

(No Model.)

L. W. TURNER.  
INSECT POWDER DUSTER.

No. 539,102.

Patented May 14, 1895.

Fig. 1.

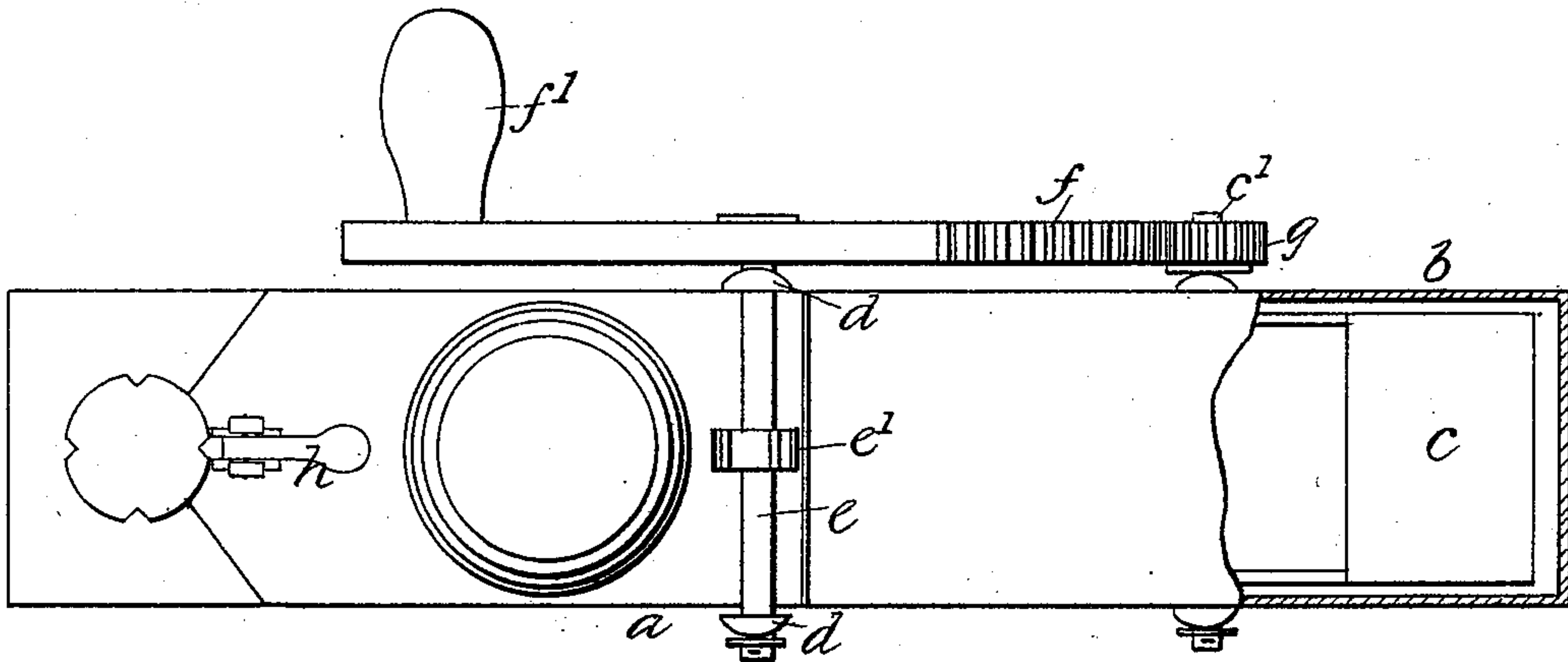


Fig. 3.

