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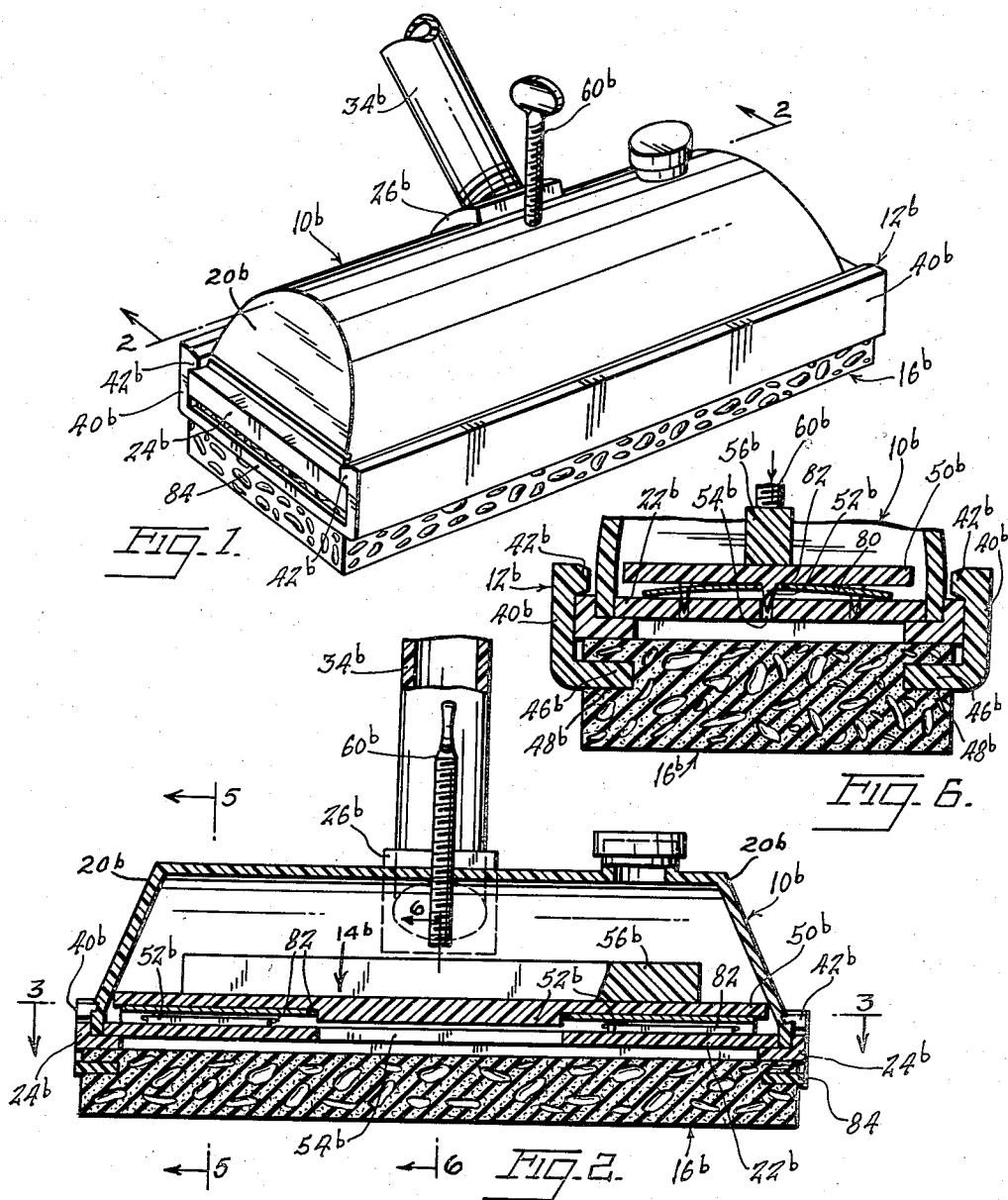
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2,839,770

