Sept. 22, 1959 R. E. LEE 2,904,812

LIQUID WAX APPLICATOR

Filed Nov. 6, 1957 2 Sheets-Sheet 1

Fig. 1

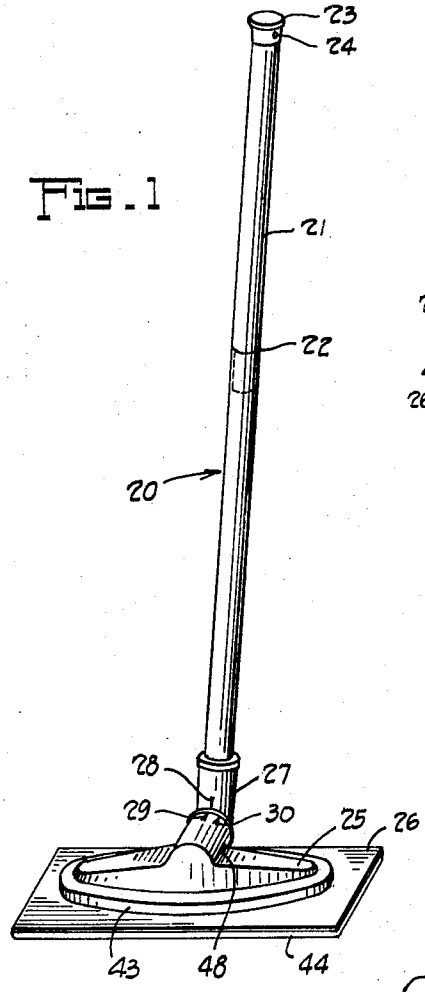


Fig. 2

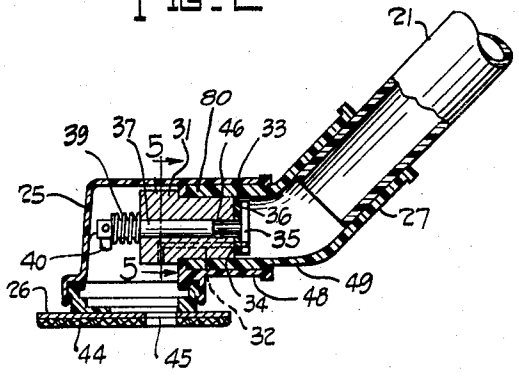
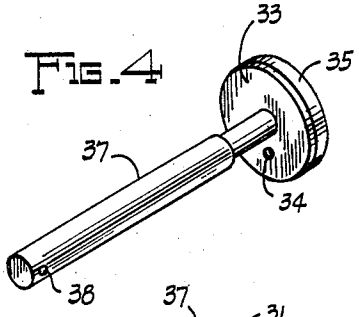


Fig. 4



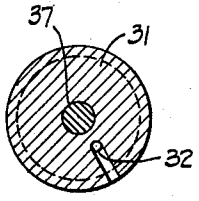


Fig. 5

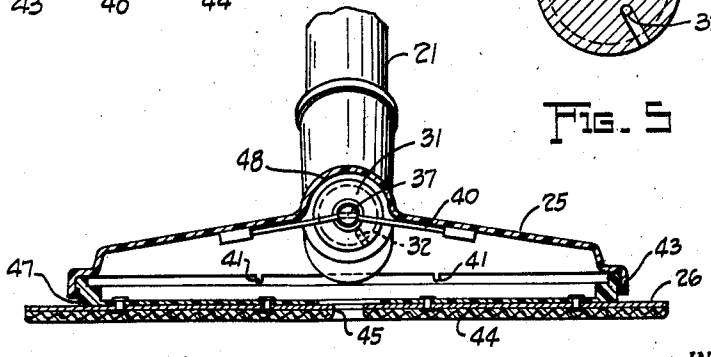


Fig. 3

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LIQUID WAX APPLICATOR

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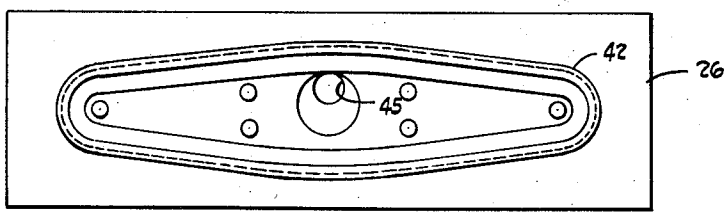


