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Stöffler

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[54] **SPREADER ASSEMBLY FOR ADHESIVE CONTAINERS**

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[51] **Int. Cl.**..... **B43k 1/00**

[58] **Field of Search**..... 222/546, 568, 108, 222/570, 566, 571; 401/117, 190, 204, 116, 137–139, 190, 183, 266, 131, 207; 128/239, 260, 261; 222/526, 530

[56] **References Cited**

UNITED STATES PATENTS

1,639,388	8/1927	Stebbings	401/117 X
2,977,625	4/1961	Hopkins	401/204
2,734,665	2/1956	Flamm	222/568 X
2,898,019	8/1959	Williams	222/568 X
3,134,522	5/1964	Shwisha	222/568 X
3,486,503	12/1969	Porter et al.	222/568 X
1,714,211	5/1929	Brownlee et al.	222/546 X

FOREIGN PATENTS OR APPLICATIONS

296,092	4/1954	Switzerland	222/546
B24812	5/1956	Germany	222/546

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[57] **ABSTRACT**

This invention relates to a spreader assembly for an adhesive container having an elongated dispenser neck comprising a holder containing a porous spreader adapted to removably engage the elongated neck of the adhesive container and having claws deformable by said neck to secure said porous spreader, said holder containing a porous spreader when engaged with said dispenser neck extends beyond the tip of said dispenser neck.

