

(No Model.)

G. R. & J. W. BROWN.

MACHINE FOR DISTRIBUTING POISON ON PLANTS.

No. 423,121.

Patented Mar. 11, 1890.

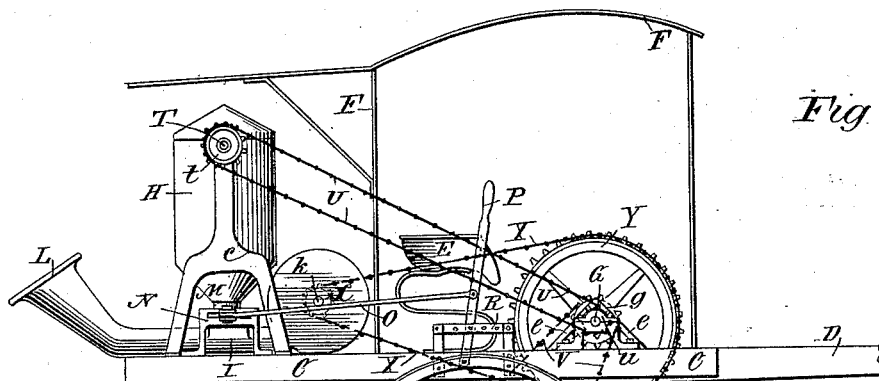


Fig. 1.

Fig. 2.

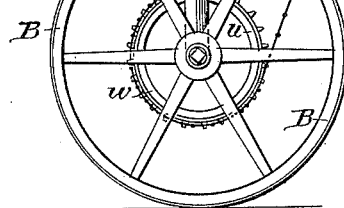
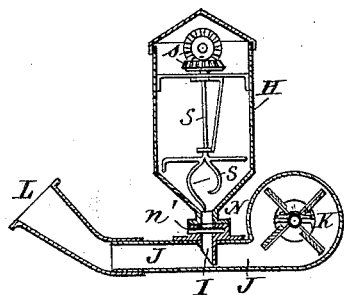


Fig. 3.

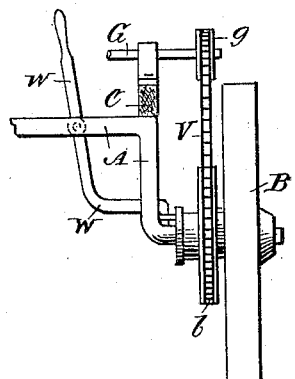
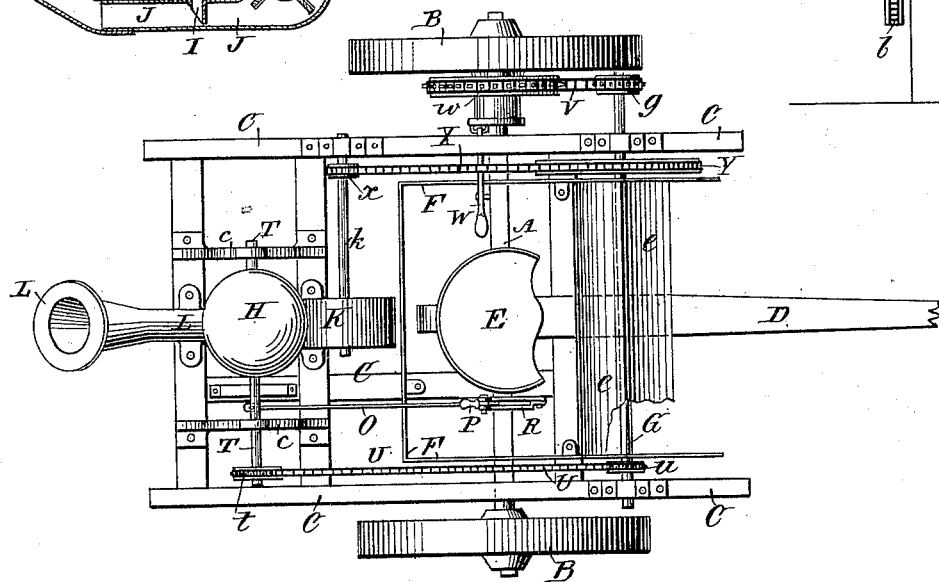


Fig. 4.



