Oct. 22, 1935. G. E. McCANTS 2,018,375

REGULATING VALVE FOR FLOOR WAXING DEVICES

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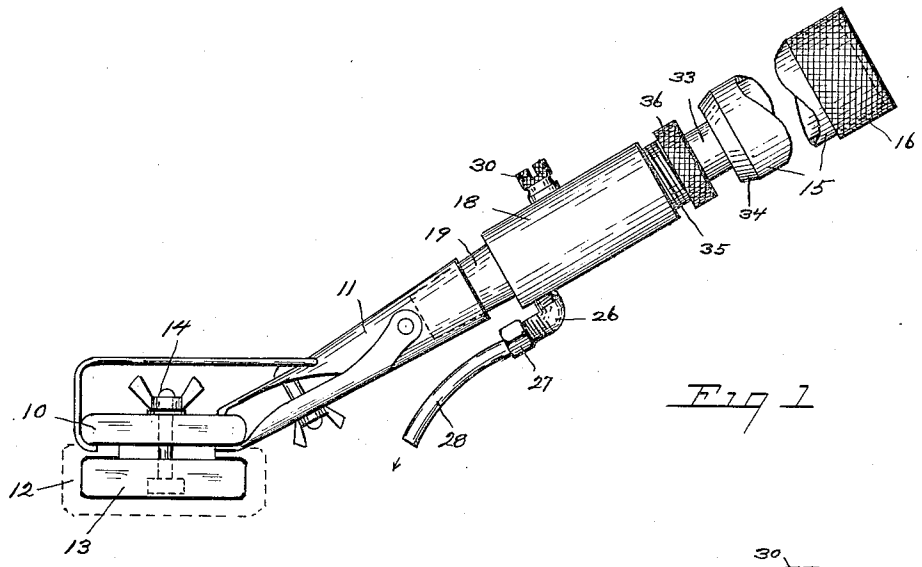


Fig 1

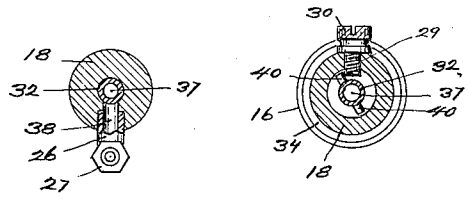


Fig 4 Fig 5

Fig 2

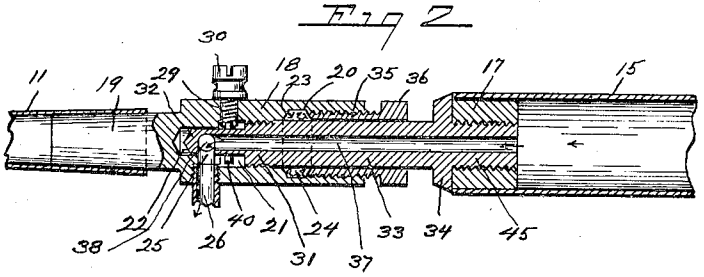


Fig 3

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REGULATING VALVE FOR FLOOR WAXING DEVICES

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2 Claims. (Cl. 251—80)

This invention relates to a floor waxing device of that class which is designed as a hand implement for the application of wax, oils, varnish, sealers, and other liquids to the surface of floors, etc., and the primary object of the device is to provide a device of this kind in the form of a hollow handle member comprising a supply tank for the liquid, and a combined valve and feeding member which is mounted at the lower end of the handle in cooperation with any suitable style of mop or polishing pad in a detachable manner, so that if desired the mop or pad may be exchanged for a brush, sander, or other cleaning device and a cleaning solution used in connection therewith.

With a device of this kind, the solution is applied in an even manner to the floor in the path of the brush or cleaner, and inaccessible places, such as under furniture may be readily reached without stooping.

Also all types of floors may be treated with this device and any liquid applied in an automatic manner fully under the control of the operator at all times, thus effecting a great saving in the quantity of material used, and the length of time that the lamb's wool polishing pads will last, as no excess of liquid is used which would clog the pads in a short time.

The object of the invention is to provide a device of this kind that shall be simple of operation, contain few parts, and be readily and quickly attached to either a brush, mop or polishing head.

Another object of the invention is to provide means in a device of this class, whereby the flow of liquid may be regulated at the will of the operator by a slight rotary movement of the handle.

A further object of the invention is to provide means in a device of this kind whereby the liquid employed is fed to the distribution nozzle by gravity and in such a manner that an even flow is assured.

Another object of the invention is to provide means whereby the rate and volume of liquid flow may be regulated at will, so that the maximum surface may be treated with the minimum amount of liquid.

With these and other objects in view, my invention consists in certain novel construction and combination of parts as will hereinafter be fully described and claimed, and further illustrated in the accompanying drawing which forms a part hereof, and in which like figures of reference refer to corresponding parts in all of the views, and it is understood that slight changes may be made without departing from the spirit of the invention.

In the drawing:

Figure 1 is a side elevation of the device, showing the same as attached to a floor polishing head, and with the handle reduced in length.

Figure 2 is a top plan view of the same.

Figure 3 is a partial detailed longitudinal sectional view of the valve mechanism.

