R. F. NORTH.

SPRAYING MACHINE.

APPLICATION FILED MAY 6, 1913.

1,091,952.

Patented Mar. 31, 1914.

2 SHEETS—SHEET 1.

FIG. 1.

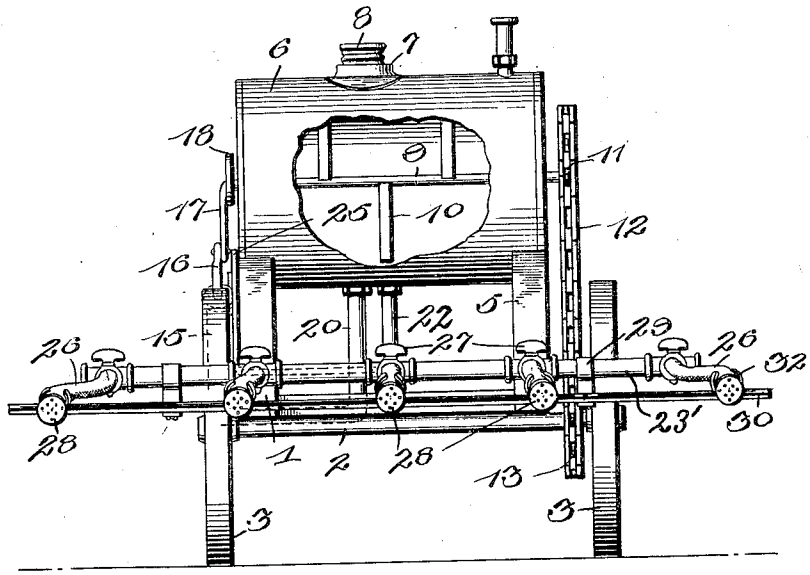
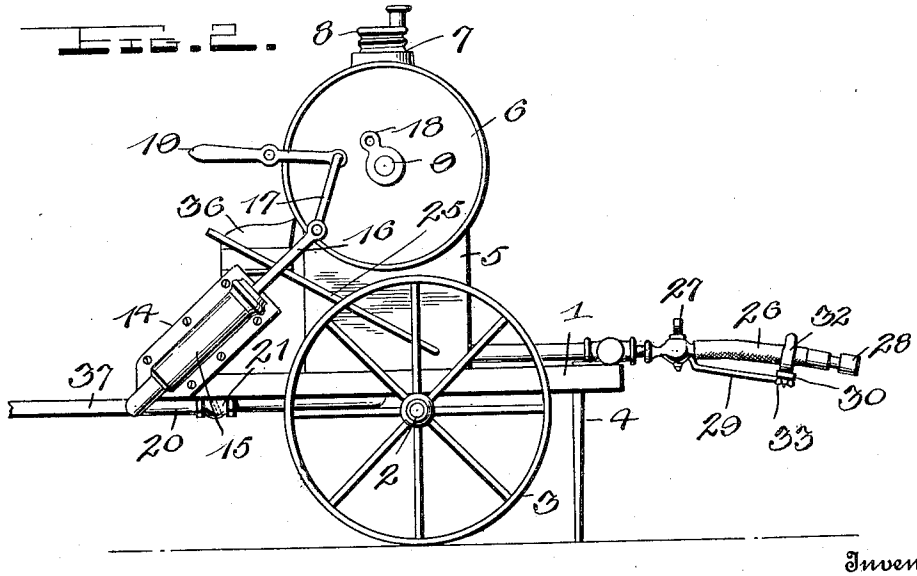


FIG. 2.



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2 SHEETS—SHEET 2.

FIG. 3.