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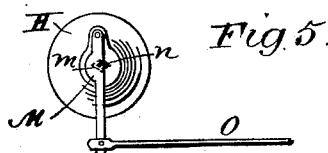


Fig. 5.

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# UNITED STATES PATENT OFFICE.

GEORGE R. BROWN AND JOHN W. BROWN, OF PLEDGER, TEXAS.

## MACHINE FOR DISTRIBUTING POISON ON PLANTS.

SPECIFICATION forming part of Letters Patent No. 423,121, dated March 11, 1890.

Application filed November 27, 1889. Serial No. 331,745. (No model.)

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

Be it known that we, GEORGE R. BROWN and JOHN W. BROWN, of Pledger, in the county of Matagorda and State of Texas, have invented a new and Improved Machine for Distributing Poison on Plants, of which the following is a full, clear, and exact description.

Our invention relates to a machine for distributing or dusting poisonous powders onto growing plants—such as cotton or potatoes—to rid them of destructive insects; and the invention has for its object to provide a simple and efficient machine which embodies in its construction improvements on a machine of like general character for which Letters Patent No. 397,626 were granted to us February 12, 1889.

The invention consists in certain novel features of construction and combinations of parts of the poison-distributor, all as herein-after described and claimed.

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

Figure 1 is a side elevation of our improved poison-distributor. Fig. 2 is a detail longitudinal vertical section through the poison-hopper, the blast-fan, and the poison-discharge pipe. Fig. 3 is a detail rear view of part of the axle and wheel thereon and the fan-driving mechanism. Fig. 4 is a plan view of the machine, partly broken away; and Fig. 5 is a detail bottom plan view of the poison-hopper discharge-valve.

The axle A of the sulky which supports the operating parts of the machine is bent upward or arched at the center to pass over plants onto which poison is to be dusted or thrown to clear them of insects. On the axle are placed opposite wheels B B, which sustain the axle and a bed-frame or platform C, held thereto at suitable height.

A tongue D provides for hitching draft animals to the machine, and a seat E is provided on the tongue or frame for the driver or attendant.

A suitable frame F, of rods covered by any proper fabric, protects the driver from the poison, which is discharged rearward from apparatus presently described.

To the frame and tongue is fixed a transverse foot-board *e* for the driver on the seat E, this board being preferably made of two pieces fastened at about right angles to make an inclosing-cover for the main counter-shaft G, operated from one of the ground-wheels and imparting motion to the fan-blast and poison-agitator mechanisms, in a manner presently explained.

At the rear end of the machine is supported by any suitably-arranged frame a central hopper H, which preferably has a removable top, allowing poison to be charged into it, and also has a downwardly-tapering bottom, which opens into a discharge-pipe I, which enters the top of an air-blast pipe J, which at its forward end opens into the casing of a rotatory air-blast fan K. At its rear end the pipe I is fitted with a poison-discharge nozzle-L, which may either be fixed in the position shown, to discharge the poison rearward and upward, or may be made adjustable axially on the pipe to allow discharge of the poison downward or to either side, at the will of the attendant.

It will be noticed that the lower end of the hopper-pipe I enters the air-blast pipe J nearly to its bottom, and that the rear part of the pipe I is cut away at an angle of about forty-five degrees, (more or less,) in order to discharge the poison from the hopper toward the rear nozzle of the blast-pipe and prevent the poison clogging or filling up this pipe, as it would be more liable to do did the pipe I open squarely into the top of the blast-pipe. The pipe I is considerably smaller than the air-blast pipe and does not harmfully obstruct the air-blast from the fan to and through the discharge-nozzle.

Discharge of the paris-green or other poison from the hopper is controlled by means of a valve M, which is fitted in a slot *n'* of a casing N, interposed in the length of the poison-discharge pipe I, leading from the hopper. The casing N is provided with an angularly-formed slot *n*, and the valve M has an angular notch *m*, which registers with the slot *n* more or less fully, accordingly as the valve, which is pivoted at one end to the case N, is actuated by a rod O, connected to its outer end and leading to a lever P, which is ful-

crumed to the machine-frame and extends upward in reach of the attendant on the seat E. To the machine-frame is also fixed a catch-plate R, in which the valve-operating lever is guided, and which has a series of holes to receive a pin, which may pass also through the lever or which the lever may strike to hold the valve at any required open adjustment to control the discharge of poison from the hopper or to lock the valve closed to cut off the supply to the blast-pipe.

