

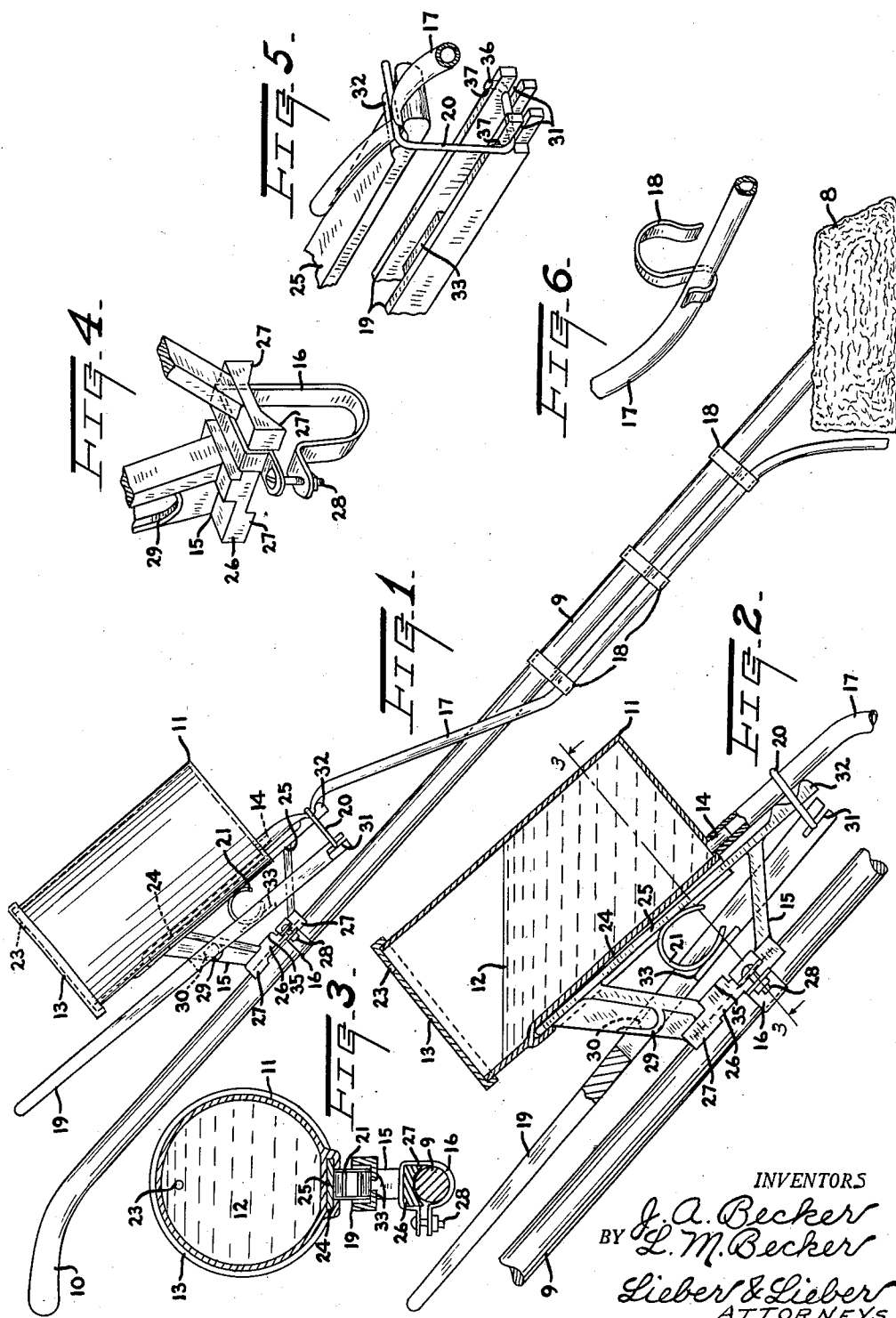
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LIQUID WAX DISPENSER

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LIQUID WAX DISPENSER

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The present invention relates generally to improvements in the art of waxing or polishing floors, and relates more particularly to improvements in the construction and operation of liquid wax dispensers for floor polishing devices.

