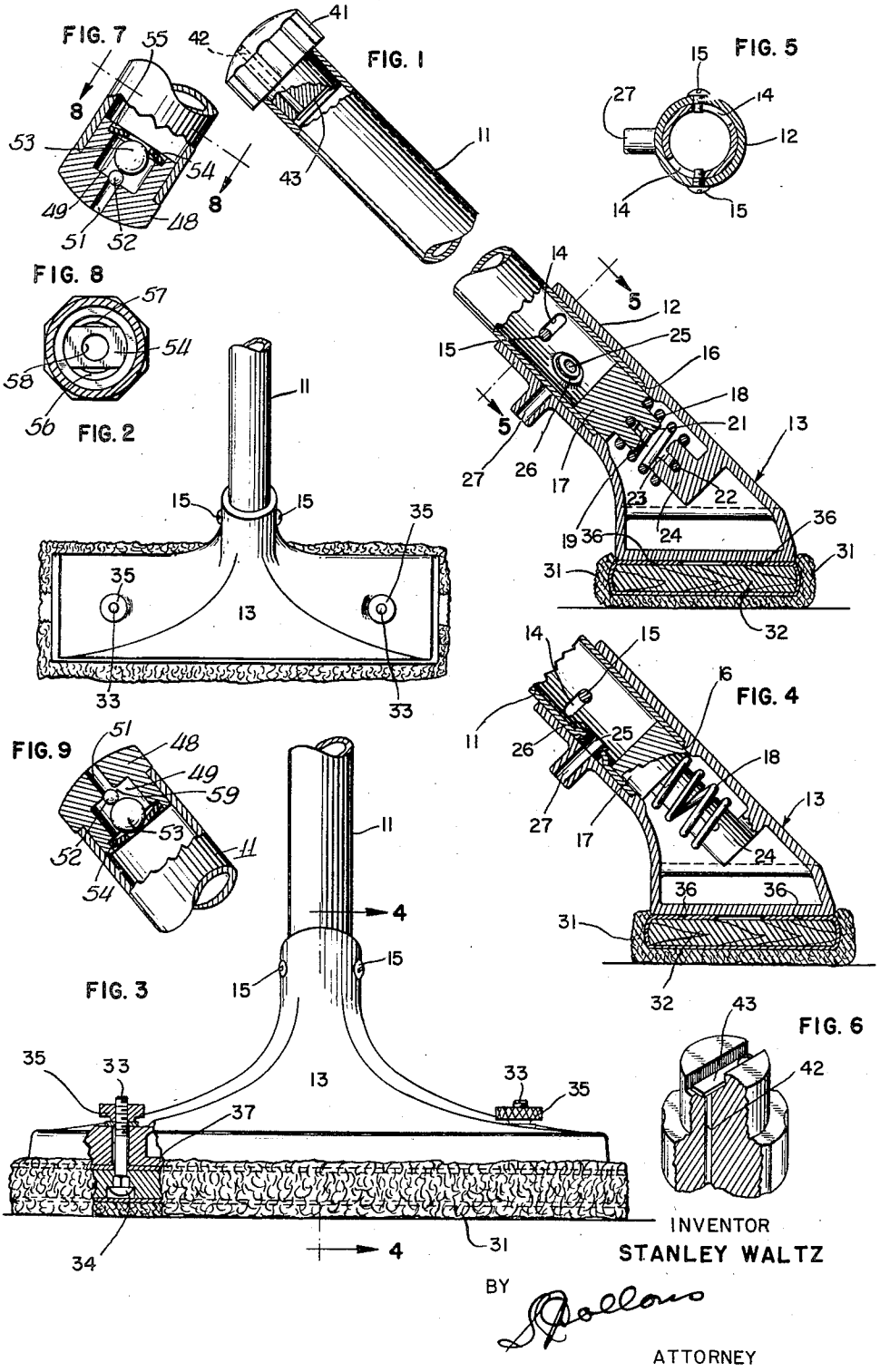
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WAX APPLICATOR

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WAX APPLICATOR

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1

The present invention relates to wax polishing devices and is more particularly concerned with an apparatus of this class equipped with a reservoir control valve for discharging periodically quantities of wax during operation.

In the application of polishing wax to floors there is employed in domestic service a long handled applicator tool at the lower end of which is carried a mop head firmly backed and used for the purpose of rubbing down polishing waxes or similar media, particularly in the application thereof to floor surfaces. Where liquid polishes or waxes are employed, it has been required, according to previous practices that the operator, in addition to the polishing apparatus, carry a container of polish in order that the latter may be distributed periodically on the floor surface as the work progresses. Since the quality of the operation is dependent upon the thoroughness and vigor with which the polishing mop is handled and therefore requires the use of both hands, the portage of the polishing medium or wax constitutes a bothersome function because the application of polish usually has to be performed immediately prior to each rubbing down operation on limited floor areas.