Within the hopper there is a suitable agitator S, which is rotated by bevel-gears s from a shaft T, which is journaled in suitable standards c c on the machine-frame C and carries a sprocket-wheel t, from which a chain belt U runs to a sprocket-wheel u on the front counter-shaft G, above named, the latter shaft being rotated from one wheel B of the machine by means of a driving-chain V, which passes from a clutched sprocket-wheel w to a sprocket-wheel g on the counter-shaft.

A lever W, fulcrumed to the axle A, or it may be to the machine-frame, and in convenient reach of the driver, is connected with the hub of the wheel w in a manner to allow disengagement of a clutch on this wheel from a clutch on the hub of the main wheel B to allow forward or backward travel of the machine without operating the counter-shaft.

The air-blast fan K is driven by a chain belt X, leading from a large sprocket-wheel Y on the counter-shaft G to a small sprocket-wheel x on the fan-shaft k, as clearly shown in the drawings.

With a machine thus constructed it is obvious that when the hopper is charged with poison and the wheel w is clutched to the adjacent main wheel B to operate the counter-shaft, and the driver operates the lever P to open the discharge-orifice n of the hopper more or less, the poison in the hopper will be thoroughly stirred and loosened by the agitator S, driven by the belt U, and will feed down into the blast-pipe, from which it will be blown out through the pipe-nozzle L by the fan K, operated by the belt X, and the poison will gradually settle in a fine dust all over a row of plants over which the machine is driven to kill insects or worms or other pests and assure proper growth of the plants.

The herein-described machine has decided advantages over the poison-distributor for which United States Letters Patent No. 397,626 were granted to us February 12, 1889, in the following respects, viz: The feed or discharge of the poison from the hopper is controlled by means of a lever operative by the driver or attendant from his seat at the front of the machine and provided with a latch or stop device; also, in the extension of the poison-feed pipe down into the blast-pipe to prevent choking of the latter and give bet-

ter distribution of the poison; and, also, in the arrangement of the agitator-driving gearing s within the hopper, where it is fully protected from the weather, and, finally, in the arrangement of the counter-shaft and wheel and belt-gearing therefrom to the agitator and air-blast fan to secure more efficient operation of the machine.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a poison-distributor, the combination of a poison-hopper, a communicating air and discharge pipe, and a fan giving air-blast through said pipe, the hopper-outlet comprising a pipe or nozzle projecting into the air-blast pipe, substantially as described, for the purposes set forth.

2. In a poison-distributor, the combination of a poison-hopper, a communicating air and discharge pipe, and a fan giving air-blast through said pipe, the hopper-outlet comprising a pipe or nozzle projecting into the air-blast pipe, and having an outlet toward the blast-pipe nozzle, substantially as described, for the purposes set forth.

3. In a poison-distributor, the combination, with a poison-hopper, a communicating air and discharge pipe, and a fan giving air-blast through said pipe, of an agitator in the hopper and a shaft and bevel-gearing driving said agitator, said gearing protected within the hopper, substantially as herein set forth.

4. In a poison-distributor, the combination, with a poison-hopper and a communicating air and discharge pipe, of a valve in the hopper-outlet, a rod connected to said valve, and a lever connected to the rod and in reach of the attendant for controlling the valve, substantially as herein set forth.

5. In a poison-distributor, the combination, with a poison-hopper and a communicating air and discharge pipe, of a valve in the hopper-outlet, a rod connected to said valve, a lever controlling the rod and valve and in reach of the attendant, and a latch or stop device for said lever, substantially as herein set forth.

6. In a poison-distributor, the combination, with a wheeled frame, a counter-shaft thereon driven from the wheels, a poison-hopper, an air and discharge pipe communicating therewith, a fan giving air-blast through said pipe, and an agitator in the poison-hopper, of wheel and belt-gearing operating the fan and agitator from the counter-shaft on the frame, substantially as described, for the purposes set forth.

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