7 Claims, 5 Drawing Figures

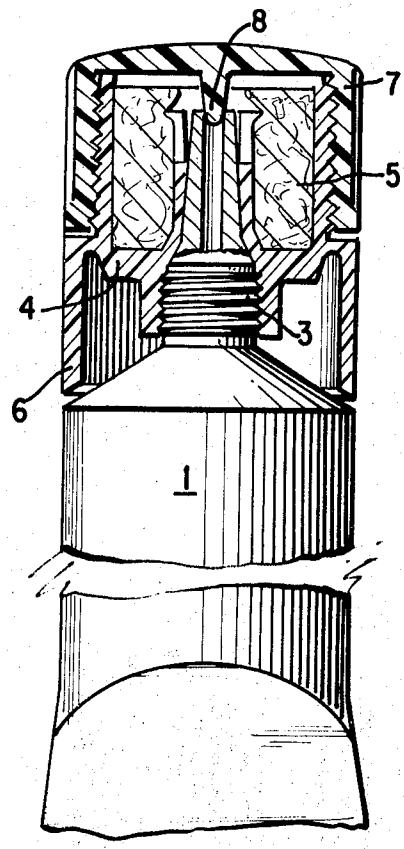


FIG. 1

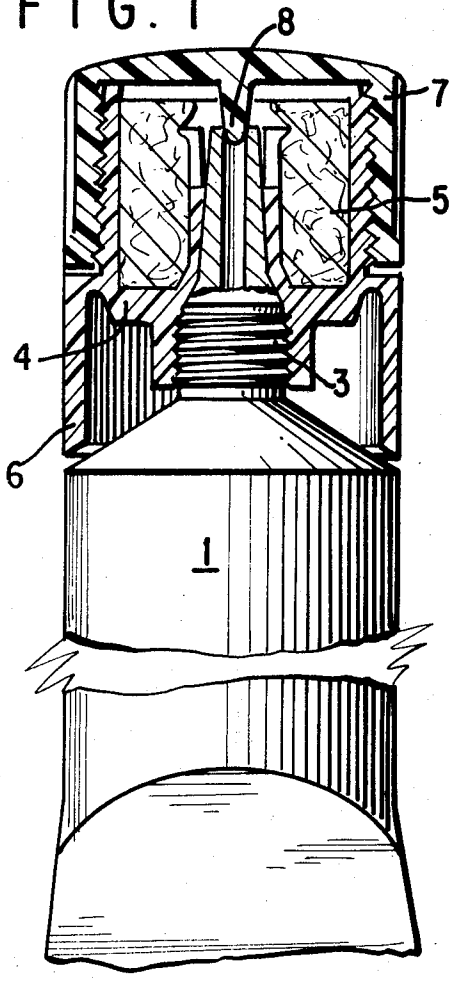


FIG. 2

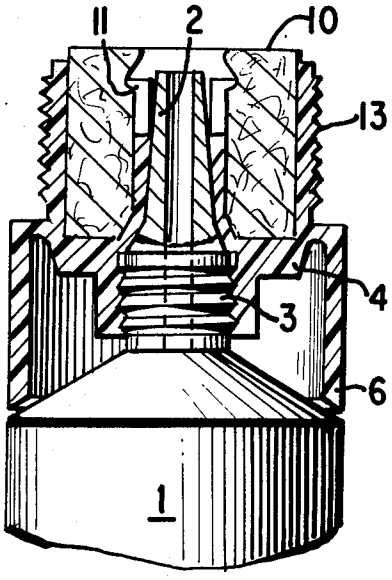


FIG. 4

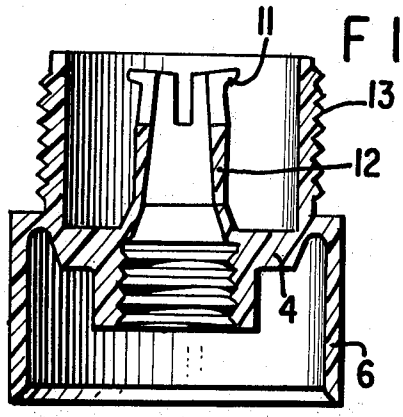


FIG. 3

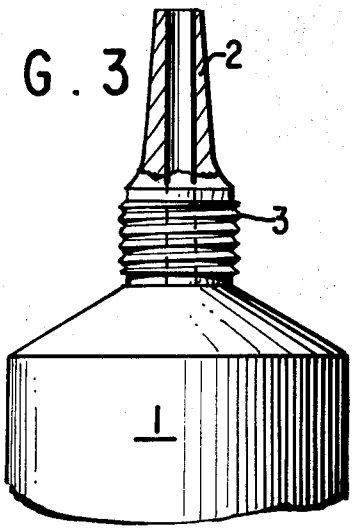
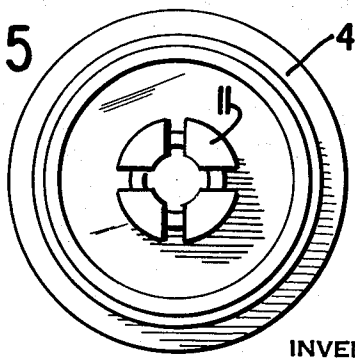


FIG. 5



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SPREADER ASSEMBLY FOR ADHESIVE CONTAINERS

THE PRIOR ART

Closures for adhesive containers are known which generally incorporate a sponge-like distributing member firmly connected to the neck of the container. The product to be applied is, in this case, first squeezed out of the tube into the distributing member, where it is soaked up, and is finally given up again on coming in contact with the surface of the object to be coated. In practice the use of these known closures for the application of adhesive, especially adhesive solutions, is not entirely satisfactory. This is owing to the fact that every adhesive naturally tends to form a crust and after a short time the distributing member, completely soaked with it, loses its flexibility and consequently its suitability as a spreader. In order to use up the contents of the tube completely, the user is therefore compelled to remove the spongy distributing member and to complete the application of the adhesive with another instrument. In the case of adhesive solutions, distributing members consisting of rubber, felt or the like also become unusable in a short time by the action of the solvent. Rubber, as is known, may be destroyed by the effect of the solvent, while felt tends to soak up the adhesive, which leads to the encrustation of the spreader. Apart from this, with closure constructions of this type it is not possible to apply the adhesive when necessary in points or lines without complicated manipulations.

OBJECTS OF THE INVENTION

An object of the present invention is the development of a spreader assembly for an adhesive container which overcomes the deficiencies of the prior art and is adjustable for different types of adhesive application.

Another object of the present invention is the development of a spreader assembly for an adhesive container having an elongated dispenser neck comprising a holder containing a porous spreader adapted to removably engage the elongated neck of the adhesive container and having claws deformable by said neck to secure said porous spreader, said holder containing a porous spreader when engaged with said dispenser neck extends beyond the tip of said dispenser neck.

A further object of the present invention is the development of an adhesive dispenser comprising an adhesive container having an elongated dispenser neck with an open tip, and a holder containing a porous spreader extending above the walls of said holder, said holder adapted to removably engage said elongated dispenser neck and having claws deformable by said dispenser neck to secure said porous spreader, said porous spreader in said holder when said holder is engaged with said dispenser neck extends beyond the tip of said dispenser neck.

