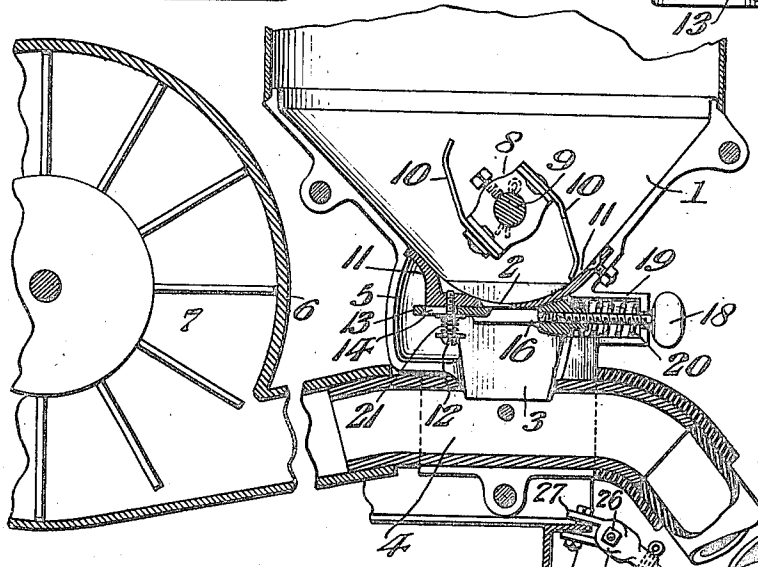


Fig. 6.



Fig. 7.



WITNESSES

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POISON-DISTRIBUTER.

1,229,994. Specification of Letters Patent. Patented June 12, 1917.

Application filed August 24, 1916. Serial No. 116,639.

To all whom it may concern:

Be it known that I, ALLEN McWHORTER, a citizen of the United States, residing at Riverton, county of Burlington, State of New Jersey, have invented a new and useful Poison-Distributer, of which the following is a specification.

My invention consists of improvements in a device for distributing poison on plants, etc., embodying novel wipers in the supply hopper of the device for effectively discharging the powder from said hopper and directing it unfailingly into a conveyer leading to the plants, etc., while also preventing clogging of the hopper especially at its discharge or exit.

The invention is satisfactorily illustrated in the accompanying drawing but the important instrumentalities thereof may be varied, as long as they are included in the scope of the claims.

Figure 1 represents a top plan view of the portion of a poison distributer embodying my invention.

Fig. 2 represents a vertical section thereof.

Fig. 3 represents a top plan view of a base plate in the bottom of the lower portion of the hopper, the same showing a portion of the valve below through a tapering discharge opening in said plate, including also the spring engaged operating screw of said valve.

Fig. 4 represents a bottom plan view of said valve, and the operating mechanism therefor, together with a bottom plan view of the base plate in the lower portion of the hopper with which said valve is movably connected.

Figs. 5, 6 and 7 represent sections of modifications of the wipers employed.

Fig. 8 designates a view of portions of Fig. 2 showing the wipers in different positions from those in said figure.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings.

1 designates the lower portion of the hopper of the device, the same being adapted to be supplied with poison in powdered form to be distributed or blown upon plants, etc., for a purpose well known. In a plate comprising the bottom or base of said portion is the opening or port 2 which comprises the outlet or discharge of said hopper.

Depending from said base plate is the spout 3 which is in communication with said port and also with the conveyer or conveyer pipe 4 which is secured to the adjacent casting 5 of the frame of the device, said conveyer being connected with the casing 6 of the fan or blower 7 which latter is adapted to receive motion from any suitable member of the running gear of the device which feature of itself is well known in the art.

Within the hopper is the hub or head 8 which is secured to the rotatable shaft 9, the latter being suitably mounted on the sides of said hopper and adapted to receive motion from any suitable member of the running gear of the device which feature also is well known in the art.

Connected with opposite sides of said head 8 are the fingers or wipers 10 formed of resilient plates of steel or other suitable metal or material adapted to rotate within the lower portion of the hopper and have their outer edges ride on the bottom of the same and consequently sweep over the port 2 thereof. On the underside of said bottom of the hopper is the base 11 on which the lower portion of the hopper is seated, said base having connected with it by the screw 12, the valve 13, which is composed of a plate in which is a longitudinally extending slot 14, said screw 12 passing through the latter into said base 11 whereby said valve is capable of receiving sliding motions and so cover and uncover, more or less, of the port 2 and thereby adjust the extent of discharge of the powder from the hopper through the spout 3 into the conveyer 4 which latter is provided with the usual pliable nozzle 15 by which the powder is directed to the plant, etc., on which it is blown, said nozzle being adjustably supported on the frame of the device for evident purposes.