AUTOMATIC SELF FEED WAX APPLIER

Filed May 12, 1955

2 Sheets-Sheet 1



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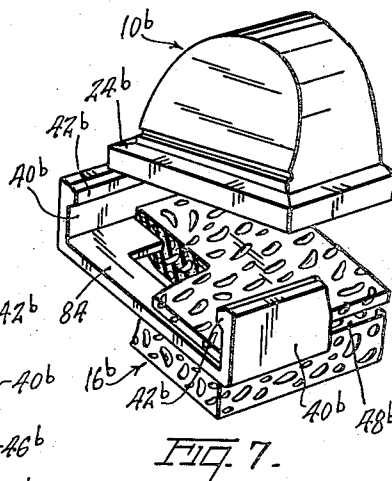
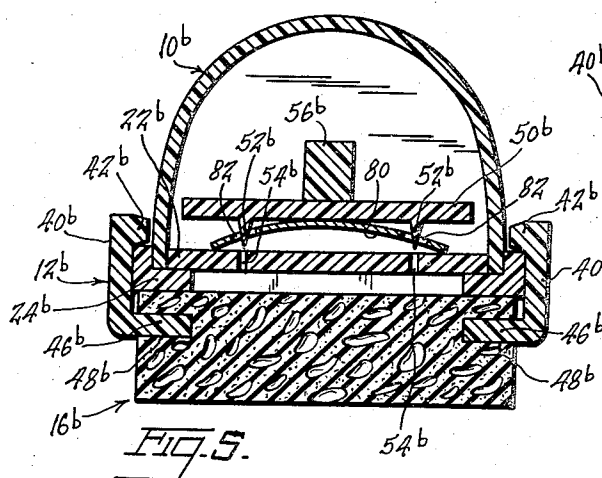
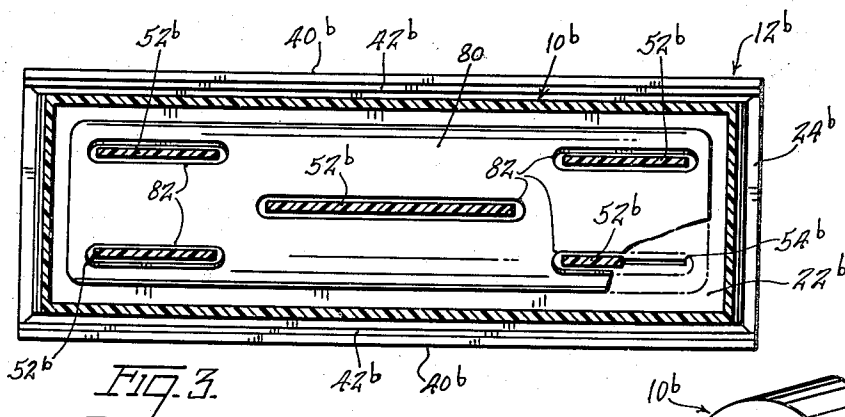
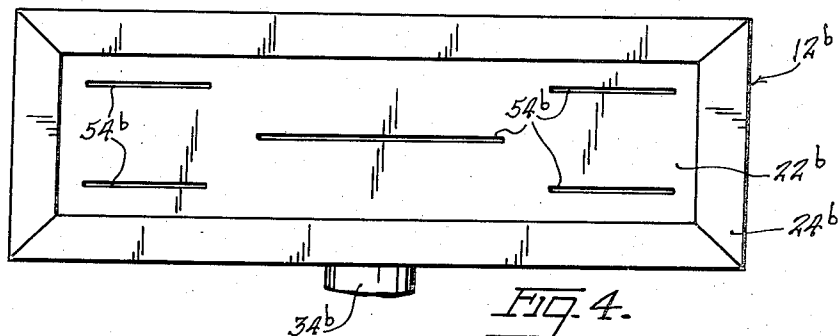
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AUTOMATIC SELF FEED WAX APPLIER

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2 Sheets-Sheet 2



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AUTOMATIC SELF FEED WAX APPLIERS

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4 Claims. (Cl. 15-131)

This invention relates to devices for applying wax to floor surfaces, and more particularly has reference to devices of this type classified as self-feeding, in that they include a container for a liquid wax, so arranged as to cause wax to flow through apertures formed in the container, into a floor-contacting element such as a sponge, while said element is being moved across the floor surface.

The present invention constitutes a continuation in part of my copending patent application, Serial No. 480,262, filed January 6, 1955, now Patent No. 2,805,435.

The main object of the present invention is to provide an improved valve assembly, adjustably controllable by a user, which assembly can be operated to prevent flow of wax from the container in one position of the assembly, and, in other open positions of the valve assembly, to provide for a regulated, adjusted flow of the liquid wax into the sponge element.

More particular objects of the invention are to provide means facilitating attachment or detachment of the sponge element; provide means interconnecting the sponge element and an association support frame in such a manner as to cause the same to remain detachably assembled with the container of the applicator; provide for a maximum ease and facility of adjustment of the valve assembly to selected positions; and to provide an applicator which will be light, compact, rugged, trouble-free in operation, and capable of manufacture at low cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view of a wax applicator formed in accordance with the present invention.

Fig. 2 is a longitudinal sectional view on line 2-2 of Fig. 1.