FIG. 6

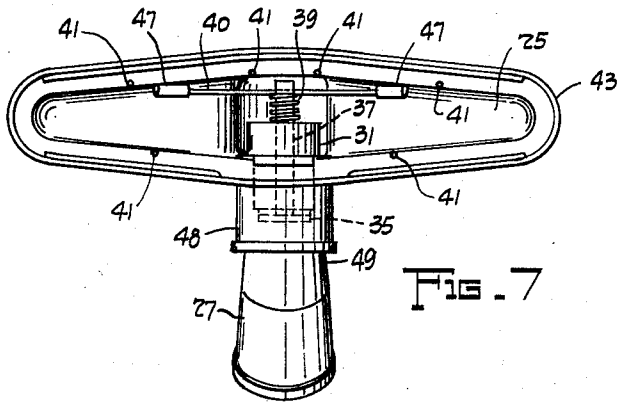


FIG. 7

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LIQUID WAX APPLICATOR

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2 Claims. (Cl. 15—138)

This invention relates to floor cleaning and polishing devices, and particularly to a liquid wax applicator for waxing floors.

The primary object of the invention is to provide a device for simultaneously dispensing and spreading liquid wax on to a floor.

Another object is to provide a device of the type stated whose handle functions as a reservoir for the liquid being dispensed.

Another object is to provide a device wherein the flow of liquid is positively controlled by a simple twist of the handle.

Still another object is to provide a device of the type stated, whose component parts may be easily assembled or disassembled for cleaning without the use of any tools; the parts being merely pressed or twisted together.

Another object is to provide a device whose dispensing head may be swiveled into the plane of the handle, for storage, so that the device may be hung flat against a vertical wall surface.

Further objects are to provide such a device that is rugged in construction, reliable in action, and economical to manufacture.

These, and other objects of the invention will become apparent from a reading of the following specification and claims, together with the accompanying drawings, wherein like parts are indicated and identified by like reference characters, and wherein:

Figure 1 is a perspective view of the liquid applicator that is the subject of this invention;

Figure 2 is a vertical cross-sectional view of the device.

Figure 3 is a longitudinal sectional view of the applicator head;

Figure 4 is a perspective view of the valve head and stem;

Figure 5 is a sectional view of the valve assembly taken along the line and in the direction of the arrows 5—5 of Figure 2;

Figure 6 is a top plan view of the backing plate;

Figure 7 is a bottom plan view of the applicator head with the backing plate removed.

Referring more particularly to Figure 1, there is seen the liquid applicator that is the subject of this invention, broadly indicated by reference numeral **20**.

The device may be fabricated from any suitable non-corrosive material, but is preferably made of one of the many plastic materials, readily available, for the sake of lightness, dimensional stability, pleasing appearance, and ease of manufacture on a mass production basis.

Reference numeral **25** indicates a hollow head having an open bottom bounded by a dependent rim **43**, as seen in Figures 1 and 7. A plurality of dependent pegs **41** are spaced inwardly of the rim edge **43**.

Reference numeral **26** indicates a backing plate having a central opening **45** and an upstanding collar **42**. The lower face of the plate **26** is covered with an absorbent

pad **44** having an opening at the backing plate opening **45**.

The backing plate **26** is attached to, and covers the bottom opening of the head **25** by means of the collar **42** which is of a size and shape to interfit the head rim **43** between the inside face of the rim and the pegs **41** which hold it in locked engagement.

A neck **49** having a hollow body portion **80** with a solid plug **31** cemented immovably therein is swivelly mounted in the bearing block **48** of the hollow head **25**, as is seen most clearly in Figure 2. It is of course to be understood that the plug **31** could be formed integral with the neck **49**, instead of being a separate element, if desired. The neck also has an open throat **27** which extends rearwardly and upwardly at an angle to the body portion thereof.

The plug **31** has a valve seat **36** faced toward the open throat **27**; a valve stem bore centered in said seat; and an eccentrically located fluid conducting duct or bore **32** extending between the valve seat **36** and the interior of the hollow head, with the outlet end thereof positioned over the opening **45** of the backing plate **26** and pad **44**, as seen in Figures 2 and 5.

A valve, having a head **35** and a stem **37** is mounted in the valve stem bore of the plug **31**. The valve head **35** has a sealing gasket **33** cemented to its inner face. A fluid conducting bore or orifice **34** extends through both the valve head **35** and gasket **33**. The eccentric bore **34** is located so that it may be moved in and out of alignment with the eccentric bore **32** of the plug **31** upon the swivelling of the neck **49**.

The valve stem **37** has a hole **38** positioned cross-wise the end thereof through which an anchor rod **40** is inserted. The ends of the rod **40** bear against the inside of the head **25**, as illustrated in Figure 3, and lock the valve stem **37** and attached head **35** against rotation relative the neck **49** and valve seat **36**. A washer **46** surrounds the stem **37** immediately behind the valve seat **36** and acts to seal off fluid leakage along the valve stem.

The valve head **35** is biased against the valve seat **36** by a coil spring **39** which is positioned over the valve stem between the inner end of the plug **31** and the lock rod **40**.

