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Doyle

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[54] **APPLICATOR PACKAGE FOR FLUID PRODUCTS**

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[52] **U.S. Cl.** **401/6,** 401/132, 401/202

[51] **Int. Cl.** **B43m 11/05**

[58] **Field of Search** 15/104.94, 258; 401/202, 401/132, 6

[56] **References Cited**

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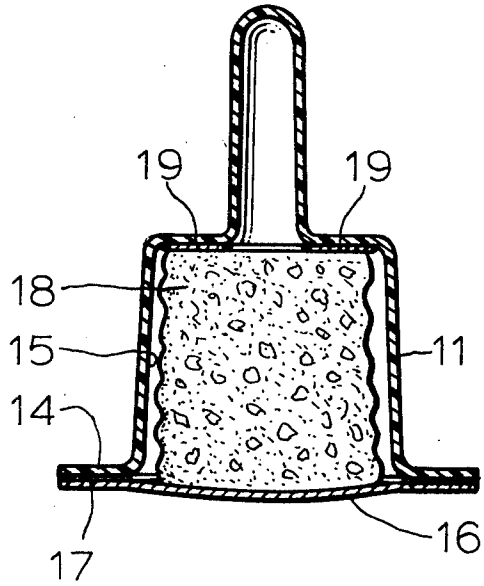
Primary Examiner—Lawrence Charles

[57] **ABSTRACT**

An applicator package for storing and dispensing a fluid product comprises a housing defining an open-ended chamber. A compressible sponge-like dauber, saturated with the product to be dispensed, is mounted within the chamber and held in compression by a cover foil which overlies and hermetically seals the open end of the chamber. In use, the cover foil is peeled off to allow the dauber to extend through the open end of the chamber so that it can be brought into contact with the work surface. An outwardly extending flange may be provided about the periphery of the chamber opening to facilitate attachment of the cover foil and to protect the user from contact with the product.