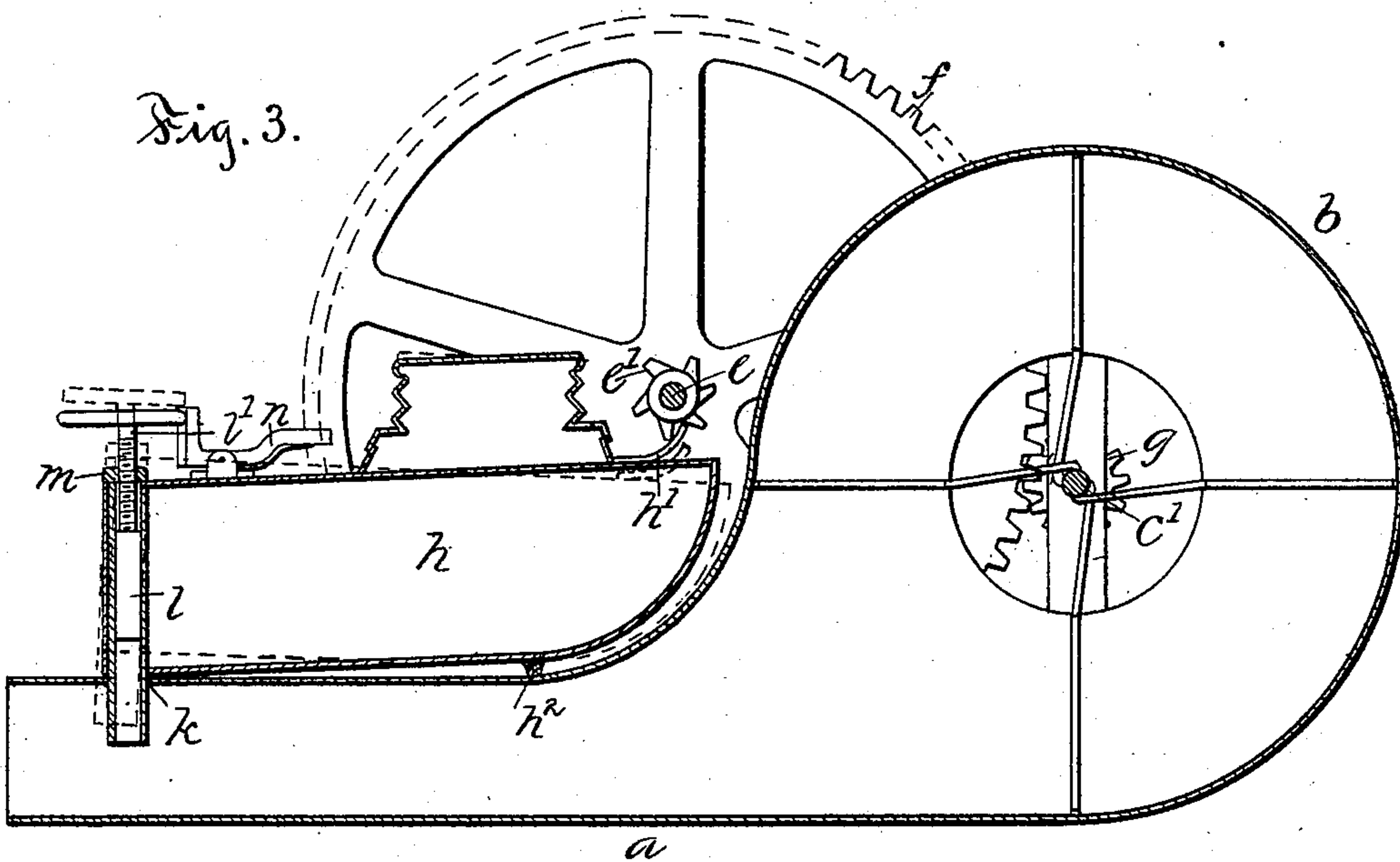
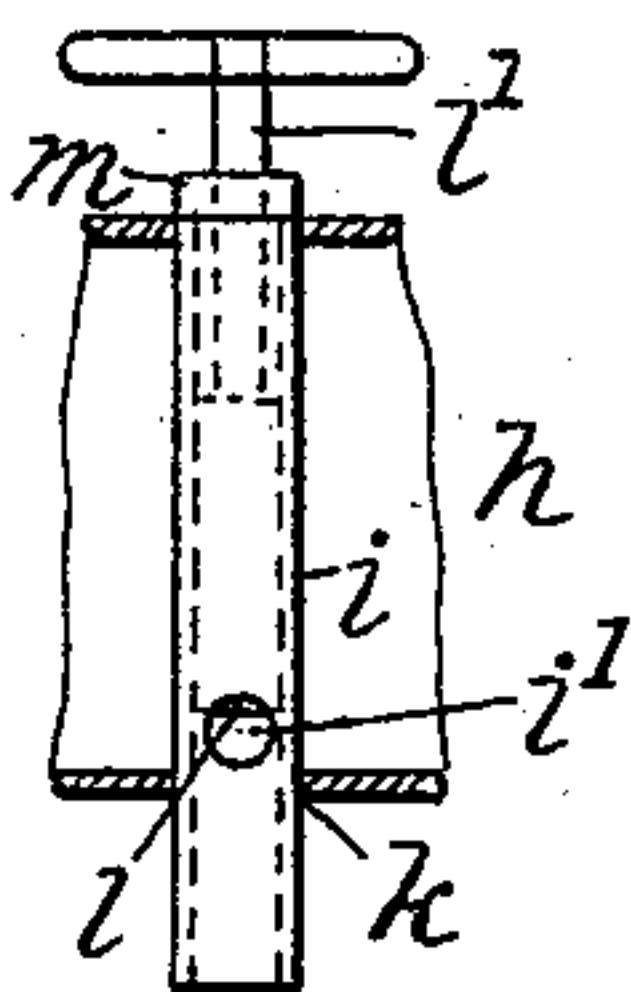


