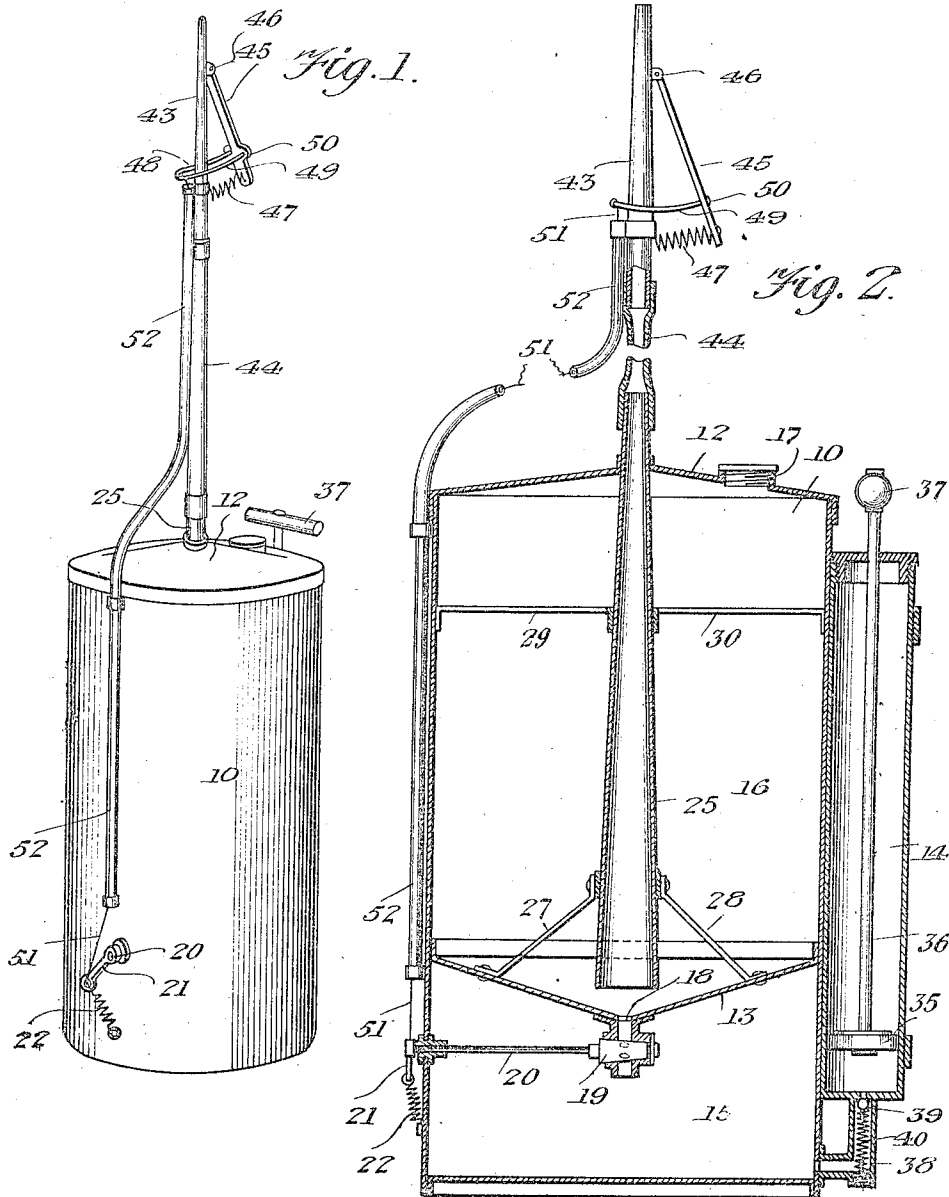


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 DEVICE FOR SPRAYING POWDER AND LIQUID.
 APPLICATION FILED JUNE 2, 1917.

1,241,437.

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DEVICE FOR SPRAYING POWDER AND LIQUID.

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Specification of Letters Patent. Patented Sept. 25, 1917.

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To all whom it may concern:

Be it known that I, JOHN DAL PIAN, a citizen of Italy, residing at Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Devices for Spraying Powder and Liquid, of which the following is a specification.

This invention relates to a device for supplying powder and liquid, and the object is to provide a certain novel construction which may be employed for spraying trees and the like, and may be used for disinfecting purposes, or for white-washing.

A further object is to provide means for receiving the powder or liquid to be sprayed and for introducing air under pressure at a point in alignment with the outlet leading to the discharge nozzle, the material to be sprayed being fed by gravity to the lower portion of the receptacle and at a point in the direct path of the air blast.

With the foregoing and other objects in view the invention consists in the novel construction and arrangement of elements hereinafter described and claimed.

In the accompanying drawings:

Figure 1 is a perspective view, and

Fig. 2 is a view in vertical section.