2 Claims, 5 Drawing Figures



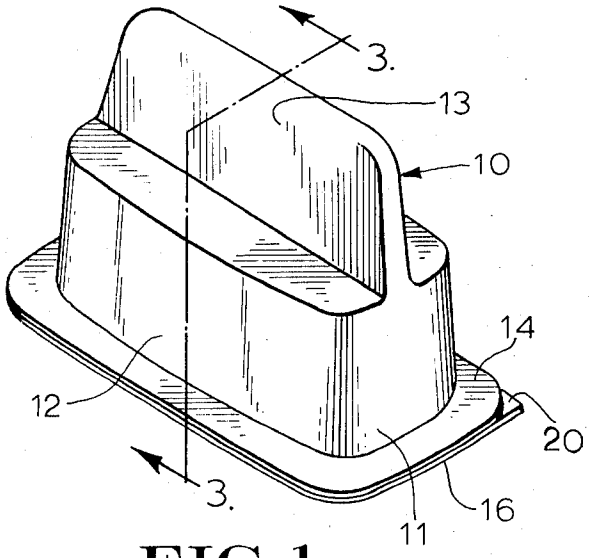


FIG. 1

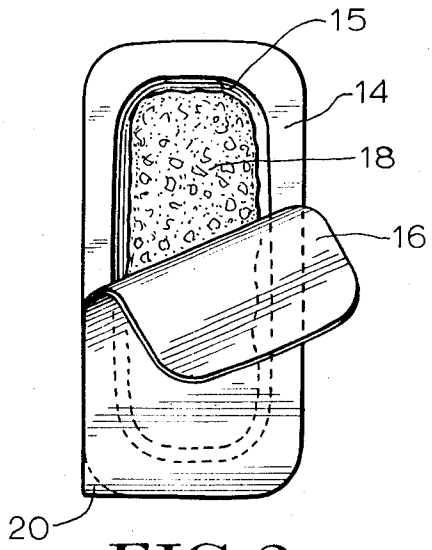


FIG. 2

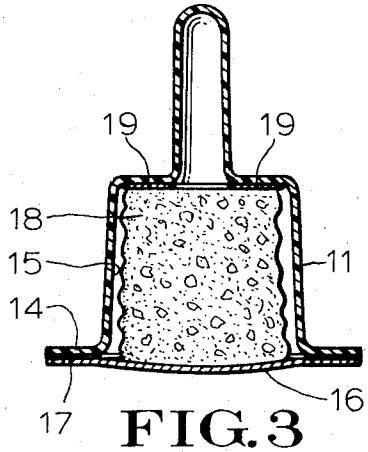


FIG. 3

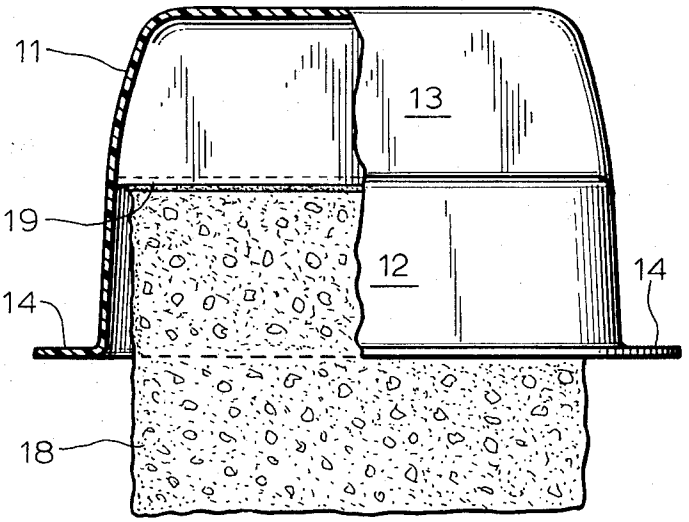


FIG. 4

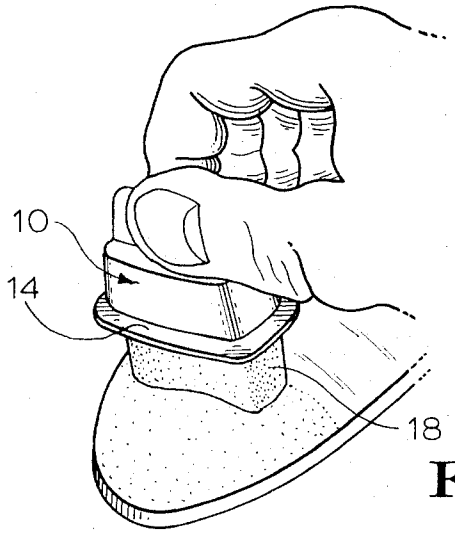


FIG. 5

APPLICATOR PACKAGE FOR FLUID PRODUCTS

BACKGROUND OF THE INVENTION

This application relates in general to applicators, and more particularly, to a disposable one-use applicator package for conveniently storing and dispensing measured quantities of a liquid or paste substance such as shoe polish.

On many occasions, and particularly when traveling away from home, it is desirable to have small measured quantities of various liquid or paste-like products such as shoe polishes, cleaning solutions, and special soaps available in sealed packages whereby they can be conveniently stored, dispensed and applied as the need arises. To be suitable for this purpose, the packages utilized should provide a hermetically sealed chamber for retaining a desired quantity of the product without deterioration or leakage, and an integral applicator means, such as an internal dauber, whereby the product can be applied to a desired surface without contact to the user. An additional requirement of these applicator packages, particularly where the packages are intended for one-time use, as when dispensing shoe polish or cleaning fluid in single-use quantities, is that they be economical in construction, and be adaptable to automated assembly methods so that their assembled cost is sufficiently low to warrant disposal after a single use. Unfortunately, prior-art applicator packages have not been entirely satisfactory in that they have either been unnecessarily complicated and therefore undesirably expensive for one-time use, or have been awkward to use and have not sufficiently protected the user from contact with the applied product.

SUMMARY OF THE INVENTION

Accordingly, it is a general object of the present invention to provide a new and improved applicator package for fluid or paste products.

It is a specific object of the present invention to provide a new and improved applicator package which is more economical to construct and therefore better suited for one-time use applications.

It is another specific object of the present invention to provide a new and improved applicator package which offers improved protection for a user from contact with the product contained within.

Accordingly, the invention is directed to an applicator package for storing and dispensing a fluid product onto a desired surface. The applicator packages comprise a housing defining a chamber for containing the fluid product, the chamber having an open end. Means comprising a compressible dauber attached to the housing are provided for applying the product to the surface, the dauber having a compressed state wherein the dauber is contained entirely within the chamber, and an extended state wherein the dauber extends through the open end of the chamber. Means comprising a cover extending over the open end of the chamber are further provided for hermetically sealing the chamber and retaining the dauber in the compressed state prior to use.