A primary object of the present invention is to provide an improved liquid wax or polish dispenser which is readily adaptable to any standard and commercially available floor polishing mop or similar device, and which is moreover extremely simple, durable and compact in construction as well as highly efficient in operation.

It has been heretofore proposed to provide handled floor polishers or mops for use with liquid wax or the like in polishing floors, and while these floor polishers are of somewhat varied construction, they all consist generally of a floor engaging polishing head having a manipulating handle extending upwardly therefrom at somewhat of an angle to the floor. In most cases, no provision is made for supporting or carrying a supply of polish or wax directly on the polishing device and for mechanically distributing desired and necessary amounts thereof to the head during the polishing operation, thereby necessitating frequent interruptions and stooping or bending operations for separately dispensing quantities of the polish by hand over the unpolished areas. In other cases however, it has been proposed to incorporate liquid wax housing means and valve controlled dispensing means for such wax as an integral part of the polishing device; but such devices must generally be of special and relatively expensive construction and are usually also complicated and bulky. In a few instances, it has further been proposed to provide polish housing and dispensing means adapted for merchandising as an attachment for existent floor polishing mops and the like; but in all such cases, the attachments have encountered very little commercial success and acceptance due to their inefficiency in operation, bulkiness, cost, difficulty in application, or the rather complicated nature thereof.

It is therefore a more particular object of this invention to provide a polish housing and dispensing attachment which obviates all of the disadvantages and objections attendant prior or previously proposed devices of this general type.

Another specific object of the invention is to provide an improved liquid wax dispensing attachment which is readily applicable to any standard and commercially available floor polishers without need for special tools and which may moreover be manipulated in a most convenient manner by a novice.

Still another specific object of our invention is to provide a new and improved polish dispensing accessory which comprises relatively few simple parts, all of which may be readily manufactured of suitable material and all of which are readily accessible for inspection, replacement or repair.

A further specific object of our present invention is to provide an improved liquid polish dispensing device

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which is extremely flexible in its adaptations and which may be quickly and easily assembled, dismantled, cleaned and stored.

An additional specific object of the present invention is to provide an improved polish dispenser comprising, a container for housing a supply of liquid polish, means for securing the container to the handle of a floor polisher, a conduit communicating with the container for conducting polish to the polishing head, and means extending between the container and the polisher handle and coacting with the conduit for controlling the flow of liquid polish therethrough.

These and other specific objects and advantages of the invention will be apparent from the following detailed description.

A clear conception of the several features constituting our present improvement, and of the construction and operation of a typical liquid wax dispensing accessory as applied to a standard floor polisher, may be had by referring to the drawing accompanying and forming a part of this specification, wherein like reference characters designate the same or similar parts in the several views.

Fig. 1 is a side view of a typical floor waxer or polisher having one of the improved polish dispensers applied thereto and showing the dispenser in inactive condition with the flow control valve closed;

Fig. 2 is a somewhat enlarged fragmentary longitudinal vertical section through the dispenser of Fig. 1 but showing the flow control valve in open position;

Fig. 3 is a likewise enlarged transverse vertical section through the assemblage taken along the line 3—3 of Fig. 2;

Fig. 4 is an enlarged fragmentary perspective view of the handle clamping portion of the container mounting bracket;

Fig. 5 is a similarly enlarged fragmentary perspective view of the flow control valve mechanism and again showing the valve in closed position; and

Fig. 6 is another enlarged fragmentary perspective view of one of the conduit retaining clamps and the flexible polish conducting conduit.

While the improved dispenser has been specifically shown and described herein as being especially advantageously applicable as an accessory to a particular type of floor polisher for use in dispensing liquid wax, it is not our desire or intention to unnecessarily limit the scope or utility of the invention by reason of such restricted embodiment; and it is also contemplated that certain specific descriptive terms used herein shall be given the broadest possible interpretation consistent with the disclosure.

