



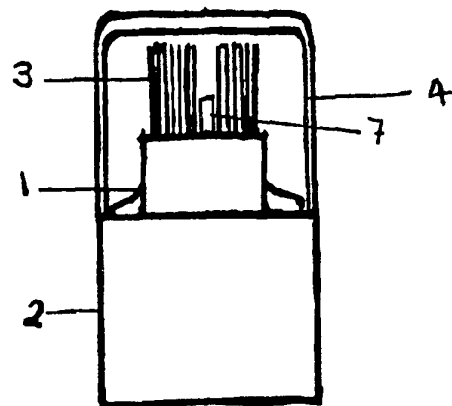
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<p>(21) International Application Number: PCT/GB94/02684</p> <p>(22) International Filing Date: 7 December 1994 (07.12.94)</p> <p>(30) Priority Data: 9325012.4 7 December 1993 (07.12.93) GB</p> <p>(71) Applicant (for all designated States except US): COLVILLE LOMAX & CO. LTD. [GB/GB]; 443 Norwood Road, London SE27 9DQ (GB).</p> <p>(72) Inventors; and (75) Inventors/Applicants (for US only): HIBBERT, John, Colville [GB/GB]; 320 Portobello Road, London W10 5RU (GB). SKERRATT, Stephen, Desmond [GB/GB]; 320 Portobello Road, London W10 5RU (GB).</p> <p>(74) Agent: FREEMAN, Jacqueline, Carol; W.P. Thompson & Co., Celcon House, 289-293 High Holborn, London WC1V 7HU (GB).</p>	<p>(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ).</p> <p>Published <i>With international search report.</i></p>	

(54) Title: APPLICATOR

(57) Abstract

An applicator (1) for dispensing viscous fluids such as shoe cream or waterproof boot cleaner, onto a surface, comprises a nozzle (7), and a plurality of brush filaments (3) mounted in a brush area generally in the region of and preferably surrounding the nozzle. The brush filaments are arranged and adapted to encourage the liquid being dispensed to flow to outer end sections of the filaments for application to the surface as required. Preferably the brush filaments are longer than the nozzle; between twice and four times as long. These relative lengths, together with the thickness, flexibility, surface friction and density of the filaments is chosen to suit the viscosity of the liquid being dispensed. The invention avoids the problem of clogging and tearing in known applicators which use sponge. The invention applicator is also more efficient at cleaning and can accommodate awkward corners more effectively than known applicators.



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APPLICATORDESCRIPTION

The present invention relates to an applicator of the type sold on or for tubes of liquids such as shoe cream so that the liquid can be applied directly to a relevant article, e.g. a shoe, from the tube.

Applicators for this purpose are known which generally comprise a sponge pad mounted over a hole in the tube. The liquid from the tube is then squeezed up into the sponge, which must sometimes be dampened, and the sponge is then rubbed over the shoe.

However, such known applicators have several disadvantages. They have a tendency to clog particularly with very viscous liquids such as waterproof boot cleaner. Also, the sponge material wears down easily and has a tendency to tear before the tube is finished. In addition the liquid leaks out of the sides of the sponge and the rate of application can not be easily controlled. Furthermore the sponge cannot get into corners or awkward niches which is particularly important for example for oven cleaners.

The present invention seeks to overcome these disadvantages and provide a more reliable, hard wearing applicator.

According to the present invention there is provided an applicator for dispensing liquid from a container onto a surface, comprising means for attachment to the container, a nozzle, and a plurality of brush filaments mounted in a brush area generally in the region of the nozzle and arranged and adapted to encourage the liquid being dispensed to go to the ends of the filaments.

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The brush filaments are preferably arranged in a ring doughnut shape around the nozzle. However they may be arranged in two facing semicircular brush areas or a horse-shoe shape surrounding the nozzle. In one embodiment the length of the nozzle is between $\frac{1}{4}$ and $\frac{1}{2}$ the length of the brush filaments. This embodiment is particularly suitable for a high viscosity boot cleaner. The relationship between the length of the nozzle and the length of the brush filaments is chosen to suit the viscosity of the liquid and also depends on the arrangement of the filaments their density and their individual thickness and the material from which they are made.