The valve 13 is connected with the open frame 16 whose position is below the port 2 of the hopper 1, so that the powder may pass freely from the hopper through said port and said frame into the conveyer 4. One side of said frame 16 is provided with the boss 17 which is interiorly threaded for engagement of the screw 18 which is fitted on the outer end of the sleeve 19, the latter being secured to the base 11 and adapted to contain said screw 18 and the spring 20, which spring is adapted to bear against said end of the sleeve 19 and the adjacent portion of the boss 17.

By means of the spring 20 and screw 18 the valve 13 may be moved in opposite di-

rections and so adjusted relatively to the outlet opening or port of the hopper for discharging the proper quantity of powder, as has been stated.

It will be seen that when the head 8 is rotated the outer end of a wiper rides successively on the bottom wall of the hopper formed of the base 11 in which the port 2 exists close on the wall of said port, and as the wiper drags from said head its outer end now its lower end, see Fig. 8, pushes the powder in front of it and so sweeps it to the port 2 into which it falls so that it is directed into the spout 3 and from thence into the conveyer 4 whereby it is blown in streams to the plants, etc. Should there be any packing of the powder on the base 11 adjacent to the port, the end of the wiper owing to its resilient nature and the elbow on said end will give and rise without straining or fracturing the wiper. Then the wiper crosses the port 2, passes the same and begins to rise in the hopper, agitating the powder therein preventing packing of the same.

On the screw 12 are washers interposed between which is the spring 21 which serves to hold the valve 13 with sufficient friction and closeness properly on its seat on the underside of the base 11 and prevent clogging of the valve with said seat. Furthermore as said valve 13 is adjustable on its seat on the base 11 and so made movable and wearing thereon, and as the device runs over rough ground, there are shaking and guiding actions of the valve and valve seat one on the other, and as it is important to hold the valve on its seat to prevent the powder from entering between the valve and seat and clogging the same and yet allow motions of the valve for adjusting the same relatively to the required degree of opening of the port 2 which a tight or rigid joint would not accomplish, I employ the spring 21 which serves to press and hold up the valve resiliently on its seat and allow for lost motion of the former.

Attention is directed to the fact that the port 2 is of tapering form, in the present case, from left to right, as shown in Figs. 3 and 4, and the wipers are considerably wider than the widest end of said port, see Fig. 1, so that as the wipers turn from left to right, they fully sweep the tapering side walls of said port, allowing a large volume of powder to drop through the wide part of the port and gradually reducing the amount of the same so dropped owing to the quick cut-off of the discharge powder occasioned by the tapering form of the port and the width of the wiper, and the lateral pushing of the powder from the narrow sides of the port as the end of the wiper scrapes it from the walls of said sides.

In Figs. 4, 5 and 6 I show forms of wipers 10 different from those in Fig. 1 without, however, producing different results from those stated. The adjustment of the discharge nozzle 15 is accomplished by means of the shackle 22 which embraces said nozzle, the rod 23 which is adjustable to said shackle by the screw 24, and the knuckle 25 whose members are jointed by the screw 26, one member being connected with the upper end of said rod, and the other member is connected with the clamp 27, the latter being bolted to the adjacent portion of the frame of the device by the bolt 28, and thus the nozzle may be moved in various directions for purpose of adjustment and then retained in its adjusted position.

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

1. In a poison distributer, a supply member, the base thereof having therein an exit port, a wiper in said member, a head adapted to carry said wiper, means for rotating said head, said wiper being formed of a plate of suitable resilient material and adapted to drag from said head over the wall of the port with its outer end portion following the body of the wiper, said end portion having an elbow thereon at the terminal of the plate.

2. In a poison distributer, a supply member, the base thereof having therein an exit port, a wiper plate of resilient material in said member, and means for carrying and rotating the latter adapted to ride on said base over the wall of said port and over the latter, said port being of tapering form in the direction of the movement of the wiper thereover, and said wiper being of greater width than the widest portion of said port.

3. In a poison distributer, a supply member, a wiper therein, means for rotating the latter, the bottom of said member having therein an exit-port over which said wiper is adapted to ride, a valve on the device for said port, means for operating said valve in opposite directions to adjust the extent of discharge of the poison from said member and means for resiliently connecting the frame of said valve with an adjacent portion of said supply member.

4. In a poison distributer, a supply member, a resilient wiper therein, means for rotating the latter, said member having in its bottom an exit-port, a valve for said port, said valve having an opening therethrough in communication with said port, and means on the frame of the device for operating said valve in opposite directions to adjust the extent of discharge of poison from said member said means for operating the valve consisting of a screw which is

fitted to the frame of the valve, a sleeve on the adjacent portion of said supply member, said screw being mounted on an end wall of said sleeve, and a resilient member which bears against the frame of the valve and an opposite portion of said sleeve.

5. In a poison distributer, a supply member, the same having in its bottom an exit port, a discharge nozzle on the frame of the device in communication with said port, and means for adjusting the direction of said nozzle, said means consisting of a shackle on said nozzle, a knuckle, a rod connectible with said shackle and a member of said knuckle, the other member of the latter being connectible with the frame of the device and tightening members for said rod and knuckle.

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Witnesses:
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