Fig. 3 is a plan sectional view on line 3-3 of Fig. 2.

Fig. 4 is a bottom plan view of the form of Fig. 1 with the sponge element and frame removed.

Fig. 5 is an enlarged transverse sectional view on line 5-5 of Fig. 2.

Fig. 6 is an enlarged transverse sectional view on line 6-6 of Fig. 2.

Fig. 7 is a partially exploded, fragmentary perspective view showing the container snapped out of the frame, in the form of Fig. 1.

Referring in detail to the drawings, the improved applicator is composed of four main components, a container 10b, a frame 12b, a valve assembly 14b and a floor-contacting distributing sponge element 16b.

Container 10b is formed of plastic and includes an elongated top plate transversely curved through substantially 180 degrees of a circle, integral at its ends with flat, upwardly convergent end plates 20b. The container

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further includes upon the back wall thereof a block 26b having a threaded socket receiving the threaded inner end of a tubular, plastic handle 34b. The block may be molded upon or otherwise rigidly secured to the container.

Closing the bottom of the container is a flat bottom wall 22b having (Fig. 4) a plurality of narrow, longitudinal slots 54b providing outlets therein. These include rectangularly spaced corner slots and an elongated center slot extending longitudinally and centrally of the bottom wall or plate, medially between opposite ends thereof.

Supported on bottom plate 22b is (Figs. 3, 5 and 6) an elongated, rectangular spring plate 80 tensioned to normally flex to a transversely, upwardly curved condition shown in Fig. 5.

The valve assembly 14b includes a flat, rectangular valve plate 50b of plastic material supported on spring plate 80. The spring plate has a series of slots 82 (Fig. 3) substantially wider than slots 54b, in registration with slots 54b, and molded integrally upon the underside of valve plate 50b, and depending therefrom within slots 82 are plugs 52b formed as elongated ribs of inverted isosceles triangular cross-section. At their bases, the plugs are substantially wider than outlet apertures 54b of base plate 22b, so as to wedge in said apertures when valve plate 50b is forced downwardly against the restraint of spring plate 80 to its Figure 6 position. Fixedly secured to and extending longitudinally and centrally of valve plate 50b is an elongated block 56b which reinforces the valve plate 50b and further serves as means engageable by the inner end of a screw 60b threaded in the top wall of the container.

When screw 60b is threaded upwardly to its Fig. 2 position, out of engagement with block 56b, spring plate 80 is free to flex to its normal, untensioned, Fig. 5 position, and elevates valve plate 50b to disengage plugs 52b from slots 54b. The wax may now flow through the slots into the sponge element 16b.

On threading of the screw downwardly (see Fig. 6), the valve plate 50b is shifted downwardly, causing the spring plate to become substantially flattened, and wedging plugs 52b in the apertures 54b to cut off the flow of wax. By permitting plate 50b to move upwardly to a slight extent from its Fig. 6 position, the plugs can be partially elevated out of the slots 54b, so as to cause a restricted flow of the wax.

The frame 12b is formed from a single piece of molded plastic, and includes front and back walls 40b having inwardly facing longitudinal ribs 42b engaging over a retaining flange 24b of L-shaped cross-section secured fixedly to and extending through the full periphery of the container at the bottom of the container. The ribs 42b have sloped bottom faces, and the walls 40b are springable, being tensioned to normally spring to the vertical positions thereof shown in Fig. 6.

At their ends, the walls 40b are integrally connected by cross members 84 (Figs. 2 and 7) extending between the bottom edges of the walls 40b. Integrally formed on said bottom edges are inwardly directed longitudinally tongues 46b, said tongues at their ends merging into the ends of the cross members 84. The tongues 46b are adapted to engage in longitudinal, outwardly facing grooves 48b formed in the sponge element 16b. The sponge element, at its opposite ends, has transverse grooves communicating with the longitudinal grooves 48b, the transverse grooves receiving the cross members 84.

It will be seen that the sponge element can be compressed to permit it to become engaged with or disengaged from the tongues 46b, and cross members 84. When the sponge element is engaged with said tongues in the manner shown in Figs. 2 and 5, the inherent resiliency of the

sponge element, and the portion of its thickness disposed above the tongues 46^b, causes the sponge element to exert pressure against the underside of the retaining flange 24^b of the container, tending to hold said flange in engagement with the sloped bottom surfaces of the ribs 42^b of the frame. As a result, the container, frame, and sponge element are all held detachably assembled with one another.

