This invention relates to a liquid wax dispenser and applicator. The present device is intended for floor waxing purposes and the like. It includes a tank or reservoir for liquid wax and a valve mechanism to dispense the same in limited quantities upon the floor.

An important feature of the invention is the use of sponge rubber or cellulose sponge as the applying means. The sponge is sufficiently porous to allow the liquid wax to pass through and it also tends to distribute the wax uniformly throughout. In addition, the sponge retains the wax in its cellular structure and feeds it only as needed. Pressure on the sponge forces the wax out and relief of pressure enables the sponge to hold the wax. Furthermore, sponge is a superior floor polishing agent, especially when saturated with liquid wax.

Another important feature of this invention is the fact that the sponge is removable for cleaning and other purposes. It will be understood that in the normal course of use, the sponge will accumulate deposits of dirt and other foreign matter which must be removed. It would be difficult, if not impossible, to clean the sponge while it is mounted on the dispensing device. In the present case, the sponge is readily removable from the dispenser and equally as readily replaceable thereon.

Still another feature of the invention is the novel method of forming the sponge to give it adequate rigidity while at the same time providing it with sufficient flexibility to enable it to be squeezed during cleaning operations. The sponge is squeezed or folded along longitudinal folding lines but it is stiffened to prevent folding transversely of itself. This feature is achieved by providing a rigid framework along the longitudinal edges of the sponge and a relatively flexible framework along its transverse edges. The rigid framework is made of plastic bars and the flexible framework is made of the same material as the sponge itself.

An important object of the invention is its simple, effective valve mechanism. The liquid wax tank is provided with a single outlet port and a rubber closure member is provided across said port. Spring pressure holds the closure member in normally closed position. A pull cable is provided to pull the closure member to open position against the said spring pressure. When the pull cable is released, the spring action returns the closure member to closed position.

The invention is illustrated in the accompanying drawing in which:

Fig. 1 is a vertical section through a liquid wax dispensing and applying device made in accordance with this invention.

Fig. 2 is a plan view of a sponge used in connection with said device.

Fig. 3 is a transverse section through the sponge taken on the line 3-3 of Fig. 2.

The wax dispensing and applying device herein claimed is provided with a tank which may be molded of plastic or cast of metal, such as aluminum, or made in any other suitable way. Speaking generally, the tank is closed at the top and sides and open at the bottom. It is provided along its lower edges with flanges which project horizontally outwardly and then downwardly to form shoulders. An opening 16 is formed in the top wall of the tank through which the liquid wax 18 may be poured into the tank. An annular boss 20 encircles the opening 16 and said boss is externally threaded to receive a cap 22 having internal screw threads and serving as a closure for said opening. A second opening 24 is formed in the top wall of the tank and it too is surrounded by an annular, externally threaded boss 26 which receives an internally threaded cap 28 serving as a closure therefor.

A central hole 30 is formed in cap 28 and so is a side opening 32. A side opening 34 is formed in boss 26 for registration with side opening 32 to serve as an air vent. The cylindrical formation is provided within the tank below annular boss 26 and said formation consists of an upper section 36 and a lower section 38 joined by an inwardly extending annular shoulder 40. Vertical holes 42 are formed in said shoulder 40 to function as air vents. It will be noted that in the preferred form of this invention all of the foregoing elements, except the two caps 22 and 28, are made integral with each other, constituting the same molding or casting.

Pivotaly secured to tank 10, by means of bolts 44 or other suitable means, is a pair of brackets 46. Gaskets or washers 48 are provided between the bolts and the side walls of the tank to seal off the holes 50 through which the bolts extend. The upper ends of brackets 46 are secured by screws 52 or other suitable fastening means to a long handle 54 which may simply be a wooden stick or tubular aluminum or the like. The handle has a groove or hole 56 formed therein, longitudinally thereof, for a reason which will shortly appear. At its upper end, said handle has a side opening 58 which communicates with groove or hole 56 and projecting through said side opening is a lever 60. This lever is pivotaly connected to the handle by means of a screw or pin 62. Closing off the bottom of the tank is a horizontal partition 64 which abuts flanges 12 of said tank. A single opening 66 is formed in said partition to allow the wax to flow out of the tank when the valve is opened. In the preferred form of this invention, partition 64 is made of plastic and it is provided with ribs 68 which reinforce it and also serve as supports for a perforated plate 70. Plate 70, in turn, serves as a support for the sponge 72 which is made, in the preferred embodiment of this invention, of cellular, cellulose sponge material of the kind made by E. I. du Pont de Nemours & Co. The sponge rests against shoulders 14 of the tank which occupy a common plane with perforated plate 70.

