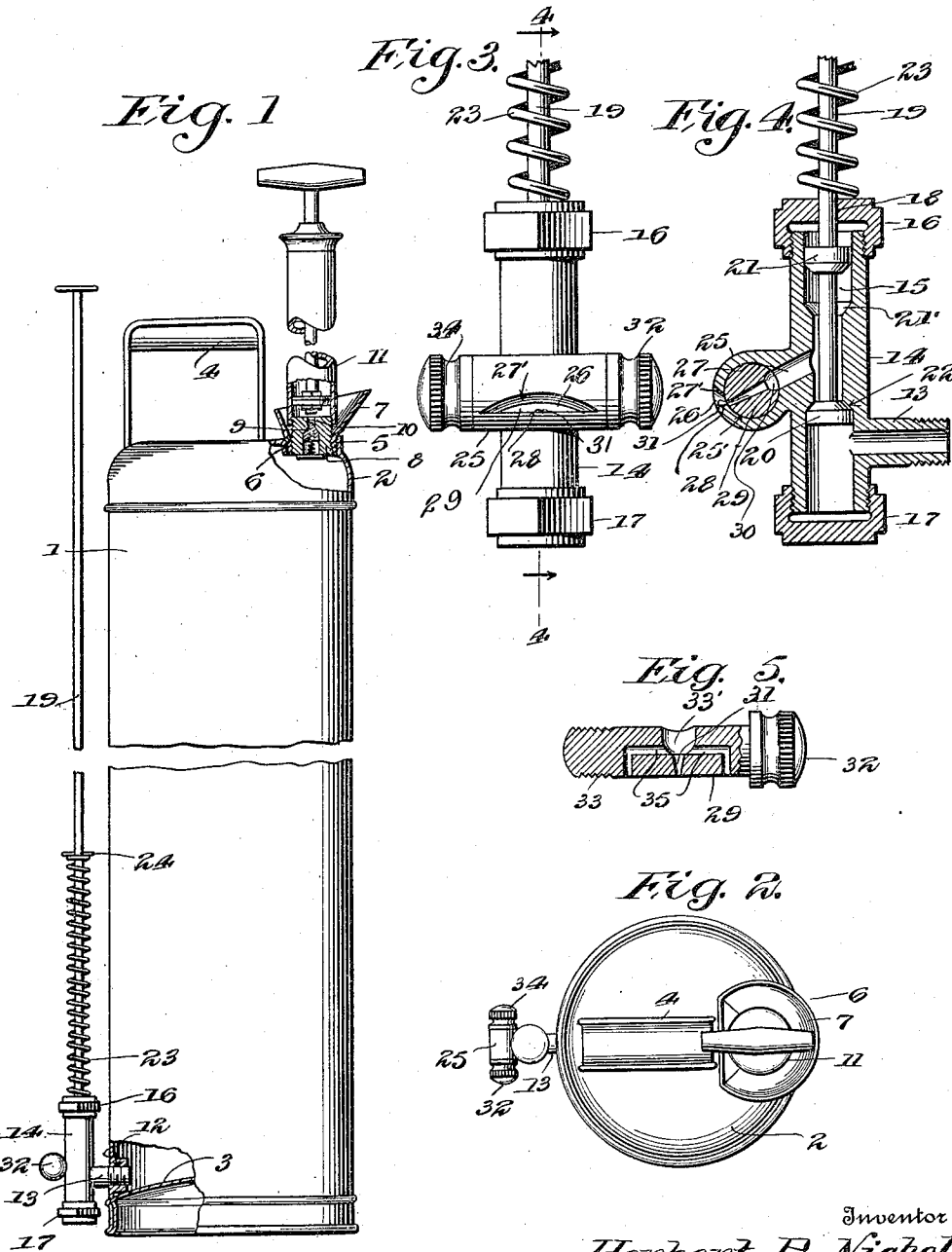


H. B. NICHOLS.
MACHINE FOR SPRAYING OIL ON FLOORS.
APPLICATION FILED NOV. 14, 1914.

1,176,089.

Patented Mar. 21, 1916.



Witnesses

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MACHINE FOR SPRAYING OIL ON FLOORS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HERBERT B. NICHOLS, a citizen of the United States, residing at Methuen, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Machines for Spraying Oil on Floors, of which the following is a specification.

This invention relates to a device for spraying oil upon floors, and has for its primary object to produce a device of this character in which a single receptacle is provided to contain the oil and air under compression.

A further object of the invention is to provide a device in which a valve for regulating the flow of oil to the nozzle of the machine is at all times within convenient reach of the operator, and one wherein the size of the spray thrown from the nozzle by the air compressed within the body of the receptacle may be regulated to produce a mist of oil of varying density, as occasion may require.

A further object of the invention is to provide a device of this character in which the nozzle is so located that the machine will rest firmly upon the floor and may be moved from place to place thereon without interfering with the spray of oil from the nozzle.

The invention consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claim.

The preferred embodiment of the invention has been illustrated in the accompanying drawing, but no restriction is necessarily made to the precise structural details therein shown, as changes, alterations and modifications within the scope of the claim may be resorted to when desired.