Referring to the drawing, the improved liquid wax dispenser is shown therein as applied to a conventional floor polisher having a lower floor engaging polishing head 8 of cloth, sponge rubber or the like and an upwardly extending and rearwardly inclined handle 9 terminating at its upper end in a gripping and manipulating portion 10. The improved dispenser comprises, in general, a container 11 formed of suitable material for housing a supply of liquid wax or polish 12, the container 11 having its open end normally closed by a suitable lid or cover 13 and being formed with an apertured discharge nipple 14 in its bottom wall; means such as a bracket member 15 secured to a medial portion of the handle 9 by a suitable adjustable clamp 16 or the like and adapted to detachably receive the container 11 and retain the same securely in position in spaced relation to the handle 9; a flexible tube or conduit 17 having one end attached to the nipple 14 for communication with the interior of the container 11 and having the opposite or discharge end thereof disposed adjacent to the polishing head 8 for conducting

liquid wax thereto, the conduit 17 being retained in position by a number of suitable clamping elements 18 frictionally coacting with the conduit and with the handle 9; means such as a bifurcated lever 19 suspended within and extending through the space between the container 11 and the handle 9, one end of the lever 19 extending beyond the upper end of the container 11 to a point near the manipulating end 10 of the handle 9 and the opposite or bifurcated end of the lever extending somewhat beyond the lower end of the container 11; a flow control element 20 carried by the lower bifurcated end of the lever 19 and coacting with the conduit 17 below the nipple 14 for controlling the flow of liquid wax through the conduit upon manipulation of the lever 19; and means such as a spring 21 coacting with the lever 19 for constantly resiliently urging the lower end of the lever away from the conduit 17 to a position whereby the flow control element 20 closes the conduit and restricts the flow of liquid wax therethrough.

As indicated, the container 11 and its cover 13 may be conveniently formed of plastic, metal, or other suitable material with the nipple 14 being molded or otherwise formed integral with the container, and the cover 13 may be retained in position either by snug frictional engagement or it may be threaded in a well-known manner with a vent opening 23 preferably being formed therein to permit entrance of air to the interior of the container to displace the liquid wax drawn therefrom. In addition, the container 11 is formed with an elongated outwardly open dovetail slot 24 extending along the outer wall from the closed bottom end to a point somewhat short of the upper open end of the container; and the bracket 15 is formed with an outer elongated platform 25 adapted to slidably enter the dovetail groove or slot 24 of the container 11 to retain the same in its position in spaced relation to the handle 9, the base 26 of the bracket 15 being preferably formed with depending side lugs 27 for snugly engaging the rounded surface of the handle 9 upon application and tightening of the clamp strap 16 by means of the bolt 28 or the like. To provide a fulcrum for the lever 19, the bracket 15 may also be formed with integral saddles 29 on opposite sides thereof; and each bifurcation of the lever 19 is provided with an inwardly directed approximately semi-cylindrical fulcrum projection 30 adapted to be seated in one of the saddles 29, the lever 19 being preferably formed of relatively flexible or resilient material to permit spreading of the bifurcations for ready application thereof to or removal from the bracket 15. The flow control element 20 may be conveniently formed of relatively heavy and stiff wire or the like bent to substantially U-shape with one leg thereof frictionally carried within corresponding slots 31 in the lower ends of the bifurcations of the lever 19, the other leg of the flow control element 20 spanning the flexible conduit 17 above a notched extension 32 of the bracket platform 25 so as to pinch the conduit 17 closed when the lower or bifurcated end of the lever is in normal lowermost position as shown in Figs. 1 and 5. The spring 21 for constantly resiliently urging the lower end of the lever 19 toward the handle 9 and away from the conduit 17 may either be in the form of a suitable coil spring or a band spring as shown, and this spring 21 may be conveniently located between the platform 25 of the bracket 15 and a seat on the lever 19 formed by a pair of inwardly directed integral flanges 33 formed on the bifurcations of the lever. As shown in Figs. 1 and 2, the handle engaging base 26 of the bracket 15 may be formed with a somewhat enlarged shelf portion 35 to provide a second seat for the clamping strap 16 when it is desired to apply the device to a polisher having a thinner handle 9.