It will be noted in Fig. 2 of the drawing that cemented or otherwise secured to the sponge is a pair of relatively rigid plastic bars 74 extending longitudinally of the sponge and parallel to each other adjacent the long sides of the sponge. Also cemented or otherwise secured to the sponge, adjacent its short sides, is a pair of sponge bars 76 made of the same material as the sponge itself. Bars 76 are also disposed in parallel relation to each other and their ends are in close proximity to the ends of the other pair of bars 74, thereby forming a rectangular cross section to the sponge. Sponge bars 76 are as flexible as the sponge itself and consequently the sponge may be squeezed or flexed along longitudinal folding or flexing lines.

It will be understood that partition 64 may be secured to the tank by any suitable means, such as cementing or welding. Should it be desired to detach the partition from the tank by detachable fastening means so that it might be removed from the tank for cleaning or other purposes,
ordinary screws could be utilized in place of cementing or welding. Perforated plate 70 is simply laid in place within the framework 74, 76 and it is held there by the sponge itself. The sponge is removably held in place by friction between its framework 74, 76 and the shoulders 14 of the tank. It will be understood that when the device is operated in normal manner, its weight alone would tend to keep the sponge in place.

A rubber valve closure member 80 is provided across opening 66 to close said opening. A washer 82 rests on said closure member and a compression spring 84 bears at one end against said washer and at the other end against shoulder 40, thereby yieldingly holding the valve closure member in closed position. Lever 60 controls a mechanism for pulling the valve closure member to open position against the action of spring 84. This mechanism includes a pull cable 86 which extends through a tube 88 mounted within groove or hole 56 in the handle 54. The upper end of cable 86 is attached to lever 60 and its lower end is connected to a ball 90 or the like mounted within a tube 92. It will be observed that the upper end of said tube 92 is offset inwardly to hold the ball 90 captive and thereby to secure the lower end of the cable to said tube. The lower end of tube 92 is internally threaded to receive a screw 94 which is secured to the valve closure member 80. Consequently, the lower end of the cable is attached to said valve closure member and when lever 60 is pivoted upwardly the valve closure member is moved to open position.

Situated atop tube 92 is a disc 96 which is faced with a washer or gasket 98. Said disc and gasket are both provided with registering vent holes 100 which are not in registration with vent holes 42 above mentioned. When said disc and gasket are disposed against shoulder 40, vent holes 42 and 100 are closed off. When said disc and gasket are removed from shoulder, said vent holes are opened and air may enter the tank to replace dispensed wax through said vent holes as well as through vent holes 32 and 34 above mentioned.

Disc 96 and gasket 98 are normally in closed position, being held there by a compression spring 102 whose upper end bears against a washer 104. Said washer is faced with a gasket 106 which is disposed against cap 28 to seal off hole 30 through which cable 86 extends. When the cable is pulled to move the valve closure member to open position, simultaneously disc 96 and its gasket 98 also move to open position and wax is dispensed. Conversely, when the cable is released, they are spring urged back to closed position.

The foregoing illustrates the invention and it will be understood that modifications may be incorporated therein within the broad spirit of the invention and the broad scope of the claim.

We claim:
A wax dispensing and applying device, comprising a tank for said wax, an opening at the bottom of the tank through which the wax is dispensed, a closure member across said opening, spring means holding said closure member in normally closed position, a cable connected to said closure member to pull said closure member to open position against the action of said spring means, a handle connected to said tank, a lever pivoted to said handle, said lever being connected to said cable to actuate the same, and a sponge removably secured to said tank in operative position thereon below the tank opening to receive the wax therethrough, said sponge being backed with a perforated plate to support it while in use, spacers being provided between said perforated plate and the bottom of said tank to space said perforated plate from said bottom of the tank to provide a chamber for the wax passing through the opening in said tank bottom and to enable said wax to spread to and pass through all of the perforations in said perforated plate in order to equally distribute the wax to the sponge, said sponge being provided with a rectangular framework on its upper surface, said rectangular framework comprising a pair of longitudinally extending, relatively rigid plastic bars situated in parallel relation to each other adjacent the sides of the sponge, and a pair of transversely extending sponge bars situated in parallel relation to each other adjacent the ends of the sponge and adjacent the ends of the plastic bars, the bottom of the tank being recessed to receive said rectangular framework, the walls of the recess being in frictional engagement with said rectangular framework to frictionally secure said sponge to said tank.

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