Figure 4 is a cross sectional view, taken on the line 4—4 of Figure 2.

Figure 5 is a cross sectional view, taken on the line 5—5 of Figure 2.

Referring to the drawing:

I have here shown the usual style of polishing head 10 having the hollow tapered shank 11, and the lamb's wool pad 12 which is held in place by the clamp 13 and clamp bolt 14 in such a manner that the pads may be readily renewed or removed for cleaning, but it is to be understood that in place of this polishing head, that scrub brushes, mops, etc., may be substituted as desired.

My device comprises a tubular handle member 15 of any desired length and material and having its upper end closed by a detachable or removable cap 16 formed with a vent hole to allow air to enter as the liquid is used; this tubular handle forming a fountain or supply tank for the liquid which is used.

The lower end of this tubular handle 15 is closed by a plug 17 which is attached thereto by such means as welding, brazing, or which may be an integral part thereof, and which is formed with a central bore having internal threads.

The body of the device or valve member 18 is formed with a tapered end 19 adapted to enter the tapered shank 11 of the polishing head 10 and be secured therein either by friction or by some other suitable means.

This body member 18 is formed with an axial bore of three different diameters, 20, 21 and 22, which extend in from the upper end for a portion of its length; the larger diameter 20 being provided with the internal threads for a portion of its length, and also formed with a packing seat 23 for the packing 24.

The bore 21 is also provided with the internal threads for a portion of its length; while the bore 22 is formed to communicate with a transverse bore 25 which is formed in the wall of the member 18 and which is threaded for the fitting 26, which has attached thereto by the nut 27, the drip nozzle 28.

The bore 21 also has communicating therewith a transverse hole which is threaded for the

stop 29 which is formed with the slotted head 30 by which it is rotated.

The valve stem is composed of the part 31 which is formed with the external threads for engagement with the threaded part of the bore 21; the nose portion 32 that forms a sliding fit with the bore 22, and the body portion 33 which is formed with the collar 34 integral therewith and the threaded stud 34 for attachment to the plug 17 of the handle 15.

For providing a liquid tight joint between the valve body bores and the valve stem, there is provided the packing ring 24, which is backed up by a gland 35 threaded into the bore 20 and formed with the knurled head 36 by which it may be adjusted, or it may be provided with holes or notches in its periphery for a spanner.

The valve stem for its entire length to within a short distance of the small end is formed with an axial bore 37 which adjacent the lower closed end communicates with a transverse duct 38 formed in the side wall thereof and adapted to register with the bore 25 and drip nozzle 28 when the valve is in the proper position with relation to the valve body member, which is brought about by a slight rotary movement of the handle 15 and valve stem with relation to the valve body; the threaded portion of the valve stem being rotated slightly within the threaded portion of the valve bore 21.

For limiting the rotary movement between the valve stem and the valve body, and to prevent the removal of the stem from the body, there is provided a pair of radial stop pins 40 projecting from the side of the nose 32 within the bore 22, and which are adapted to be engaged by the end of the stop pin 29, in such a manner that the rotation of the valve stem is limited by said pins 40 contacting with the stop pin 29 as the handle is rotated, and in this manner the ports of the valve are either closed or opened, the liquid traveling down the hollow handle and through the axial bore of the valve stem by gravity to the ports.

In the operation of the device as shown attached to a floor polishing pad, the hollow handle is filled with prepared liquid wax; the handle is slightly turned to open the ports in the valve allowing the liquid to drip upon the floor in the path of the polishing pad as the same is reciprocated by the handle in the hands of the operator, and if too much liquid is being applied, the handle is turned in the opposite direction which will close the ports in the valve and stop the flow of liquid.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is:

1. In a valve for a liquid applicator, a regulating valve body member adapted to have one end attached to a hollow handle, said body member formed with a stepped bore including a smooth portion, a threaded portion adjacent the open end thereof and provided with a packing nut, an intermediate threaded portion, said smooth portion formed with a transverse port communicating with said bore and cutting through the side wall of said body member, a tubular valve stem having one end adapted to be rigidly secured to the hollow handle and the body thereof rotatably mounted within the bore of said body member, threads formed on said valve stem to engage with the threaded portion of said body member, a pilot end extending into the smooth portion of the bore of said body member, said pilot end provided with a duct adapted to be brought into registry with the transverse port in the body member by the partial rotation of the valve stem within the body member establishing communication between the bore of the valve stem and the port in the body member.

2. In a liquid applicator, a handle operated regulating valve adapted to be interposed between the applicator and a hollow handle and comprising a non-rotatable member adapted to be secured to the applicator and a rotatable member adapted to be secured to the handle, said non-rotatable member formed with an axial bore extending part of the length thereof and having a discharge port, said rotatable member formed with an axial bore extending therethrough and having a valve duct therein, said rotatable member formed with a threaded portion for engagement with an internal threaded portion of the non-rotatable member, a packing nut located between said members, and means for limiting the rotation between said members comprising pins secured in said rotatable member and a stop screw threaded into said non-rotatable member and extending into the path of said pins when said rotatable member is rotated within the non-rotatable member to bring the duct and port into registry with each other to form a passage for the liquid from the hollow handle to the applicator.

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