With a view towards eliminating hazards in the utilization of floor polishing apparatus, it is proposed in accordance with the present invention to design a polishing mop in which liquid polish is carried in a reservoir portion of the mop and is discharged in appropriate quantities and at desirable intervals concurrently with the polishing technique and without requiring special attention to portage of the polish container and the periodic dispensation of polish quantities. This has been brought about by providing storage space in a polishing mop handle and equipping the handle extremity with a control valve that may be manipulated without changing the position of the operator's hand from that which is characteristic during the polishing operation, whilst discharging small quantities of polish as and when required.

Accordingly, a principal object of the present invention is one of providing in a single device a polishing mop and fountain container for polish that may be operated as vigorously as the work of polishing requires and through which quantities of polish may be discharged by the manipulation of the polishing handle without changing the position of the hands.

For a more comprehensive understanding of the present invention, attention is now directed to the following detailed specification and to the accompanying drawing in which like reference characters designate corresponding parts throughout, and in which:

2

Fig. 1 is a side elevation with parts broken away of a polishing apparatus having embodied therein certain essential principles of the present invention;

Fig. 2 is a detailed plan view of the apparatus featured in Fig. 1;

Fig. 3 is a detailed front elevational view with a fragmentary portion in section;

Fig. 4 is a transverse sectional view of the same apparatus taken approximately on line 4—4 of Fig. 3;

Fig. 5 is a transverse sectional view taken along the line designated 5—5 of Fig. 1;

Fig. 6 is a detail perspective view of the removable sealing head which may be employed in conjunction with the fountain handle; and

Figs. 7 to 9 are sectional illustrations of a modified form of sealing plug for the storage handle 11 in which a pair of valve balls operate to control the intake of venting air as the content of the handle is depleted.

Referring now more particularly to the drawings, the reference numeral 11 indicates generally a tubular handle preferably of seamless metallic composition, the lower extremity of which fits into the neck portion 12 of a mop head generally designated 13 so as to be rotatable therein throughout a limited angle as determined by the radial slots 14, Figs. 1 and 4, through which pass the anchor pins or screws 15. The endmost extremity of the handle preferably thrusts against the machined shoulder 16 in the neck portion 12 so as to relieve the preponderance of strain from the securement devices 15. The end of the tubular handle 11 is sealed by a plug component 17 that is preferably secured by threading, riveting, or otherwise so as to function as an integrated portion of the handle.

The plug 17 terminates with a bifurcated extremity formed by reducing the diameter of the plug thereat so as to constitute a receptacle for receiving the end of a torsion coil spring 18, one terminal of which is held in the slot 19 which bifurcates the cylindrical extremity 21 and the other terminal 22 of which is similarly received in a slot 23 of an opposite cylindrical portion 24 integrally cast with the mop head 13.

During assembly the insert terminals of the spring 18 are placed in their respective slots 19 and 23 and the handle 11 is turned so as to load the spring 18 with a predetermined tension, for the purpose of imparting a rotational force

against the handle 11 which will maintain the discharge orifice 25 and sealing grommet 26 out of registry with the discharge port 27 of the mop head neck 12. By applying to the handle 11 a twisting force sufficiently great to further constrict the spring 18 in the direction of its loading, the orifice 25 may be brought into alinement with the discharge opening 27 as shown in Fig. 4, whereupon the fluid contained in the hollow handle 11 may be permitted to trickle onto the floor region until this valvular assembly is permitted to be sealed by the action of the spring 18.

The discharge opening 27 directs polishing fluid onto the floor just behind the mop head whence it may be engaged and distributed during the course of mopping. The mop element itself constitutes preferably a sheep-skin section 31 which is folded around a block 32 as best indicated in Figs. 1 and 4 and which is thus secured by two bolt elements 33, the heads of which are embedded as at 34 and the ends of which are drawn up by knurled thumb nuts 35, binding the hide 36 between the block 32 and the engaging surface 37 of the head 13.

The assembly may be held in place for an indefinite period or until the mop element 31 becomes too matted to be efficiently serviceable, whereupon by loosening the two thumb nuts 35 and withdrawing the block 32 the sheep-skin element 31 may be reconditioned or replaced, as preferred.

In order to replenish air into the chamber of the hollow handle 11, there is provided at its upper extremity a terminal plug 41 that may be drive-fitted or threaded to the end of the handle 11. Within the plug 41 there is provided a bleeder opening 42 (see also Fig. 6) sealed at its inner terminal by means of a flat spring element 43 of mild tension so as to respond easily to negative pressure conditions within the handle 11, whereby to withdraw air through the opening 42 as already said.