Fig. 2.



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# UNITED STATES PATENT OFFICE.

LEWIS W. TURNER, OF YALESVILLE, CONNECTICUT.

## INSECT-POWDER DUSTER.

SPECIFICATION forming part of Letters Patent No. 539,102, dated May 14, 1895.

Application filed March 15, 1895. Serial No. 541,883. (No model.)

### *To all whom it may concern:*

Be it known that I, LEWIS W. TURNER, a citizen of the United States, and a resident of Yalesville, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Insect-Powder Distributers, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

My invention relates to the class of machines or devices that are used for distributing paris green or like insect powder, over plants by the use of a blast of air, the device being easily carried and operated by hand, and the object of my invention is to provide a machine of this class that shall be simple in construction and direct in action having a minimum number of parts liable to be injured or thrown out of operation in the ordinary rough usage to which the machine may be subjected.

To this end my invention consists in the combination of the several parts making up the blast device and the feed reservoir and in the details of such parts as more particularly hereinafter described and pointed out in the claims:

Referring to the drawings, Figure 1 is a detail top view of a machine embodying my invention, with parts broken away to show construction. Fig. 2 is a detail side view of the outlet-tube. Fig. 3 is a detail view, in central vertical section, through the machine, showing the powder-reservoir in its upper position.

In the accompanying drawings the letter *a* denotes the body part of the machine which is a tubular box like structure having at one end a wheel case *b* which is of cylindrical form to inclose the fan *c*. The tubular extension from this wheel case is preferably arranged with its bottom wall at a tangent to the wheel case so as to receive the direct current of air from the fan which is driven at a high rate of speed by means of gearing.

Standards *d* are secured to the body part of the machine in convenient position to support a shaft *e* on which is fixed a gear wheel *f*, the teeth of which mesh with the teeth of a pinion or small gear *g* fast to the shaft *c'* of the fan *c*. This fan is mounted within the wheel case on the shaft *c'* the bearings of which are formed in or secured to the sides

of the wheel case. The main wheel is provided with a handle *f'* by means of which it can be turned at any desired rate of speed. A receiver *h* of a size and shape which enables it to be mounted on the top of the tubular part of the body is located between the standards *d* which support the bearings for the main shaft *e*, which standards serve to hold the reservoir against lateral movement, and the end of the reservoir extends underneath the main shaft *e* and has a lug *h'* which is in the path of movement of the trip wheel *e'* on the main shaft. This trip wheel has as many leaves or arms as desired, and by contact with the lug on the reservoir jolts the latter as the main shaft is turned. The bottom of the reservoir is preferably provided with a ridge *h<sup>2</sup>* which lifts it a desired distance above the surface of the tubular body part, and the object of this jolting of the reservoir is to agitate the powder with which the reservoir is filled and cause it to flow in the direction of the outlet tube of the reservoir.

