

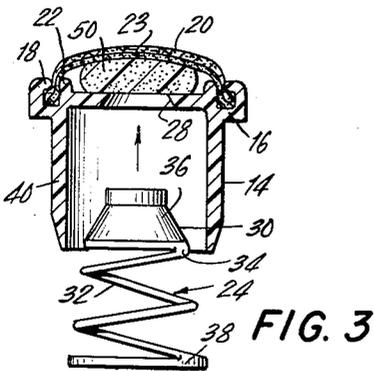
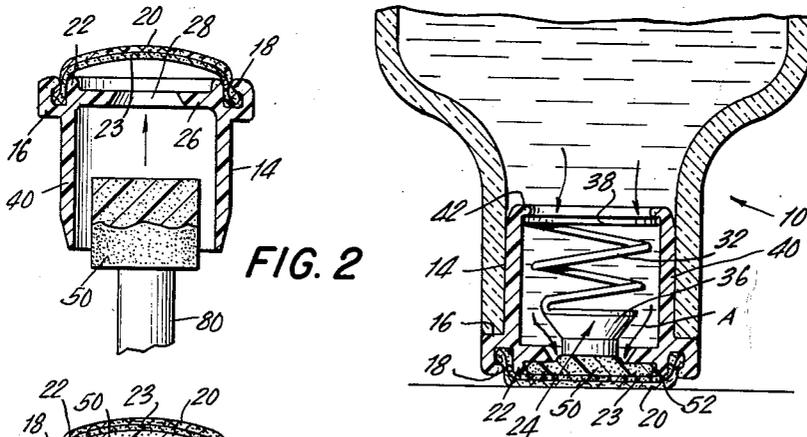
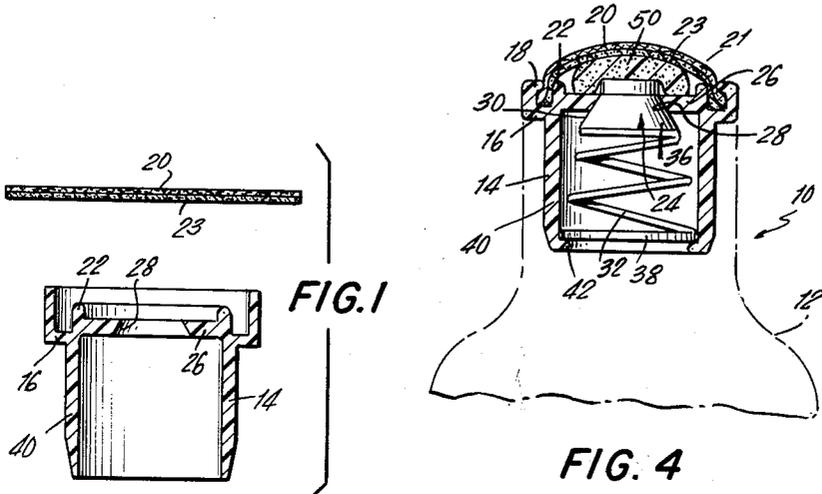
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G. SCHWARTZMAN

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DAUBER HAVING AN INTERNAL COMPRESSED BODY

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INVENTOR
GILBERT SCHWARTZMAN
BY
Briskin & Goldfarb
ATTORNEYS

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DAUBER HAVING AN INTERNAL COMPRESSED BODY

Gilbert Schwartzman, Scarsdale, N.Y., assignor to Glide-O-Matic Corp., Yonkers, N.Y., a corporation of New York

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This invention relates to a dauber especially adapted for use in applying shoe polish or for applying cosmetics or medications on the shoes, clothing or on the person of the user. This application is copending with the application, Serial No. 856,424, filed December 1, 1959 for "Dauber," now Patent No. 3,084,375.

An object of this invention resides in the provision of means for facilitating the application of shoe polish or the like.

