

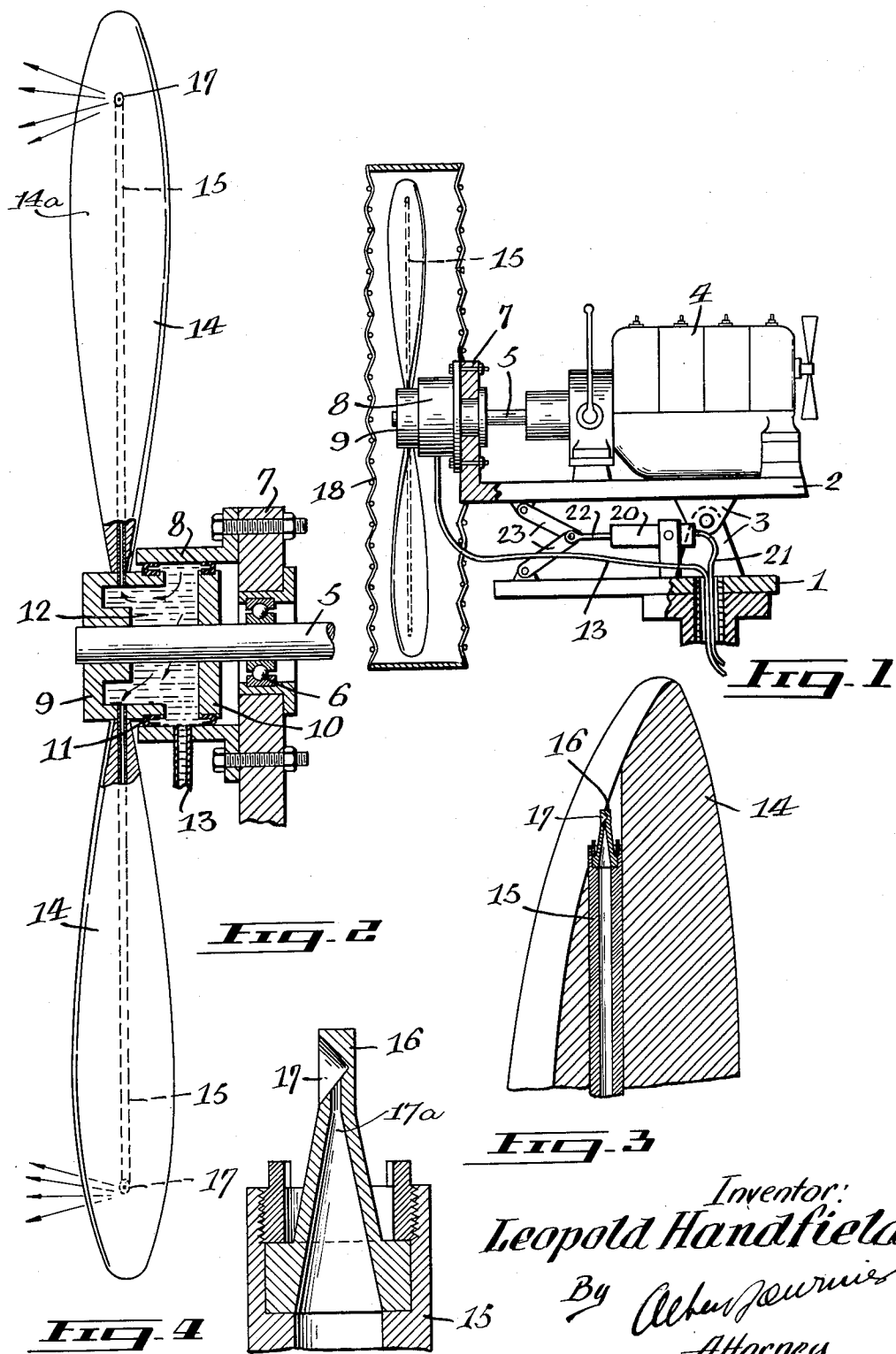
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2,750,708

EJECTOR

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2,750,708

EJECTOR

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2 Claims. (Cl. 43—147)

The present invention pertains to a novel ejector, especially for discharging insecticide on trees and plants, spraying insecticide powder, feeding and fertilizing compositions, pollens, and similar materials.