Optionally the holder containing said porous spreader is adapted to receive a cap which encloses said holder containing a porous spreader and seals the mouth of said open tip of said dispenser neck.

These and other objects of the invention will become more apparent as the description thereof proceeds.

THE DRAWINGS

FIG. 1 is a longitudinal cross-section of the spreader assembly of the invention mounted on the elongated dispenser neck of an adhesive container together with a cap for the adhesive container.

FIG. 2 is a cross-section of the spreader assembly with the cap removed.

FIG. 3 is a cross-section of the adhesive container with the spreader assembly removed.

FIG. 4 is a cross-section of the holder for the spreader assembly.

FIG. 5 is a top view of the holder.

DESCRIPTION OF THE INVENTION

According to the invention a closure for adhesive containers, especially tubes for solvent adhesive, has been discovered, which comprises a container dispenser neck shaped like the injector point and with an aperture for removal of adhesive, preferably of polyethylene, a spreader consisting of porous expanded plastic, which is attached to a holder screwable or otherwise removably mounted on the container neck and preferably consisting of plastic, as well as a closure cap. The closure according to the invention is characterized in that only a small part of polyethylene or neoprene expanded plastic spreader surrounding the container neck, when screwed on the neck, extends above the latter and the porous spreader is fixed to the holder by claws moulded thereon which are bendable outwards by the container neck into the spreader.

The closure of the invention is an improvement over known container closures with sponge-like distributing members, in that a choice of a surface application or a point or line application is possible for the application of adhesive, especially solvent adhesive. Also, it lessens the possibility of the sponge-like distributing member becoming unusable by encrustation.

It is possible to provide both a surface and a line-shaped application of adhesive by means of the essentially two-part form of the closure of the invention. In the first case, the closure cap simply needs to be removed, whereupon the spreader, only a small part of which extends above the container neck, is exposed. The adhesive pressed out of the mouth of the container neck then comes out through the aperture present in the spreader on to the object to be coated, where it can now be distributed over the surface by means of the spreader. If, on the other hand, a point- or line-shaped application of adhesive is desired, the spreader holder is unscrewed together with the closure cap. The removal aperture shaped to an injector point is thereby exposed completely for immediate use.

The size of the aperture in the spreader corresponds to the part of the holder surrounding the container neck, which part has claws bendable by the container neck outwardly into the spreading member.

Suitable material for the spreader is the so-called closed-cell polyethylene or neoprene foam. This material is particularly suitable, since in practice it does not tend to absorb the solvent-containing adhesive and therefore form a crust and become unusable. If the same does become encrusted, it can be removed from the holder and the top layer can be cut off. The porous spreader can then be reinserted in the holder and mounted on the dispenser neck.

The closure cap, like the spreader holder, is preferably made of plastics material.

It is advantageous for the holder to be surrounded by a cylindrical collar, which, like the diameter of the cylindrical closure cap, has an outer diameter equal to the diameter of the tube. This shaping enables an easier manipulation of the closure to be obtained, since, for example, the holder can be gripped by one hand and then the closure cap can be unscrewed with the other. In some cases only the holder would have to be gripped and unscrewed, when point- or line-shaped application of adhesive is to be effected. The cap then remains on the spreader holder.

The closure cap has a coaxial projection which, when the cap is screwed on, seals off the container aperture and consequently prevents encrustation. The cap is also shaped so that, jointly with the cylindrical collar of the holder, it surrounds the spreader on all sides.

The advantages of the container closure according to the invention lie on the one hand, as explained, in the possibility of applying adhesive, especially solvent-containing adhesive, optionally either to a surface or in points or lines without dirtying the hands, while in the first case also the troublesome, so-called filament-spinning of the adhesive is greatly reduced, so that in practice this tiresome condition no longer gives trouble. However, the fact that additional removable applicators such as combs and the like, which are therefore easily lost, can be omitted, may be a more important advantage especially for repair purposes. Apart from this, the invention is useful for objects consisting of tissue paper or like material which might be easily damaged by use of hard spreaders.