In actual use, the improved dispensing accessory may first be assembled by spreading the bifurcations of the lever 19 and longitudinally applying the same to the bracket 15 with the fulcrum projections 30 seated in the

saddles 29. The spring 21 may then be positioned within the bracket 15 between the platform 25 thereof and the flanges 33 of the lever 19, and the free ends of the bifurcations of the lever may then be squeezed toward each other with one leg of the flow control element being forced into the slots 31. Pressure may then be exerted on the upper end of the lever 19 to thereby rotate the same about its fulcrum and compress the spring 21, and with the slotted end of the lever 19 thus raised toward the notched end 32 of the platform 25, the flow control element may be rotated to a position approximately perpendicular to the lever 19 with another leg thereof spanning the notch as shown in Fig. 5, whereupon the intermediate leg and the upwardly bent projection 36 of the lower leg will snap into and be retained by slots 37 formed in opposite sides of the lever bifurcations and the upper leg of the element will seat in the notch of the extension 32 upon release of pressure on the lever. The bracket 15 may then be applied to the handle 9 in an obvious manner with the aid of the clamp 16, and the container 11, with the conduit 17 secured to the nipple 14 thereof, may then be applied to the bracket 15 by slidably engaging the groove 24 with the platform 25. The lever 19 is then momentarily again tripped against the pressure of the spring 21 to position the conduit between the upper leg of the element 20 and the extension 32 of the platform 25, and the remaining length of the conduit 17 may be secured to the handle 9 by means of the spring clips 18 so that the discharge end of the conduit is located in the near vicinity of the polishing head, after which the container may be filled with liquid wax. The assemblage is then in condition for use and may be manipulated over the floor in an obvious manner by the manipulating portion 10 of the handle with desired quantities of liquid wax being supplied to the polishing head 8 by way of the conduit 17 upon periodic downward operation of the upper free end of the lever 19, the flow of wax through the conduit 17 being variable dependent upon the amount of pressure placed on the lever and the extent to which it is moved about its fulcrum.

From the foregoing detailed description, it is believed apparent that the present invention contemplates provision of a liquid wax dispenser which may be conveniently merchandised in the form of an accessory for quick and easy application to any commercially available floor polishers. The improved polish dispenser may be readily constructed at low cost essentially from plastics or the like, and the several parts may be readily assembled by a novice without the need for any special tools. By virtue of the location of the operating lever and the disposition of this lever within the space between the container 11 and the handle 9, the device may be readily operated in a most convenient manner from the manipulating end 10 of the handle, and the number of operating parts may be reduced to a minimum and are furthermore effectively protected from possible damage. The arrangement of the operating parts results in an extremely compact and durable structure which may be sold at relatively low cost, and the resultant unit has proven highly efficient in actual operation. The improved accessory obviously eliminates considerable stooping or bending, and variable desired quantities of liquid wax may be applied to the floor immediately adjacent to the polishing head 8 of the polisher without splashing or flooding of the area to be polished.

It should be understood that it is not desired or intended to limit this invention to the exact details of construction of the improved liquid polish dispensing device, herein shown and described, since various modifications within the scope of the appended claims may occur to persons skilled in the art to which this invention pertains.

We claim:

1. A liquid wax dispenser for use with floor polishers having a polishing head and a handle projecting upwardly therefrom, said dispenser comprising, a container for housing a supply of liquid wax, a bracket member for

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receiving and detachably securing said container to a medial portion of the handle of the polisher in spaced relation thereto, a conduit communicating with the lower end of said container for conducting liquid wax from said container to the polishing head, a bifurcated lever straddling said bracket member and having inwardly directed fulcrum projections coacting with said bracket member, said lever extending through the space between said container and the handle of the polisher and along the handle in laterally spaced relation thereto beyond the opposite ends of said container when said container is mounted on the handle, and a flow control element carried by the lower end of said lever beyond the lowermost end of said container and coacting with said conduit for controlling the flow of liquid wax therethrough upon manipulation of the upper extending end of said lever.