For a better understanding of the present invention and to show how the same may be carried into effect, reference will now be made, by way of example, to the accompanying drawings in which

Figure 1 is a side view of a applicator according to the invention

Figure 2 is a part cross - sectional view of the applicator of fig.1

Figure 3 is a top plan view of the applicator of fig. 1

Figure 1 shows casing 1 with a yoke 2 which fits over a tube or other container of a liquid to be applied with the applicator. The tube is not shown. Brush filaments 3 are mounted on the casing 1 so as to extend upwardly as shown in fig.1.

A cap 4, which may be of transparent material as shown or of opaque material, fits over the brush filaments 3 and serves to protect them and prevent drying or damage between uses of the applicator.

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Figure 2 is a part cross-sectional view of the applicator. The casing 1 supports brush filaments 3. The yoke 2 is shown in partial cross-section showing hollow shoulders 5 for receiving the top circumference of a tube and applicator nozzle 6 for receiving a hole or nozzle in the top of the tube or other container of liquid to be dispensed. An extension nozzle 7 protrudes from casing 1 into the brush area.

Figure 3 shows a top plan view of the applicator and like parts are referenced with the same numerals as in figure 1 and 2. The brush filaments 3 are arranged in two facing semicircular areas indicated at 8 so as to generally surround the extension nozzle hole 7.

When the applicator is attached to a tube of liquid to be dispensed either by a screw or snap fit or by being welded or glued on during manufacture, then gentle pressure on the tube forces the contents up through nozzle 6 and extension nozzle 7 into the region between the brush areas 8. A wiping motion with the applicator will then spread the liquid onto the appropriate surface e.g.: shoe leather for shoe polish, and the brush filaments 3 disperse the liquid over the surface evenly. The brush action also serves to provide a cleaning and scrubbing effect on the surface, which is particularly useful for cleaning very dirty shoes or boots or for cleaning ovens.

The arrangement of the nozzle 6 and the filaments 3 is such that the liquid to be applied tends not to ooze out of the sides of the filament but is encouraged to get to the end of the bristles. The ratio between the length of the bristles and the length of the nozzle is important as well as is the shape of the brush areas, the density of brush filaments and the thickness of the filaments compared to the viscosity of

the liquid to be applied.

The applicator is suitable for applying shoe cream, liquid waterproofer (e.g. for walking boots), oven cleaners, plumber's flux (for welding pipes) and any other liquid, particularly heavy duty liquids for which sponge applicators have proven inadequate.

The dimensions and particulars of an applicator according to the invention depend of course on the nature of the liquid to be applied and on the use to which it is to be put and many variations are envisaged within the scope of the invention. However, as an example, the dimensions of the illustrated applicator will be given. This is particularly suitable for applying waterproof mountain boot cream.

The applicator is 46mm high and the casing yoke 2 has a diameter of 30mm. The brush filaments 3 are 12mm high and are mounted in two semicircular areas 8 which occupy an area about 14mm horizontally by 16mm vertically (as shown in figure 3). These brush areas are mounted on an oval shape casing portion (see figure 3) about 17mm across and 20mm high (as shown in figure 3).

The nozzle extension 7 has a hole 3mm in diameter and is 5mm long. The nozzle 6 has an outside diameter of 6mm and an inside diameter of 4.5mm.

The applicator may be made of polypropylene of copolymer grade and nylon monofilaments are suitable for the brush filaments.

The brush filaments are flexible and can reach into awkward corners that sponge pads are unable to reach.

The applicator may also be used for shaving foam or gels.

CLAIMS

1. An applicator for dispensing liquid from a container onto a surface, the applicator comprising means for attachment to the container, a nozzle for dispensing the liquid and a plurality of brush filaments mounted in a brush area generally in the region of the nozzle and arranged and adapted to flow to outer end sections of the filaments for application to the surface.
2. An applicator according to claim 1, wherein the nozzle is substantially central to the applicator and the brush filaments are arranged in a ring around the nozzle.
3. An applicator according to claim 2, wherein the brush filaments are arranged in concentric circles around the nozzle.
4. An applicator according to claim 2, wherein the brush filaments are arranged in a spiral extending out from and arranged around the nozzle.
5. An applicator according to claim 1, wherein the brush area is semi-circular.
6. An applicator according to claim 1, wherein the brush areas is horseshoe-shaped.
7. An applicator according to claim 5 comprising two horseshoe-shaped brush areas arranged in opposing juxtaposition around the nozzle.
8. An applicator according to any preceding claim wherein the brush filaments extend beyond the end of the nozzle.

9. An applicator according to claim 7, wherein the nozzle is between one half and one quarter the length of the brush filaments.