The invention will be described further, by way of example, with reference to the accompanying drawings, in which:

FIG. 1 is a longitudinal section through a closure screwed or otherwise removably mounted on a tube;

FIG. 2 is the mouth of the tube of FIG. 1 with a screwed-on spreader holder (ready for surface application);

FIG. 3 is the mouth of the tube of FIG. 1 without the closure (ready for point or line application);

FIG. 4 is a longitudinal section through the spreader holder; and

FIG. 5 is a top view of the spreader holder.

Referring to the drawings, a tube 1 (see FIG. 1) comprises a neck portion 2 having a screw-thread 3, which neck is surrounded by a holder 4 carrying a spreader 5. The screw-thread 3 could also be a friction plastic cylinder. The holder 4 has a cylindrical collar 6 surrounding it, which, like closure cap 7, has an outer diameter equal to the diameter of the tube 1, thus allowing for easy manipulation of the closure cap 7 and spreader holder 4 relative to the tube 1. The holder 4 also has a threaded external cylindrical collar 13 adapted to receive the cap 7. This external wall can also be a close fit cylinder adapted to receive and hold the cap by friction. The spreader 5 consists of closed-cell, non-absorbent expanded foam plastics material, preferably polyethylene- or neoprene-foam sponge.

The closure cap 7, constructed in one part, contains a coaxial projection 8 which seals the aperture or mouth of the tube 2. The cap 7 together with the collar 6 of the holder 4 surrounds the spreader 5 on all sides when both are in place on the tube 1.

After unscrewing the cap 7, surface 10 of the spreader 5 is exposed, available for a surface application of adhesive. The adhesive issues from the neck 2 of the tube through an aperture 9 in the spreader 5 and can be distributed on the object to be provided with adhesive with the top surface 10 of the spreader. If, on the other hand, the holder 4 is unscrewed, the neck 2 of the tube, shaped to an injector point, is exposed and may be used for point or line application of adhesive.

In order to fix the spreader 5 on the holder 4, claws 11 are moulded on a hub-like projection 12, of the holder 4, which when in place on the tube 1, embraces the neck 2. The claws 11 are bent outwardly into the spreader 5 by the container neck 2 and thereby secure the spreader 5 and prevent it from sliding off the projection 12.

The preceding specific embodiment is illustrative of the practice of the invention. It is to be understood, however, that other expedients known to those skilled in the art, or disclosed herein, may be employed without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. A spreader assembly for an adhesive container having an elongated dispenser neck, comprising a holder containing a porous spreader, said holder adapted to removably engage the elongated neck of the adhesive container by means of cooperating screw threads on an inner wall of said holder and on the outer wall of said elongated neck and said holder having claws pivoted by said neck to engage said spreader and to hold said spreader against the outer wall of the holder to secure said porous spreader, said holder containing the porous spreader when engaged with said dispenser neck extends beyond the top of said dispenser neck.

2. The spreader assembly of claim 1 wherein said porous spreader is a non-absorbent foamed plastics material.

3. The spreader assembly of claim 2 wherein said non-absorbent foamed plastics material is selected from the group consisting of polyethylene foamed sponge and neoprene foamed sponge.

4. An adhesive dispenser comprising an adhesive container having an elongated dispenser neck with an open tip, and a holder containing a porous spreader extending above the walls of said holder, said holder adapted to removably engage said elongated dispenser neck by means of cooperating screw threads on the inner walls of said holder and on the outer wall of said elongated neck and said holderhaving claws pivoted by said dispenser neck to engage said spreader and to hold said spreader against the wall of the holder to secure said porous spreader, said porous spreader in said holder when said holder is engaged with said dispenser neck extends beyond the tip of said dispenser neck.

5. The adhesive dispenser of claim 5 wherein the outer wall of said holder containing a porous spreader is adapted to receive a cap and said adhesive dispenser also comprises a cap fully enclosing said holder containing a porous spreader and adatped to plug said open tip in said elongated dispenser neck.

6. The adhesive dispenser of claim 7 wherein said cap has a coaxial plug adapted to engage and seal said open tip of said elongated dispenser neck.

7. The adhesive dispenser of claim 7 wherein said adhesive container has a cylindrical body and wherein the outer wall of said holder and the outer wall of said cap have the same diameter as said adhesive container.

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