A tubular handle **21**, preferably made of transparent plastic, so that the level of the liquid contained therein may be easily observed, is mounted in the open throat **27** in a twist fit, so that it may be easily attached thereto or removed therefrom. The handle **21** is shown as being made in two sections joined through a slip-fit joint **22** at the center, for the sake of convenience in packaging, although it might be made as a single length of tubing if desired. The upper end of the handle **21** is closed by a cap **23** having an air vent **24** therein which may be twisted in or out of alignment with a similar vent in the end of the handle tube, to prevent air-lock when the device is being used and to prevent evaporation of the contained liquid when it is not in use.

In using the device, the head **25** is placed upon the floor and the neck pointer **28** is aligned with the "off" point **29** engraved on the head, as seen in Figure 1. In this position the fluid bore **32** of the valve seat **36** is out of alignment with the fluid bore **34** of the valve head **35**. The cap **23** is removed from the handle-reservoir **21** and the handle is filled with liquid wax. The cap **23** is then replaced, with the air vent **24** in its open position. With the pad **44** resting on the floor, the handle **21** is tilted to the right, looking at Figure 1, thereby swivelling the neck **49** in the bearing block **48** of the head **25** until the pointer **28** is aligned with the "on" point **30**. In this position the bore **32** is aligned with the valve head bore **34** and liquid wax from the handle-reservoir **21** is free to pass through the aligned bores **32** and **34** into the head **25** and

out the opening 45 on to the floor. At the same time the liquid wax is picked by the absorbent pad 44 and distributed by it as the device is moved along by pushing on the handle 21. When enough liquid for a given area has been discharged the flow is automatically cut off by merely twisting the neck 49, by means for the handle 21, back to its original position wherein the pointer 28 is aligned with the "off" point 29. The wax can then be spread out in a thin film by running the pad 44 back and forth on it a few times.

Additional liquid may be released, as required, by merely twisting the neck 49 between the "on" and "off" positions. Since the liquid is contained in the handle, from which it can instantly be released, there is no wasteful or sloppy application such as occurs when the liquid must be applied from a separate container and then spread out by a mop or pad.

It will be evident, that as the neck 49 is swiveled either to the right or left of the "on" position the flow of liquid will be automatically cut off. Thus the handle 21 may be tilted sharply toward the floor to enable the device to pass under furniture, when necessary. Similarly, the head 25 may be tilted until the backing plate 26 and pad 44 are in the plane of the handle 21, so that the device can be suspended flat against the wall, by means of a hook, for storage. Again, in this position, the flow of liquid is cut off, since the several fluid conducting bores are out of alignment. During storage, the cap 24 is twisted to its closed position, thereby enabling the liquid to be stored in the handle 21, safe against evaporation.

The device just described is easy to service and keep clean since the snap-on-and-off feature of its backing plate 26 permits the interior of the head 25 to be easily reached for cleaning, while at the same time the pad may be separately washed in a suitable solvent.

While the device has been described as an applicator for liquid wax, it should be understood that it may be used to apply any type of liquid, to floors or other substantially horizontal surfaces.

The invention has been disclosed in its preferred form, but it is to be understood that the specific embodiment thereof, as described and illustrated herein is not to be considered in a limited sense as there may be other forms or modifications of the invention which should also be

construed to come within the scope of the appended claims.

I claim:

1. A liquid applicator, comprising in combination, a hollow head open at the bottom, an absorbent pad, having a backing plate, secured to the bottom of the head and covering the opening thereof, said backing plate having an opening therethrough, a neck comprising a hollow body portion swivelly mounted in said head and including an open throat extending rearwardly at an angle to the body portion, a solid plug mounted in the body portion having a valve seat faced toward the open throat, an axial valve stem bore therethrough and a separate eccentrically positioned liquid conducting bore leading from the valve seat to the interior of the hollow head, a valve head including a stem mounted in said axial bore, said valve head being spring biased into contact with the valve seat and having an eccentric bore therethrough, alignable with the eccentric bore of the valve seat, means for preventing rotation of said valve stem and valve head relative to said hollow head, and, a tubular handle mounted in the neck throat and adapted to function as a liquid reservoir, the neck being swivelable in the hollow head, by the attached handle, between a first position, wherein the eccentric bores of the valve head and neck plug are out of alignment, and a second position, wherein the said bores are aligned to allow flow of liquid from the hollow handle into the hollow head and out the backing plate opening.

2. A device of the type defined in claim 1 and further characterized by the hollow head having a dependent rim bounding its bottom opening and a plurality of dependent pegs spaced inwardly of said rim, and, the backing plate having an upstanding collar of a shape adapted to fit within said head rim between the rim and the pegs, to engage same in locked attachment.

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