To disassemble the container from the frame, it is merely necessary that an upward pull be exerted upon the container, to an extent sufficient to spring the walls 40^b away from one another, thus to shift the ribs 42^b clear of the flanges 24^b. Similarly, the ribs have sloped top surfaces, so that when the container is to be attached to the previously assembled frame and sponge element, it need merely be forced downwardly against the ribs 42^b, exerting a cam action thereagainst effective to yieldably and resiliently flex the walls 40^b away from one another. The sloped top and bottom surfaces of the ribs 42^b thus constitute cam surfaces engageable by the retaining flange 42^b when the container is being snapped into or out of the frame.

It will be noted that the container, frame, and sponge element can be completely separated from one another, and can be assembled with maximum ease and facility, the sponge element being so arranged as to serve as a means holding the several components interengaged against relative separation.

Further, by simple adjustment of a conveniently located screw, the user can unplug the bottom openings of the container to a selected extent, to cause a predetermined, adjusted flow of floor wax out of the container into the floor-contacting distributing element 16.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

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

1. An applicator for liquid floor wax and like materials comprising a handle, a container for liquid wax attached thereto and having a bottom plate with at least one outlet opening for said wax in said bottom plate, a frame extending about and attached to said container, a floor-contacting distributor element carried by the frame below the bottom plate and a valve assembly in the container including a movable valve plate, means for raising and lowering the plate within the container, and at least one plug depending from the valve plate and engaging in said outlet opening to close the same in the lowermost position of the valve plate, said means for raising and lowering the plate comprising a spring plate underlying the valve plate and tensioned to normally flex upwardly in a transverse direction to raise the valve plate, a block extending upwardly from the valve plate, and a screw threaded in the container above the block and adapted, when threaded downwardly, to exert pressure against said block to shift the valve plate downwardly against the restraint of said spring.

2. An applicator for liquid floor wax and like materials comprising a handle, a container for liquid wax attached thereto and having a bottom plate with at least one outlet opening for said wax in said bottom plate, a frame extending about and attached to said container, a floor-contacting distributor element carried by the frame below the bottom plate, and a valve assembly in the container including a movable valve plate, means for raising and lowering the plate within the container, and at least one plug depending from the valve plate and engaging in said outlet opening to close the same in the lowermost position of the valve plate, said means for raising and lowering the

plate comprising a spring plate underlying the valve plate and tensioned to normally flex upwardly in a transverse direction to raise the valve plate, a block extending upwardly from the valve plate, and a screw threaded in the container above the block and adapted, when threaded downwardly, to exert pressure against said block to shift the valve plate downwardly against the restraint of said spring, the plug being of wedge shaped cross section so as to wedge in the outlet opening in the lowermost position of the valve plate.

3. An applicator for liquid floor wax and like materials comprising a handle, a container for liquid wax attached thereto and having a bottom plate with at least one outlet opening for said wax in said bottom plate, a frame extending about and attached to said container, a floor-contacting distributor element carried by the frame below the bottom plate, and a valve assembly in the container including a movable valve plate, means for raising and lowering the plate within the container, and at least one plug depending from the valve plate and engaging in said outlet opening to close the same in the lowermost position of the valve plate, said means for raising and lowering the plate comprising a spring plate underlying the valve plate and tensioned to normally flex upwardly in a transverse direction to raise the valve plate, a block extending upwardly from the valve plate, and a screw threaded in the container above the block and adapted, when threaded downwardly, to exert pressure against said block to shift the valve plate downwardly against the restraint of said spring, the plug being of wedge shaped cross section so as to wedge in the outlet opening in the lowermost position of the valve plate, the plug and outlet opening being of elongated formation and extending longitudinally of the container.

4. An applicator for liquid floor wax and like materials comprising a handle, a container for liquid wax attached thereto and having a bottom plate with at least one outlet opening for said wax in said bottom plate, a frame extending about and attached to said container, a floor-contacting distributor element carried by the frame below the bottom plate, and a valve assembly in the container including a movable valve plate, means for raising and lowering the plate within the container, and at least one plug depending from the valve plate and engaging in said outlet opening to close the same in the lowermost position of the valve plate, said means for raising and lowering the plate comprising a spring plate underlying the valve plate and tensioned to normally flex upwardly in a transverse direction to raise the valve plate, a block extending upwardly from the valve plate, and a screw threaded in the container above the block and adapted, when threaded downwardly, to exert pressure against said block to shift the valve plate downwardly against the restraint of said spring, the plug being of wedge shaped cross section so as to wedge in the outlet opening in the lowermost position of the valve plate, the plug and outlet opening being of elongated formation and extending longitudinally of the container, the spring plate being formed with at least one opening registering with said outlet opening, said plug extending through the spring plate opening.

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