Devices employed for spraying purposes are usually adapted for spraying either liquid or material in the form of powder, but not ordinarily adapted for spraying either substance. It is my purpose to provide a device in which the liquid or powder is so fed into the path of the air blast that the spraying operation is equally efficient regardless of the kind of material being used.

In carrying out my invention I provide a receptacle 10 including a top 12, a bottom 13 having walls extending downwardly toward the center of said bottom, and an air pump 14 for supplying air to the lower compartment 15, which is separated from the upper compartment 16 by means of the member 13 constituting a bottom for the chamber containing material to be sprayed.

The receptacle is provided with an opening 17 through which the material may be introduced, and a member 18 is provided with an opening 18 through which air is admitted to compartment 16. Opening or inlet 18 is controlled by means of a valve 19 having a valve stem 20, and this stem is under the control of an arm 21 positioned

outside of the wall of the receptacle. Arm 21 has connection with a coil spring 22 secured to the wall of the receptacle and serving to return the arm to normal position when operated.

Within the chamber 16 I mount a feed tube 23 which extends vertically through the middle portion of the chamber and terminates at a point somewhat below the member 13 constituting the bottom of said chamber and the division wall between chambers 15 and 16. This tube 23 tapers from end to end, the greatest diameter being at the lower portion thereof. The tube is held in proper position by means of bracing members or the like designated 27, 28, 29 and 30. Compressed air from the chamber 15 is discharged through opening 18 directly below the tube 23 and the material to be sprayed is fed by gravity down the inclined bottom 13 to a position below the lower end of the tube 23 and is caused to rise within said tube, so that in the event liquid is being sprayed the level of the liquid within the tube will be substantially the same as that within the chamber 16 before the compressed air is admitted.

The pump 14 includes a cylinder, a plunger 35 operating therein, a rod 36 connected to the plunger and having connection at its upper end with a handle 37. The lower end of the cylinder is connected with chamber 15 by means of a tube 38 and a valve 39 controls the flow of air through the tube, being normally closed by the spring 40.

The tube 23 has connection at its upper end with a nozzle 43 by means of a flexible tube 44, and below the discharge end of the nozzle is an arm or operating member 45 pivoted at 46 and normally pressed outwardly at its lower end by means of a spring 47. A plurality of arms 48 and 49 are connected with the operating member 45 at the point 50 and extend on opposite sides of the nozzle, having connection with a wire 51 extending downwardly through a flexible tube 52, which is mounted in any suitable manner on the side and top of the receptacle, terminating at a point near the lower portion of chamber 16. This wire 51 therefore operates the valve 19 by means of its connection with arm 21 carried by the outer end of the valve stem.

In the use of the device, the chamber 15 is filled with air under suitable pressure by means of pump 14, the chamber 16 having

first been supplied with the material to be sprayed. Upon pressing arm or operating member 45 tension will be exerted on wire 51 by reason of the connection above described and the said wire will cause the partial rotation of the valve stem 20, thereby permitting air to pass through the inlet 18 into the chamber 16 at a point directly below the feed tube 25, thereby forcing the powder or liquid upwardly through the tube and out of the nozzle.

What is claimed is:

1. In a device of the class described, a receptacle comprising a plurality of chambers one of which is adapted to contain air under pressure and the other of which contains the material to be sprayed, said chamber last mentioned having an inlet at the bottom thereof, a valve for controlling said inlet, a feed tube within the chamber last named, said tube having its lower end open and in alinement with the aforesaid air inlet, and the bottom of the chamber being depressed below the end of the tube permitting the material to be fed by gravity to a point between the inlet and the lower end of the tube and a discharge nozzle having connection with the upper end of said tube.

2. In a device of the class described, a receptacle comprising an upper chamber for receiving the material to be sprayed, a lower chamber for containing air under pressure, air compressing means, a partition member separating said chambers and being downwardly deflected at its central portion, said central portion having an air inlet, a valve

controlling said inlet, a feed tube positioned centrally within the upper chamber and having its lower end terminating at a point immediately above the air inlet, a nozzle connected with the upper end of said tube, operating means mounted on said nozzle, and means connected therewith for controlling the valve.

3. In a device of the class described, a receptacle comprising an upper chamber for containing the material to be sprayed, a lower chamber adapted to contain air under pressure, air compressing means connected with said lower chamber, a partition member separating the chambers, said member having a depressed central portion and being provided with an air inlet at said central portion, a valve controlling the inlet, a tube extending vertically through the central portion of the upper chamber and terminating at a point above the inlet, said inlet being in alinement with the longitudinal axis of the tube, a nozzle connected with the upper end of said tube, an operating member pivoted on said nozzle, a spring controlling the position of said member, a tube extending downwardly from said nozzle, over the top of the receptacle and downwardly along the side wall of said receptacle, and a flexible device operating within said tube and having connection with said valve for controlling the position of the latter.

In testimony whereof I affix my signature.

JOHN DAL PIAN.