Turning the mop up-side-down as may be required to do to effect periodic adjustment will not subject the instrument to inadvertent leakage of the polish content because the spring member 43 thereby serves to seal the opening 42 against fluid discharge therethrough.

The limited motion to which the handle 11 is subjected during the valvular operation relative to the discharge port alinement 25—27 has been indicated as effected through a slot 14 in the handle member 11 and the limit screws 15 anchored in the neck portion 12. Conceivably this arrangement may be reversed by providing the elongated slots 14 in the neck member 12 and having the anchor pins or screws 15 carried by the tube or handle 11. Within this type of contemplation various other modifications of structure may be incorporated without departing from the essentials of the present invention.

The sealing cap 48 is illustrated in Fig. 9 in its upright or normal position, and in an inverted position thereof featured in Fig. 7 an alternative arrangement of parts is disclosed. The interior of the sealing cap 48 includes a principal chamber 49 with which there communicates a bleeder opening 51. A small spherical sealing member 52 is disposed to reside at the inner terminus of the bleeder opening 51 and to be held against total withdrawal from this region through its contact with a larger sphere 53. The latter member in turn is held in position through its retention thereat by a barrier plate 54 (see also Fig. 8) which is secured within a

terminal enlargement 55 of the cap 48 and which provides air intake openings at its sides 56 and 57 because the member 54 is comprised of a narrow strip having engagement with the peripheral walls which define the opening 55 at its longitudinal extremities only. In the condition illustrated in Fig. 9 the large sphere 53 gravitates downwardly until it is nested within the circular opening 58 of the retainer 54. Under this condition the valve sphere 52 is permitted to recede from its bleeder opening sealing position so that air may be drawn through as at 59 and admitted to the interior of the hollow storage handle 11.

When the handle 11 together with the other appurtenances is inverted so that there is assumed a condition approximating that illustrated in Fig. 7 the heavier sphere 53 forces the sealing ball 52 into sealing position with respect to its opening 51, thereby preventing the content of the magazine or handle 11 from leaking through the vent opening 51. It is to be understood that the openings 51 and 49 may, if preferred, be made in varying diameters to accommodate more closely the proportions of the sealing spheres 52 and 53.

It is accordingly intended not to be limited by the details illustrated in the accompanying drawings, nor by the specific language in the foregoing specification, except as indicated in the hereunto appended claims.

The invention claimed is:

1. A liquid dispensing and polishing apparatus comprising, a polishing head shaped to afford a hollow neck structure within which there is disposed a torsion spring engaging lug, said hollow neck structure including a cylindrically bored fore-portion for receiving a tubular storage handle and formed with a dispensing jet opening, a tubular liquid storage handle rotatably mounted in said cylindrical bore portion of said neck structure and having an apertured surface which has wiping valvular engagement with said jet opening, a plug sealing the lowermost end of said tubular storage handle formed with a torsion spring engagement extremity presented in axial alignment with said lug, a spring helix having ends adapted to be held in said lug and plug extremity under predetermined loading torque effective in a direction towards maintaining non-alignment between said apertured surface and said dispensing jet, and a slot and pin securement between said neck structure and said tubular storage handle for confining the rotary movement of said handle relative to said neck structure to an acute angle.

2. A liquid polish dispensing apparatus for hand polishing mops comprising, a mop carrying head formed to include an angularly disposed neck having a cylindrical bore, a tubular handle serving also as a liquid polish reservoir and having its lower end rotatably mounted within said bore, axially aligned spring engaging portions on the lower end of said handle as well as within a hollow chamber of said mop head, a helical torque spring having its opposite ends seated in said portions under a torque loading, circumferential pin and slot means for limiting the rotary movement of said handle in said cylindrical bore, a dispensing jet formed in said neck, and a rubber grommet lined opening in said tubular handle movable into alignment with said jet whereby by twisting said handle within the limit of motion afforded by said pin and slot means against the torque of said spring said jet may be aligned with said rubber grommet handle opening for

the purpose of dispensing liquid polish contained in said tubular handle reservoir.

3. The combination set forth in claim 2 in which said handle is a closed tubular member having at its upper end a terminal head plug through which courses a breather opening and a flat spring element covering said opening at its inner terminus so as to be springable inwardly to admit replacement air when some of said liquid polish is dispensed and so as to seal said opening against loss of said liquid polish.

4. The combination set forth in claim 2 in which the upper end of said tubular handle is sealed with a head plug having an internal chamber, a breather hole communicating between said chamber and external atmosphere, a retaining member having a valve seat opening communicating between said chamber and the interior of said tubular handle, and a pair of valve sealing balls proportioned so as to be confined in said chamber between said breather and valve seat

opening for gravitationally seating in one or the other according to the position assumed by said handle.

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