Another object of this invention resides in the provision of novel valve means which are automatically actuated and adapted to control the flow of shoe polish from a dauber for obtaining an even flow of shoe polish onto a shoe, independent of the contours or shape of the shoe and so that fluid flow may be conveniently had onto the outer surface of the dauber for applying shoe polish into crevices, corners, and other spaces where access is difficult.

In the past daubers have been produced which are provided with applicator ends serving to actuate mechanical valves. However, these prior art valve members normally have a surface area which is relatively small, and relatively hard pressing causing ridges to be formed on the material, even if leather, on which the shoe polish is being applied, and causing an uneven flow of shoe polish with practically no shoe polish being applied at the point of contact between the dauber surface and the valve member. It is, therefore, a further object of this invention to overcome the disadvantages of the prior art daubers, while providing better control of fluid flow of the shoe polish being applied while also assuring that the shoe polish will be spread evenly along the entire surface being covered by the dauber.

Still another object of the invention resides in the provision of a dauber which includes a novel compressed body disposed between the dauber cover and the valve member, which compressed body will transfer fluid from the container to the cover and which will permit fluid flow to other parts of the cover and into the space between the cover and the retainer ring.

Still further objects and features of this invention reside in the provision of a dauber which is inexpensive to manufacture, simple to use, capable of metering fluid of various viscosities, in an effective manner so that the dauber is especially adapted for use in applying shoe polish, medications, cosmetics, oils, polishes and the like, and which dauber may be made in any convenient size as desired.

These, together with the various ancillary objects and features of the invention which will become apparent as the following description proceeds, are attained by this dauber, a preferred embodiment of which has been illustrated in the accompanying drawings, by way of example only, wherein:

FIG. 1 is an exploded perspective view illustrating elements of the dauber in an initial stage of manufacture;

FIG. 2 is a cross-sectional view illustrating the dauber in a further stage of manufacture and illustrating the manner in which the compressible member is inserted in its desired position;

FIG. 3 is a cross-sectional view similar to that of

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FIG. 2 but illustrating the dauber in a further stage of manufacture;

FIG. 4 is a cross-sectional view of the dauber in a completed state; and

FIG. 5 is a view similar to FIG. 4 but illustrating the dauber in use for application of shoe polish or the like.

With continuing reference to the accompanying drawings, wherein like reference numerals designate similar parts throughout the various views, reference numeral 10 is used to generally designate the dauber comprising the present invention. This dauber includes a container 12 in which a retaining ring 14 is positioned. The retaining ring is designed to fit in the neck of the container 12 and includes a flange 16 provided with a swaged lip 18 for retaining a disc 20 in position between the lip 18 and a rib 22 of circular configuration.

The disc 20 is constructed of two layers, the upper layer 21 of which is formed of nylon knitted brushed fabric so as to achieve a felt-like applicator surface and appearance, while having the chemical inertness and strength of the nylon. Laminated and bonded to the nylon knitted brush fabric is the lower layer 23 of coarse polyurethane foam.

The retaining ring 14 is provided with a web 26 which has an arcuate tapered opening 28 therein which is of approximately one-half the diameter of the web 26. Cooperating with the arcuate tapered opening 28, which serves as a valve seat, is the conical surface 30 of a valve member, generally indicated at 24. The valve member 24 includes a spring 32 formed in helical coils, the portion of smaller diameter being secured or integrally formed at 34 with the truncated conically-shaped valve head 36. The lower end 38 of the spring 32 is held in place on the projecting portion 40 of the retaining ring 14 by the swaged end 42 of the projecting portion 40. The swaged end 42 thus retains the valve member 24 within the retaining ring 14 with the spring 32 in a continuously stressed condition under compression so that the valve head 36 is continuously urged into and through the opening 28 for the purpose of closing the opening and preventing fluid flow from the container 12 into the space between the web 26 of the retaining ring 14 and the cover 20.

