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CLEANING DEVICE FOR FABRICS

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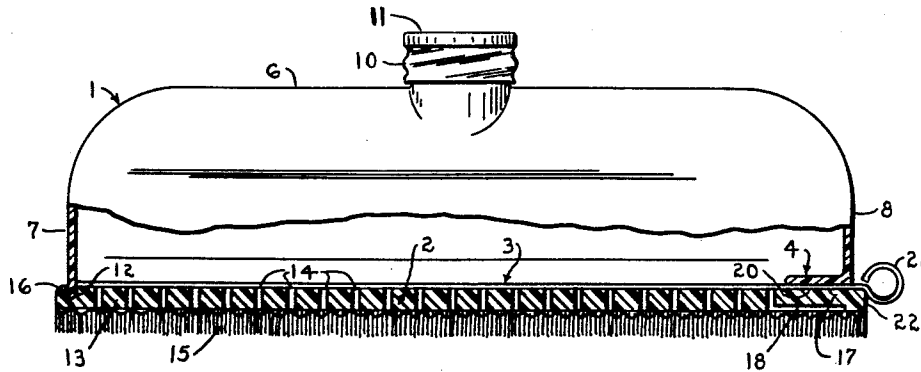


*Fig.-1*

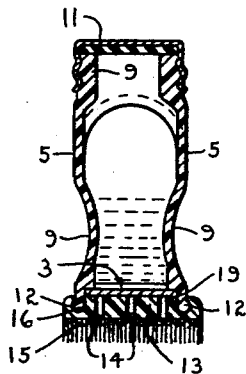


*Fig.-2*

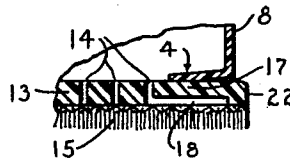


*Fig.-3*

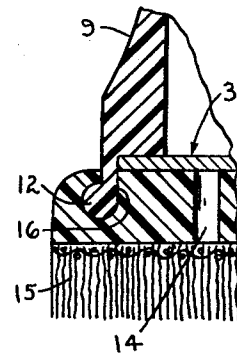


*Fig.-4*

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## CLEANING DEVICE FOR FABRICS

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4 Claims. (Cl. 15—138)

The invention relates generally to cleaning devices and more particularly is directed to a device comprising a container for dispensing a cleaning liquid and a brush for applying the liquid.

The device may be used wherever desired but has been primarily designed and constructed for support and manipulation by a hand for convenience in readily cleaning fabrics, such as drapes, upholstery, and wearing apparel.

The device is of a size whereby to facilitate cleaning relatively large areas as distinguished from the various kinds or types of small spot removing applicators now in use.

One of the important objects of the invention is to provide a device comprising a container or reservoir for a cleaning liquid, a brush unit carried by the container for applying the liquid, and a primary valve plate for sealing the liquid in the container or controlling the flow therefrom to the brush.

A particular object of the invention is to provide a device in which the parts are preferably constructed from some durable plastic material which is resiliently flexible and light in weight.

A specific object is to provide the container with a groove or socket and the back of the brush unit with a tongue or rib which is adapted for snap connection with the socket to provide an interlocking sealed joint between the container and brush back, the latter constituting the bottom of the device.

Another object of the invention is to provide a brush unit in which the back thereof is provided with ports through which a liquid in the container may be dispensed into the bristles of the brush.

A further object of the invention is to provide the bottom portion of the container with a guideway having an entrance opening at one end of the container in which the valve plate is slidable in superimposed relationship with the brush back, with the edges of the valve arranged in sealed relationship with the guideway for retaining the liquid in the container or which can be manually moved to permit flow of the liquid through several or all of the ports.

A significant object of the invention is to provide the container with a secondary resiliently flexible valve which normally engages the primary valve when the latter is supported between the container and brush unit but serves to automatically engage the brush back after the primary valve is withdrawn or detached so as to seal the entrance opening above referred to and thereby prevent release of liquid therethrough.

Also an object is to provide a container having recesses in its opposite sides to facilitate holding and gripping the device.

The invention also offers advantages with respect to reduced costs of manufacture, assembly, durability and efficiency.

Additional objects and advantages of the invention will become readily apparent after the description hereinafter

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set forth is considered in conjunction with the drawings annexed hereto which illustrate a preferred embodiment of the invention.

In the drawings:

Figure 1 is an elevational front view of the device, with portions broken away and other portions in section to illustrate certain details of the structure;

Figure 2 is a vertical sectional view;

Figure 3 is a partial view in section illustrating the automatic character of the secondary valve; and

Figure 4 is an enlarged partial sectional view showing the operative relationship of the primary valve, container and the back of the brush unit.

Referring more particularly to the drawings, numeral 1 generally designates a container for a liquid, 2 a brush unit, 3 a primary valve interposed between the container and brush unit, and a secondary valve 4.

The container is preferably made in the form of a generally rectangular housing having a pair of corresponding substantially parallel side walls 5 which merge with a curved top wall 6, and end walls 7 and 8. The side walls are preferably indented or recessed at 9 to facilitate gripping the device and the top wall is provided with a threaded neck 10 for admitting a liquid to the container and a cap 11 is threadably connected to the neck.