The fluid ejection operation is commonly performed by a hand pump and hose. It has been found that the operator is often affected by toxic fumes, since he is close to the pump and to drainage down the hose.

The principal object of the invention is to overcome this difficulty by removing the source of fumes from the operator. Another object is to provide a relatively simple and inexpensive device for this purpose.

In the accomplishment of these objects, a propeller or fan is driven by a motor on an elevated platform. The propeller has a hollow hub, and each blade is provided with a tube forming a longitudinal passage. A fluid or powder supply pipe leads to the interior of the hub and requires no pumping of fluid or powder. As fluid or powder is discharged from the tubes by centrifugal force, the suction thus created draws fluid or powder from the source to maintain the hub filled. The propellers are also pivotally mounted in order to eject in any direction.

The invention is fully disclosed by way of example in the following description and in the accompanying drawings in which:

Figure 1 is a side elevation of the device partly in section;

Figure 2 is an enlarged section, partly in elevation;

Figure 3 is a vertical section at the tip of a blade; and

Figure 4 is a detail section of the nozzle.

Reference to these views will now be made by use of like characters which are employed to designate corresponding parts throughout.

In Figure 1 is shown a turntable platform 1 which is preferably supported in an elevated position and may be carried on a truck. A motor platform 2 is pivotally supported on the platform 1 by brackets 3 and in turn supports a suitable motor 4. The shaft 5 of the motor is supported in bearings 6 in a riser 7 on platform 2. A sleeve 8 extends from the riser and receives a hub 9 carried by shaft 5. A sealing plate 10 on the shaft is spaced from the hub 9, and both are sealed in the sleeve by rings 11.

The space between the hub 9 and plate 10 forms a chamber 12 for an insecticide supplied from a suitable reservoir through a pipe 13.

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Propeller blades 14, each having an outer face 14a, extend from the hub 9. In each blade is mounted a longitudinal tube 15 communicating with the chamber 12. At the outer end of each tube is fitted a nozzle 16 having a laterally or forwardly facing flared outlet port extending from a restricted portion 17, 17. As the propeller is rotated, it is evident that centrifugal force and suction draw fluid or powder through the pipe 13 and tubes 15 and discharge it through the outlets 17.

In this manner, trees or fields are sprayed with insecticide. No pumps are required and therefore the operator is not exposed to the toxic effects of the fluid or powder. Moreover, the fluid or powder is blown away from the operator and is expanded by the shape of the outlets 17. The propeller is enclosed in a screen cage 18.

An hydraulic cylinder 20 with intake pipe 21 is mounted on the platform 1. The piston rod 22 is pivoted to a pair of toggle links 23 which are respectively pivoted to the platforms 1 and 2. Thus, by operation of the piston in cylinder 20 the slope of platform 2 and shaft 5 may be adjusted at the pivoted brackets 3.

Although a specific embodiment of the invention has been illustrated and described, it will be understood that various alterations in the details of construction may be made without departing from the scope of the invention as indicated by the appended claims.

What I claim is:

1. An ejector comprising a shaft, a hollow hub thereon, an inlet means for said hub adapted to afford entrance of powder or fluid into the interior of said hub, propeller blades extending from said hub, each propeller blade having an outer face, a longitudinal tube in each blade communicating with the interior of said hub, the outer end of each tube being disposed in the outer face of the corresponding blade and being open to the atmosphere, and a motor for driving said shaft.

2. An ejector comprising a shaft, a hollow hub thereon, an inlet means for said hub adapted to afford entrance of powder or fluid into the interior of said hub, propeller blades extending from said hub, each propeller blade having an outer face, a longitudinal tube in each blade communicating with the interior of said hub, a nozzle in the outer end of each tube and disposed in the outer face of the corresponding blade, said nozzle having a restricted portion, and a flared portion which is externally disposed with respect to said restricted portion, and a motor for driving said shaft.

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