10. An applicator according to any of the preceding claims, wherein the length of the nozzle and the length of the brush filaments is chosen to suit the viscosity of the liquid to be applied by the applicator.

11. An applicator according to any preceding claim, wherein the spacing of the brush filaments in the brush area is adapted to suit the viscosity of the liquid to be applied.

12. An applicator according to any preceding claim, wherein the thickness of the brush filaments is adapted to suit the viscosity of the liquid to be applied.

13. An applicator according to any preceding claim, wherein the flexibility of the brush filaments is adapted to the viscosity of the liquid to be applied.

14. An applicator according to any preceding claim wherein the surface friction of the brush elements is adapted to the viscosity of the liquid to be applied.

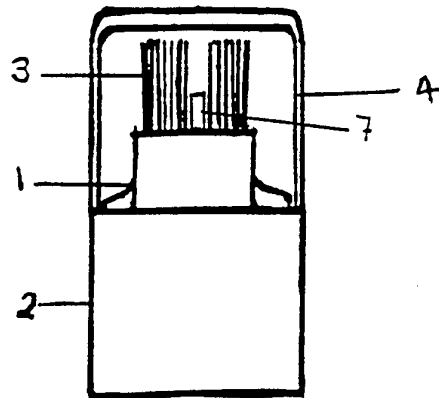


Figure 1

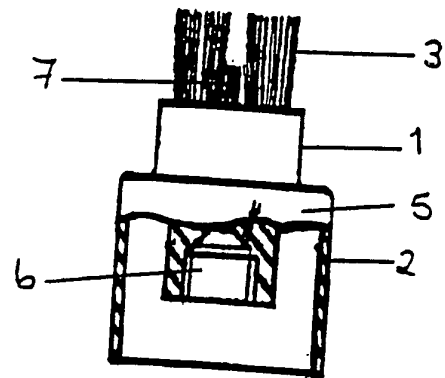


Figure 2

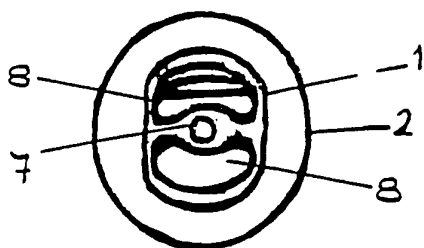


Figure 3.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 94/02684

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 A47L23/05

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 A47L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP,A,0 264 824 (HENKEL KG A) 27 April 1988 see column 4, line 55 - column 6; figures ---	1-8
X	GB,A,361 140 (K.H. FABER) 10 December 1931 see page 1, line 62 - page 2, line 10; figure 1 ---	1-8
X	CH,A,97 838 (N. KUBLI) 16 February 1923 see the whole document ---	1-8
X	DE,C,263 081 (A.E. TILBURN) 26 March 1911 see the whole document ---	1-8
X	DE,C,574 759 (K. LIPPOLD & AL) 20 April 1933 see the whole document ---	1-8
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Patent family members are listed in annex.

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INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE,C,928 553 (P. KLEINT) 2 June 1955 see the whole document ---	1-8
X	DE,B,11 49 508 (NIGRIN-WERKE CARL GENTNER) 30 May 1963 see the whole document ---	1-8
X	US,A,3 345 673 (G. SCHWARTZMAN) 10 October 1967 see the whole document ---	1-8
X	US,A,3 008 172 (L.D. THOMPSON) 14 November 1961 see column 2, line 3 - column 4, line 15; figures ---	1-7,9
X	DE,A,24 16 751 (F. ZIMMERMANN) 23 October 1975 see page 1 - page 6; figures ---	1-7,9
X	BE,A,335 084 (W.A. DMITRIEFF) 2 November 1926 see the whole document ---	1-7,9
X	DE,C,615 280 (W. KRAMER) 1 July 1935 see the whole document -----	1-7,9

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 94/02684

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP-A-0264824	27-04-88	JP-A- 63110159	14-05-88
GB-A-361140		NONE	
CH-A-97838		NONE	
DE-C-263081		NONE	
DE-C-574759		NONE	
DE-C-928553		NONE	
DE-B-1149508		NONE	
US-A-3345673	10-10-67	NONE	
US-A-3008172	14-11-61	NONE	
DE-A-2416751	23-10-75	NONE	
BE-A-335084		NONE	
DE-C-615280		NONE	