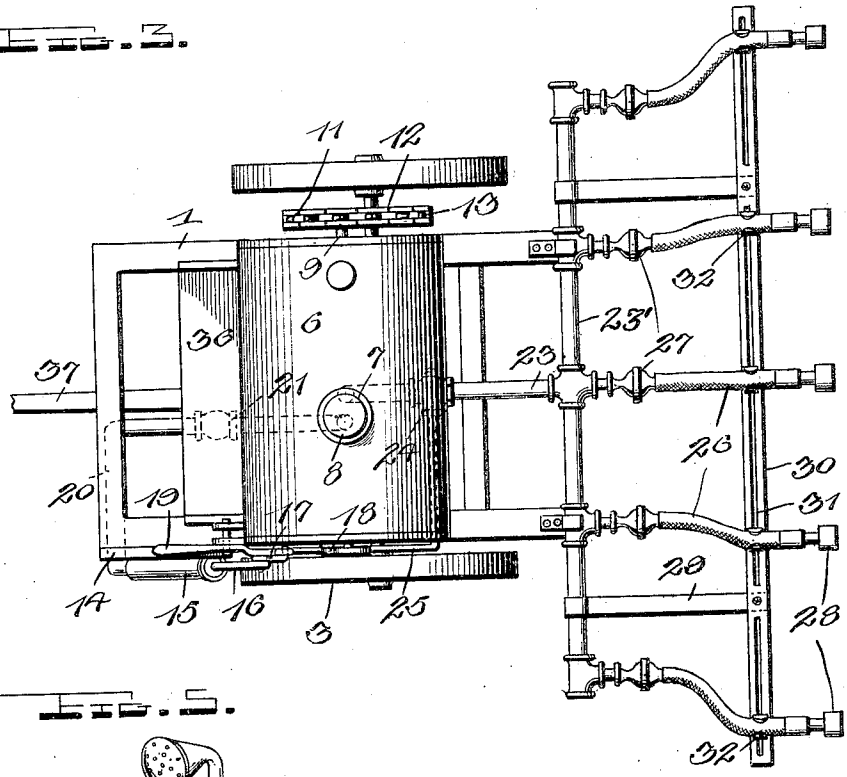


FIG. 5.

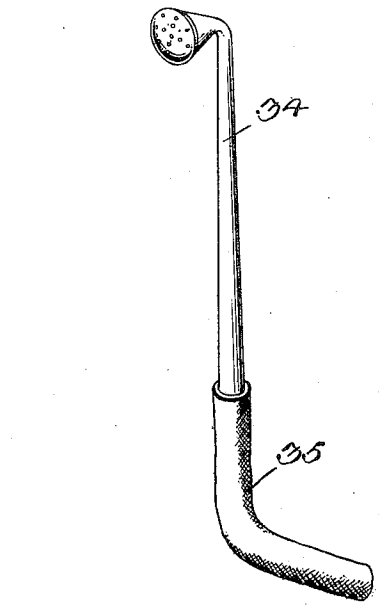
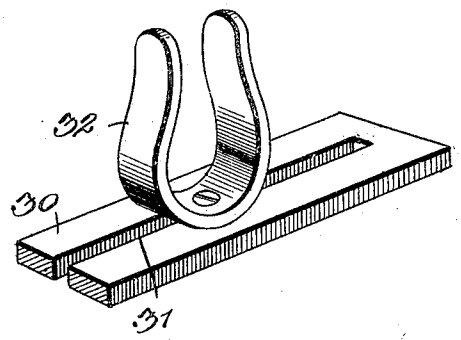


FIG. 6.



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UNITED STATES PATENT OFFICE.

RAYMOND F. NORTH, OF GLENDIVE, MONTANA.

SPRAYING-MACHINE.

1,091,952. Specification of Letters Patent. Patented Mar. 31, 1914.

Application filed May 6, 1913. Serial No. 765,913.

To all whom it may concern:

Be it known that I, RAYMOND F. NORTH, a citizen of the United States, residing at Glendive, in the county of Dawson and State of Montana, have invented new and useful Improvements in Spraying-Machines, of which the following is a specification.

The invention relates generally to an improvement in spraying machines and particularly to certain details of construction designed to improve the efficiency and operation of the construction covered by United States Letters Patent #1,014,507, granted to me January 9, 1912.

The main object of the present invention is the provision of a pressure device adapted for hand or automatic operation to direct the liquid through the spraying tubes under pressure.

The invention in its preferred form of details will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a rear elevation of the improved machine. Fig. 2 is a side elevation thereof. Fig. 3 is a plan. Fig. 4 is a perspective of the detail illustrating the adjusting means for the spraying tubes. Fig. 5 is a perspective of the auxiliary spraying nozzle.