BRIEF DESCRIPTION OF THE DRAWINGS

The features of the present invention, which are believed to be novel, are set forth with particularity in the appended claims. The invention, together with the further objects and advantages thereof, may best be understood by reference to the following description taken in connection with the accompanying drawings, in the several figures of which like reference numerals identify like elements, and in which:

FIG. **1** is a perspective view of an applicator package constructed in accordance with the invention.

FIG. **2** is a bottom view of the applicator package of FIG. **1** showing the bottom cover partially peeled away to expose a portion of its internal dauber.

FIG. **3** is a cross-sectional view taken along lines **3—3** of FIG. **1.**

FIG. **4** is a side elevational view of the applicator package of FIGS. **1–3** showing the bottom cover removed and the dauber extended into position for applying a fluid product contained within the package to a surface.

FIG. **5** is a perspective view showing the applicator package of the invention in use.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Although it will be appreciated that the applicator package of the present invention can be fabricated in various shapes and sizes for storing and dispensing various types of products, it finds particular utility as a one-use dispenser for small quantities of fluid products such as shoe polishes, and accordingly will be described with particular reference to an exemplary embodiment consisting of a small one-use applicator package **10** for applying shoe polish to a pair of shoes.

Referring now to the figures in greater detail, and particularly to FIG. **1,** the applicator package **10** is seen to comprise a semi-rigid housing **11** formed by means of a drawing or molding operation from a formable plastic such as polyethylene. The housing defines an oblong body portion **12** formed by interconnection of two spaced-apart upstanding side walls, and a handle portion **13** formed by interconnection of two additional upstanding side walls of reduced spacing. The body portion **12** of the housing includes a flange **14** which extends about the periphery of the housing at its bottom end, which is open and which provides access to the chamber **15** (FIG. **3**) formed by the hollow interior of the housing.

A flexible impervious cover **16,** consisting of a sheet of aluminum foil or other suitable material shaped to extend to the circumferential edges of flange **14,** is sealed across the open bottom of housing **11** by means of layer **17** of adhesive applied to adjacent surfaces of the foil and the flange. This results in a peelable hermetic seal being formed for chamber **15** which prevents evaporation or deterioration of the contents thereof during extended storage. It will be appreciated that other types of seals can be used instead, such as seals formed by the application of heat and pressure, and that the cover foil **16** can be folded over the edge of flange **14** if necessary to achieve a tighter seal. Furthermore, the cover foil **16** can include an overlying laminate to facilitate printing product identification and instructions for use on the cover.

To facilitate application of the product it contains, applicator package **10** includes a dauber **18** mounted within chamber **15.** This dauber is made from a sponge-like resilient material of the open-cell absorbent type, such as cellulose, and preferably has numerous cells sufficiently small and fine so that liquid is uniformly discharged onto a contacting surface. Referring to FIG.

3, the dauber is secured by means of a layer **19** of a suitable adhesive or cement at its upper end to the inside top surface of chamber **15** at the point where housing **11** narrows to form handle portion **13.** It will be appreciated that dauber **18** can be secured within chamber **15** by other means, such as by a force-fit between it and the interior surface of the handle portion of housing **11,** or by means of various sizes and shapes of clips which may be either press fit or molded into housing **11.** In either event, dauber **18** is cut to be slightly smaller in its outside dimensions than the inside dimensions of chamber **15** so that it can freely expand from a compressed to an extended position.

Referring again to FIG. **3,** when the cover foil **16** is in position dauber **18** is held in a compressed state within chamber **15** by reason of the overlying foil **16** preventing expansion of the dauber. It is in this state that the applicator package would normally be marketed, housing **11** forming, by virtue of the compression of dauber **18,** a compact hermetically sealed package which can be conveniently carried by the user.

When cover **16** is peeled away from housing **11,** dauber **18** extends into its expanded position, as shown in FIG. **4.** It will be appreciated that in this extended position dauber **18,** which is normally saturated with the product to be dispensed, can be conveniently used to apply the fluid product to both flat and curved surfaces, such as the various leather surfaces of a shoe, by grasping the handle portion **13** of the housing, as shown in FIG. **5.** During such application of the product flange **14** serves to protect the user from contact with the product.