2. A liquid wax dispenser for use with floor polishers having a polishing head and a handle projecting upwardly therefrom, said dispenser comprising, a container for housing a supply of liquid wax, means for receiving and detachably securing said container to a medial portion of the handle of the polisher in spaced relation thereto, a flexible conduit communicating with the lower end of said container for conducting liquid wax from said container to the polishing head, a lever extending through the space between said container and the handle of the polisher when said container is mounted on the handle, said securing means forming a fulcrum for said lever and an extension adjacent to a portion of said conduit, a flow control element carried by one end of said lever and extending transversely across the exterior of said conduit portion opposite said extension for controlling the flow of liquid wax therethrough, and spring means for constantly resiliently urging said one end of said lever to a position whereby said flow control element pinches said flexible conduit to restrict flow therethrough.

3. A liquid wax dispenser for use with floor polishers having a polishing head and a handle projecting upwardly therefrom, said dispenser comprising, a container for housing a supply of liquid wax, means for receiving and detachably securing said container to a medial portion of the handle of the polisher in spaced relation thereto, a flexible conduit communicating with the lower end of said container for conducting liquid wax from said container to the polishing head, a lever extending through the space between said container and the handle of the polisher when said container is mounted on the handle, said securing means forming a fulcrum for said lever and an extension adjacent to a portion of said conduit, a flow control element carried by one end of said lever and spanning said conduit portion for controlling the flow of liquid wax therethrough, and spring means coacting with said lever for constantly urging said one end of said lever away from said conduit whereby said flow control element pinches said flexible conduit portion against said extension to restrict the flow therethrough.

4. A liquid wax dispenser for use with floor polishers having a polishing head and a handle projecting upwardly therefrom, said dispenser comprising, a container for housing a supply of liquid wax, a bracket member for detachably receiving said container and being detachably securable to a medial portion of the handle of the polisher

so as to radiate therefrom and retain said container in spaced relation to the handle, said bracket member being formed with fulcrum saddles on opposite sides thereof and with an extension adjacent to and projecting downwardly beyond said container, a flexible conduit communicating with the lower end of said container adjacent to said extension for conducting liquid wax from said container to the polishing head, a bifurcated lever straddling said bracket member and having inwardly directed fulcrum projections removably receivable within said saddles, said lever extending through the space between said container and the handle of the polisher when said container is mounted on the handle, a flow control element carried by the lower end of said lever beyond the lowermost end of said container and coacting with said conduit above said extension for controlling the flow of liquid wax therethrough upon manipulation of the upper extending end of said lever, and a spring coacting with a portion of said bracket member and with said lever below said container and within the confines of said bracket for constantly urging said lower end of said lever away from said conduit to cause said flow control element to restrict the flow therethrough.

5. A liquid wax dispenser for use with floor polishers having a polishing head and a handle projecting upwardly therefrom, said dispenser comprising, a container for housing a supply of liquid wax, a wall of said container being formed with an elongated outwardly open undercut slot, a bracket member for receiving and detachably securing said container to a medial portion of the handle of the polisher, said bracket member having an outer elongated platform removably received within the undercut portion of the slot of said container wall for retaining said container in spaced relation to the handle, a conduit communicating with the lower end of said container for conducting liquid wax from said container to the polishing head, a bifurcated lever straddling said bracket member and fulcrumed thereon, said lever extending through the space between said container and the handle of the polisher when said container is mounted on the handle, a flow control element carried by the bifurcated end of said lever below said container and coacting with said conduit for controlling the flow of liquid wax therethrough upon manipulation of said lever, and means coacting with the platform of said bracket member and with said lever for constantly resiliently urging said lever to a position whereby said flow control element closes said conduit.

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