Disposed between the valve head 36 and the cover 20 is a cylindrical body 50 of coarse polyurethane foam which is continuously compressed and serves to bulge the cover 20 in a convex manner. The valve head 36 is continuously biased into engagement with the compressed body 50 further squeezing the body. However, as shown in FIG. 5, when the applicator is used for applying shoe polish or other fluids, the cover 20 is depressed, forcing the compressed body 50 slightly into the opening 28 and opening the valve by depressing the valve head to permit passage of fluid in a direction indicated by arrows A, FIG. 5, whereby fluid will not only saturate the polyurethane foam body 50 but will pass into the space 52 and will saturate the cover 20. Since the inner or lower layer 22 is of a polyurethane foam, it will absorb and retain sufficient fluid so that the dauber will be able to provide a uniform coating of shoe polish on the surface being treated.

This dauber is assembled in a novel manner. As can be readily understood, it is possible to seal the cover 20 in place after the cylindrical body has been positioned on the web 26. However, this method has proved to be unsatisfactory because then the cover 20 is generally not stretched quite taut enough for satisfactory and optimum results and, therefore, in carrying out the invention the cover 20 is first secured in place by pulling it quite taut and swaging at 18 the end of the flange 16 thereover, as shown in FIG. 2. Thereafter, using a suitable tool 80,

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the compressible coarse polyurethane foam cylindrical body 50 is forced through the tapered opening 28 and into the space between the web 26 and the cover 20 with the body 50 always under compression. Thereafter, the valve member 24 is positioned in place so that the valve head 36 extends into and through the opening 28 and the end 42 of the projecting portion 40 is then swaged over the enlarged end 38 of the valve member 24. This locks the valve member 24 in place and maintains the spring 32 continuously under compression.

One of the great advantages of this invention is that the compressed body 50 provides in continuous contact with the cover a source of fluid and will absorb all the excess fluid in the space 52 which remains there after the valve member 24 has moved to its "valve closed" position thereby preventing leaking or spilling of fluid out of and beyond the cover 20.

Depending mainly upon the size of the compressed body 50, the cover 20 may be stretched to assume various shapes. It has been found that for application of shoe polish, a hemispherical shape is preferred because otherwise hard to reach places can be easily given an adequate coating of shoe polish.

A latitude of modification, change and substitution is intended in the foregoing disclosure, and in some instances some features of the invention will be employed without a corresponding use of other features. Accordingly, it is appropriate that the appended claims be construed broadly and in a manner consistent with the spirit and scope of the invention herein.

I claim:

1. A dauber comprising a fluid container having a neck terminating in an open end, a retainer ring having a retaining flange and having a projecting portion fitted in said neck, a resilient two ply cover of laminated nylon knitted brushed fabric and coarse polyurethane foam secured to said ring by said flange outwardly of said container, said ring having a tapered opening therein forming a valve seat, a valve member movable with respect to said valve seat to control fluid flow through said opening from said container to said cover, said valve member

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including a helical coil spring secured to said projecting portion and a conical valve head extending into said opening and adapted to extend through said opening, and a resilient cylindrical porous body of polyurethane foam disposed in the space between said cover and said ring through said opening from therebelow with said body being continuously under compression, said body when not compressed being of such dimensions that said body is thicker than the space between said cover and said ring, said body having a diameter substantially greater than said opening, said spring means pressing said valve head against said body, said body being deformable so that said cover may be depressed urging a portion of said body toward said opening to depress said valve head away from said valve seat against the force exerted by said spring means.

2. A method of forming a dauber comprising the steps of attaching a resilient porous cover on a retainer ring having a retaining flange and having a projecting portion by swaging said flange to lock said cover across said ring, said ring having an opening therein, inserting a porous resilient body having an initial dimension of greater thickness than the space between said cover and said ring and having a diameter substantially greater than that of said opening between said cover and said ring through said opening in said ring so that said body is under compression, then inserting a valve member into said projecting portion so that the head thereof extends into said opening, and then swaging the end of said projecting portion to hold said valve member against said body with said body continuously under compression.

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