The end of the reservoir is provided with a tubular outlet *i*, the tube projecting beyond the reservoir and through an opening *k* in the tubular extension of the body part so that powder flowing from the reservoir is discharged into the tubular body part near its mouth. The outlet has an opening *j'* in its wall which is adapted to be closed by a valve *l* which is adjustable within the tube. In order to effect this adjustment I prefer to have the valve stem *l'* threaded and to extend it through a nut *m* which is secured to the reservoir, the upper end of the stem bearing a handle by means of which the valve can be rotated. This handle may consist of a notched disk as shown, a spring lock *n* being secured on the reservoir in position to engage the notches so as to prevent the accidental movement of the valve. When it is desired to change the position of the valve the bolt is thrown out of engagement with the notch in the disk; the stem rotated, the valve placed in proper position, and the bolt again allowed to engage a notch in the lock device. It is obvious that other means may be used for securing this lengthwise adjustment of the valve, and I do not limit myself to the specific means described.

By means of the construction of parts de-



scribed the tilting or rocking reservoir is supported on the body part of the machine and a jolting movement given to it by the rotation of the main shaft which shakes and distributes the powder and causes it to be discharged without the clogging which has been a serious objection to other forms of machines of this class in which the feeding of the powder has been effected by a stirrer or agitator located within the mass.

It is obvious that other means of supporting the powder reservoir on the box so that a tilting movement may be imparted to it may be employed and also that other means of tilting or jolting the box may be used, and I do not limit myself to the specific means of effecting this result although it is preferred as a simple, cheap and practical means of securing the object.

The body part of the machine is provided with suitable rings or attaching points by means of which a strap or cord can be used to support the machine as a whole from the shoulders of the operator. A tubular extension of the body part may also be provided and this may be of any desired length or special form for directing the flow of the powder beyond the point where it is fed into the discharge tube of the apparatus.

The body part of the machine and of the reservoir is made preferably of thin sheet metal and all of the other parts of the device are also of metal cast or formed to shape and when so constructed the device is light, strong, cannot be warped out of shape, and is not liable to injury by exposure to the weather as is the case in prior structures having the sides and other parts of wood.

I claim as my invention—

1. In combination with a box having a wheel case and discharge tube therefrom, a fan mounted within the wheel case, mechanism for rotating the fan, a reservoir for powder loosely mounted on the body part with a discharge outlet communicating with a tube extending

into the discharge tube of the machine, and mechanism for jolting the reservoir whereby the powder is caused to flow toward and be discharged from the outlet of the reservoir, all substantially as described.

2. In combination in a machine for distributing powder, a box consisting of a wheel case and discharge tube therefrom, a rotary fan mounted within the wheel case and having a gear wheel fast to its shaft, a main shaft mounted in bearings on the outside of the case, a gear wheel fast to the shaft and engaging the gear wheel on the fan shaft, a trip arm borne on the shaft, a reservoir for the powder loosely mounted on the case with a discharge outlet communicating with the tube extending into the discharge tube of the case, an adjustable valve adapted to close the discharge outlet, and a lug on the reservoir arranged in the path of movement of the trip device on the shaft, all substantially as described.

3. In combination in a machine for distributing powder, a box consisting of a wheel case and discharge tube therefrom, a rotary fan mounted within the wheel case and having a gear wheel fast to its shaft, a main shaft mounted in standards fast to the case and bearing a cog wheel engaging the cog wheel on the fan shaft, a reservoir for powder loosely mounted between the standards and supported on its under surface by a ridge which adapts the reservoir to receive a tilting motion, a tube projecting from the reservoir through an opening in the wall of the discharge tube of the machine, an adjustable valve supported within the tube and connected to an adjusting disk, and a lock device whereby the disk is held against rotation, all substantially as described.

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Witnesses:

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