In the accompanying drawings, the machine is seen as comprised of a main frame 1 preferably of rectangular outline mounted upon an axle 2 provided with ground wheels 3. Foldable supports or legs 4 are connected to the frame, whereby the latter may be held against tilting on the axle when at rest if desired. Supported upon blocks 5 fixed upon the longitudinal side bars of the main frame is a barrel like reservoir 6 in which the spraying solution is carried in bulk, being introduced therein through filling opening 7 closed by a screw cap 8, the connection of the cap with the wall of the frame opening being air-tight. The shaft 9 extends longitudinally of the reservoir and within the latter is provided with beaters or stirrers 10 the shaft beyond one end of the reservoir being provided with a sprocket 11 designed to be operated through the medium of a chain 12 from the sprocket 13 fixed upon the axle 2. By means of the beaters the solution is continuously agitated during the travel of the machine thus providing for the use of solid or powdered insecticides which are mixed with the proper solution of the water during the travel of the machine.

Secured to the bar 14 rising from the main frame is a pressure pump 15, the upper terminal of the piston rod 16 provided with a link 17 designed to be removably connected with the crank 18 formed upon the adjacent end of the shaft 9, this construction providing for the automatic operation of the pressure pump during the travel of the machine. Supported on the reservoir adjacent the pump is a hand lever 19 the relatively inner end of which is designed to be removably connected to the free terminal of the link 17 whereby when the machine is at rest or in other similar situations the pump may be operated by hand. Pressure pipe 20 establishes communication between the pump and reservoir, and the latter is provided with a leaf valve 21 for the usual purposes. An outlet pipe 22 leads from the bottom or lower point of the reservoir to a rearwardly extending pipe 23, said pipe 23 being in communication with a laterally extending distributing pipe 23′. A valve 24, operable through the medium of a hand lever 25, is arranged in the pipe 23 to control the outlet flow. The distributing pipe is in communication with a plurality of spraying pipe sections 26, a valve 27 controlling the delivery of the fluid from the distributing pipe to each spraying pipe. The spraying devices are of flexible material for the greater portion of their lengths and are terminally provided with spraying heads 28. The distributing pipe is supported directly upon the main frame, and in turn supports the adjustable spray pipe member through the medium of straps 29. The member comprises an elongated bar 30 longitudinally slotted to provide a plurality of slots 31 in each of which is slidably mounted a U-shaped holder 32, the arms of which are designed to frictionally receive the particular spraying pipe between them. By means of clamp nuts 33 the holders 32 may be adjusted to any position longitudinally of the slot in which they are mounted and hence any desired relative adjustments of the spraying pipes may be had to direct the fluid as may be desired.

An auxiliary spraying nozzle 34 is designed for use as an extension or any particular spraying tube, said nozzle having flexible section 35 designed to be connected

to any desired spraying tube so that trees, plants, or the like above or beyond the reach of the ordinary spraying tube may be conveniently treated. The spraying elements extend from the rear of the reservoir, and in advance thereof I arrange the driver's seat 36 supported directly on the main frame and located adjacent to the levers 19 and 25. The draft tongue 37 is secured in any desired way to the main frame.

In use the insecticide is placed in the reservoir and in the travel of the machine the pressure pump is operated to place said insecticide under pressure within the reservoir. By controlling the valves 24 and 27 the insecticide may be directed to any particular spraying tube or tubes as desired. If the machine is at a standstill and pressure within the reservoir falls below that desired it is only necessary to disconnect the link 17 from the crank and connect it to the handle 19, giving the operator control of the pressure device and permitting the manual operation of the latter to provide the desired pressure.

What is claimed is:—

A spraying machine including a reservoir, a spraying device in communication therewith, a pump in communication with the reservoir and including a piston and piston rod, a shaft extending longitudinally of the reservoir and operating during the movement of the machine, a crank secured on one end of the shaft beyond the reservoir, a lever mounted on the reservoir and adapted for hand operation, and a link projecting from the piston rod and designed for direct connection to the crank or to the hand lever, whereby the pump may be automatically or manually operated.

In testimony whereof I affix my signature in presence of two witnesses.

RAYMOND F. NORTH.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."