The lower marginal edge portions of the side walls 5 and the end wall 7 are preferably provided with offset depending tongue or bead formations 12, constituting components of means affording a snap connection with the brush unit.

The brush unit includes a planar back 13 provided with ports or passages 14 and agitating means such as suitable bristles 15 extending transversely from the underside of the back. The back is of a size somewhat larger than the open bottom of the container and of a thickness to impart stability thereto including the container when attached thereto. The upper side of the back is preferably provided with grooves or socket formations 16 located outwardly from the ports, and detachably receive the tongue formations 12 on the container whereby to obtain a sealed detachable snap connection between the container and brush unit so that liquid in the container can flow only through the ports or passages 14. If found desirable the socket and tongue formations may be reversed so that they are respectively provided on the back and container. Obviously, other means may be employed to connect the container and brush unit, but the means illustrated offers a speedy way of detachably connecting them together and since the components are moulded to accurate dimensions no machining of these parts is required.

Attention is directed to the fact that the brush back 13 is provided with a valve seat 17 and that one of the ports 14 is provided with a horizontal continuation 18 leading to bristles adjacent one end of the device as clearly shown in Figures 1 and 3.

The side walls 5 and end wall 7 of the container or housing are further formed with internal rabbet formations, which in combination with the upper surface of the brush back provide a guideway 19 having an entrance opening 20 which slidably receive the primary valve 3 in a manner whereby when this valve is in its innermost position substantially within the confines of the device as shown in Figure 1, the ports 14 will be closed to prevent flow of liquid therethrough. The primary valve is superimposed and slidable on the upper surface of the brush back and this relationship and the connection between the valve and guideway 19 affords a seal therebetween. The primary valve is planar and one end thereof is preferably provided with a handle 21 for

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manipulating the valve. The handle may engage a stop 22 on the brush back for limiting the extent of the inward movement of the valve.

The secondary valve 4 is unique and preferably is in the form of a resiliently flexible lip which is inclined to normally bear on the primary valve 3 as shown in Figure 1 and assists in maintaining the primary valve in sealed relationship to the brush back and at the same time assists in automatically holding the primary valve in any longitudinal position it may be moved to regulate or control the quantity of liquid to be dispensed through the ports or passages.

The secondary valve 4, as alluded to above, is automatic in operation and when the primary valve is removed to open all of the ports or passages 14 the secondary valve will move into engagement with the valve seat 17 as shown in Figure 3 and thereby prevent escape or flow of liquid out through the entrance opening 20. This feature of automatically closing the entrance opening is important but it should be understood that the entrance opening may also be closed by a suitable plug or a member which may be slid over the opening in sealed relation to the end wall 8 of the container.

In view of the foregoing, it will be manifest that the device offers many advantages with respect to manufacture and use which are not present in the small and fragile spot removers now in commercial use.

Having thus described my invention, it is obvious that various modifications may be made in the same without departing from the spirit of the invention, and, therefore, I do not wish to be understood as limiting myself to the exact form, construction, arrangement, and combination of parts herein shown and described.

I claim:

1. A device of the kind described comprising a container having an open bottom, a brush unit secured to the container and closing the open bottom, said brush unit being provided with ports, a guideway provided in the container and having an entrance opening, a primary plate valve slidable in the guideway and entrance opening for opening or closing the ports to permit or stop the flow of a fluid through the ports, and a flap valve for closing the entrance opening when the primary plate valve is removed from the container.

2. A device of the kind described comprising a container having an entrance opening and an open bottom, a unit secured to the container and closing the open

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bottom, said unit including a back provided with ports and agitating means, a primary plate valve extending through the entrance opening and slidable on the back for opening or closing the ports to permit or stop the flow of a liquid through the ports, and a secondary valve means carried by the container and operable to automatically engage the back at a location adjacent the entrance opening to close said opening when the primary valve is removed from the container through said opening.

3. A device of the kind described comprising a container having walls defining an open bottom, said walls being provided with tongue formations, a brush unit having a back provided with socket formations receiving the tongue formations in a manner whereby to afford a detachable sealed snap connection between the back and container, said back also being provided with ports and bristles, said container being provided with an entrance opening, a primary planar valve extending through the opening and slidable on the back for opening or closing the ports to permit or stop the flow of a liquid through the ports, and a secondary valve means disposed within the confines of the container for automatically closing the opening when the primary valve is withdrawn therefrom.

4. A device of the kind described comprising a container having an open bottom, a brush unit secured to the container and closing the open bottom, said brush unit being provided with ports, said container being provided with an entrance opening, a primary plate valve slidable in the entrance opening and on the brush unit for opening or closing the ports to permit or stop the flow of a fluid through the ports, and a secondary valve bearing against the primary plate valve for urging the latter against the brush unit and assisting to maintain the primary valve in any adjusted position, said secondary valve also serving to close the entrance opening when the primary plate valve is removed from the container.

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