In the drawings:—Figure 1 is a side elevation of an oil spraying machine constructed in accordance with the invention, and showing the same partly in section. Fig. 2 is a top plan view of the device. Fig. 3 is a front elevation of the nozzle and valve casing associated therewith on an enlarged scale. Fig. 4 is a section on the line 4—4 in Fig. 3. Fig. 5 is a side elevation, partly in section of a modified form of the member for regulating the density of the spray from the nozzle.

Like characters of reference denote cor-

responding parts throughout the several views.

The numeral 1 represents a tank or container, preferably of cylindrical shape, having a top 2 and a curved bottom 3. Mounted upon the top 2 is a handle 4, said top being further provided with a filling opening 5 in which is adapted to be inserted a screw threaded plug 6 having its upper portion provided with a funnel-shaped flange 7. As a closure for the opening 5 I provide a threaded plug 8 in which is mounted a spring pressed valve 9 adapted to close an opening 10 in said plug. Removably fitted to the plug 8 is a hand pump 11 by means of which air is forced into the receptacle 1.

Threaded in an opening 12 in the front wall of the casing 1 adjacent the bottom 3 thereof is a nipple 13 made integral with a valve casing 14, said valve casing 14 being chambered, as at 15, and having its ends threaded for the reception of caps 16 and 17, the cap 16 being provided with an opening 18 through which is slidably mounted a valve stem 19 having valve faces 20 and 21 adapted for reciprocation in the valve chamber 15. The valve face 20 is adapted to be normally seated against a valve seat 22 in the chamber 15 by the action of a coiled expansion spring 23 surrounding the valve stem 19 and disposed between the cap 16 and a pin 24 in the stem 19. To limit the downward movement of the rod 19 when the same is actuated the chamber 15 is provided with a valve seat 21' for the valve face 21.

A nozzle 25 is made integral with and disposed at right angles to the valve casing 14. Said nozzle 25 is provided with a horizontal bore 25', a vent 26 and a port 27, which latter connects said nozzle with the chamber 15. The vent 26 is of circular contour along its upper slanting edge 27', while the bottom thereof is provided with a flat horizontal portion 28.

Revolubly mounted within the bore 25' is a valve 29 having a semi-spherical opening 30 adapted for registration with the port 27. A cone-shaped opening 31 connects the opening 30 with the horizontal edge 28 of the opening 26 in the nozzle. One end of the valve 29 is further provided with a knurled head 32, and its opposite end is screw-threaded, as at 33, for the reception of a locking nut 34.

The modified form of valve shown in

Fig. 5 is identical in its construction with the valve just described, with the exception of ports 35 which connect the opposite ends of the horizontal edge 28 of the vent 26 with the junction of the semi-spherical opening 33' and the cone-shaped opening 31.

In practice, the plug 8 is removed from the casing 1, and the flange 7 acting as a funnel, the casing 1 is partially filled with oil. The plug 8 is then screwed into place, and the hand pump 11 is secured to the plug 8 and air forced into the receptacle 1. In lieu of the hand pump 11 a hose connected with the tank holding compressed air may be attached to the plug 8 and the same result produced, the valve 9 in the plug 8 serving to prevent the escape of air from the receptacle, while the pressure of the oil on the valve face 20, together with the action of the spring 23, on the rod 19 prevents the escape of oil through the nozzle 25. The operator then grasps the handle 4 and places his thumb upon the end of the valve stem 19 which unseats the valve face 20 from the seat 22 in the valve chamber 15 and allows the oil to be forced through the port 27 into the semi-spherical opening 30 in the valve 29. The restricted cone-shaped opening being of lesser diameter than the opening 30, the oil is forced through the action of the air in the tank 1 in a steady stream against the inner edge of the horizontal surface 28 of the vent 26. Here the particles of oil are diffused in a fine mist upon the surface of the floor. By adjusting the opening 31 with relation to the inner edge of the surface 28 and locking the same in adjusted position by the nut 34 a finer or coarser mist may be precipitated upon the floor, according to the nature of the wood and density of the oil, as required.

A further adjustment of the valve 29

with relation to the vent in the nozzle and the curved slanting edge 27' causes the flow of fluid from the container to be directed toward or away from the same and allows the machine to be conveniently used in corners.

It will, of course, be understood that by the action of the operator's thumb upon the rod 19 the valve in the casing 15 may be so adjusted that the flow of oil through the opening 26 in the nozzle may be regulated to suit the requirements in treating a floor composed of hard grained and soft grained boards.

From the foregoing description, taken in connection with the accompanying drawing, it will be seen that I have provided a device for spraying oil upon floors which is simple in construction, cheap of manufacture and highly efficient in use.

Having thus described the invention, what is claimed as new, is:—

A nozzle comprising a body having a longitudinally extending bore and inlet and outlet ports communicating with said bore, said outlet port having a beveled arcuate upper edge and a straight horizontal lower edge, a valve mounted to turn in the bore and having a transverse opening interposed between the inlet and outlet ports in the body and provided with a tapering restricted portion and passages communicating with the transverse passage in advance of said restricted portion and opening out through the peripheral surface of the valve at opposite ends of the outlet port in the housing.

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

HERBERT B. NICHOLS.

Witnesses:

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ALBERT M. BEAN.

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