In the manufacture of applicator packages **10** the product to be dispensed can be introduced into chamber **15** either before or after the cover foil **16** has been sealed in place. In either case the cellulose sponge-like material of dauber **18** can be conveniently cemented in place while dry and compressed, since it then has no tendency to expand. Where the liquid product is to be introduced prior to sealing it is advantageous to partially seal cover foil **16** in position to hold dauber **18** in compression before adding the product to chamber **15.** Alternatively, by providing sufficient volume within handle portion **13,** it would be possible to invert housing **11** and place the product within the handle portion of the housing. The dauber **18** would then be cemented in place while dry and compressed and the cover foil **16** would be sealed in position to close chamber **15.** Then, upon subsequent uprighting of housing **11,** the fluid product in handle portion **13** is absorbed by dauber **18,** causing that element to expand against cover foil **16.**

Where the product is introduced after the sealing operation, the dauber **18** is secured in position dry and compressed and the cover foil **16** is sealed in place. Then, the fluid product is injected into chamber **15** by piercing housing **11** or cover foil **16** with a hollow-core needle or other appropriate means and subsequently absorbed by dauber **18.** A nipple (not shown) may be molded into housing **11** for this purpose. Upon removal of the needle, chamber **15** is sealed by application of a suitable sealant to preserve the liquid product contained within.

The aforedescribed methods of assembling the applicator packages lend themselves to automation, the methods and mechanics thereof being well known to the art. In each case the liquid product to be dispensed is introduced into successive containers in measured quantities sufficient for a single use or operation and suitable for absorption by the dauber employed in the particular-sized applicator package being assembled.

Once the applicator package has been assembled, the dauber **18** remains in its compressed state, as shown in FIGS. **1** and **3,** with the fluid product to be dispensed, absorbed and contained therein. When the contents of the package **10** are to be used, the package is opened by peeling the cover foil **16** away from the flange **14** of housing **11.** To facilitate this peeling operation the flange **14** extending around the periphery of the bottom of housing **11** has rounded edges and at least one edge of cover foil **16** is not rounded. This exposes a portion **20** of cover foil **16** which can be readily grasped by an operator when peeling the cover from the housing.

It will be appreciated that other sizes and shapes of applicator packages can be employed. For instance, the housing **11** can be circular and the cover **16** can be annular with one or more tabs extending beyond its periphery to facilitate removal. Furthermore, housing **11** may be molded of other types of materials including metal foils, and can be either transparent or opaque in various colors to indicate its contents. For example, in the case of a shoe polish dispenser the color of the housing can be selected to indicate the color of the shoe polish contained within.

Thus, a novel applicator package has been shown and described which provides an economical and convenient means for storing and dispensing measured amounts of fluid products, including liquids, creams and waxes. Prior to use the package provides a hermetically sealed storage chamber for the product, and once opened provides a convenient applicator for applying the product to a desired area. The applicator package, by reason of its economical construction, can be sized to provide sufficient product for a single application and then discarded after one use.

While a particular embodiment of the invention has been shown and described, it will be obvious to those skilled in the art that changes and modifications may be made therein without departing from the invention in its broader aspects and, therefore, the aim in the appended claims is to cover all such changes and modifications as fall within the true spirit and scope of the invention.

I claim:

1. An applicator package for storing and dispensing a fluid product onto a desired surface comprising, in combination:

a housing defining a chamber having an open top end and a closed bottom end and containing a quantity of said fluid product, said housing further providing an outwardly extending flange about the periphery of said open end;

means comprising a compressible sponge-like dauber attached to said bottom end for absorbing said product and applying said product to said surface, said dauber having a compressed state wherein said dauber is contained entirely within said chamber, and an extended state wherein said dauber extends through said open end of said chamber; and

means comprising a cover sheet of impervious material extending over said open end of said chamber and peelably sealed to said flange for hermetically sealing said chamber and retaining said dauber in said compressed state prior to use.

2. An applicator package as defined in claim 1 wherein said housing has a body portion defining the substantial portion of said chamber and a handle portion of reduced dimensions at said closed bottom end to facilitate grasping said applicator package, said dauber being attached to said housing at the transition between said body portion and said handle portion.

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