(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 454 562 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
08.09.2004 Bulletin 2004/37

(51) Int Cl.[7]: **A46B 11/00**, B44D 3/12, A45D 34/04

(21) Application number: **04005085.8**

(22) Date of filing: **04.03.2004**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR
Designated Extension States:
AL LT LV MK

(30) Priority: **06.03.2003 US 452068 P**

(71) Applicant: **Hans Plads, Inc.**
Petaluma, CA 94954 (US)

(72) Inventors:
- **Hermansen, Allan W.**
  Petaluma CA 94954 (US)
- **Slight, Phillip A.**
  Petaluma CA 94954 (US)

(74) Representative:
Banzer, Hans-Jörg, Dipl.-Ing. et al
Kraus & Weisert
Patent- und Rechtsanwälte
Thomas-Wimmer-Ring 15
80539 München (DE)

(54) Paint device and method of painting

(57) A paint device (100) has a lid (1), an applicator (6a) and a container (2). The applicator (6a) is coupled to the lid (1) and the container (2) is removably coupled to the lid (1).

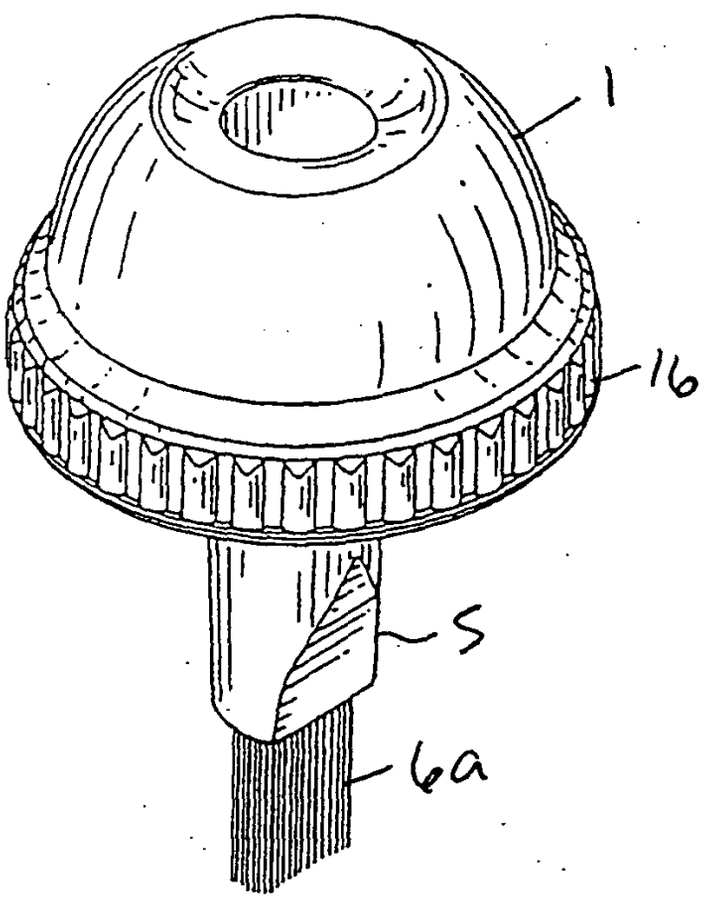


Fig. 9

EP 1 454 562 A1

Description

Technical Field

[0001] This invention relates generally to paint brushes, and more particularly, but not exclusively, provides a paint device incorporating a paint brush with a paint container.

Background

[0002] Conventional paint brushes, when not in contact with paint or other liquid, can easily become dry and worn out. In order to avoid the waste associated with worn out brushes, the brushes must be thoroughly cleaned after use, which can take a not insignificant amount of time.

[0003] Accordingly, a new paint device is needed that overcomes the above-mentioned disadvantage.

SUMMARY

[0004] According to the present invention, this object is achieved by a paint device as defined by independent claim 1 and a method of painting as defined by independent claim 13, respectively. The dependent claims define preferred and advantageous embodiments of the invention.

[0005] An embodiment of the invention provides a paint device comprising a lid, an applicator and a container. The applicator is coupled to an underside of the lid and the container is removably coupled to the lid. Accordingly, the applicator is kept moist and from drying out by being in contact with liquid disposed within the container. Further advantages include that embodiments of the invention enable an easy way to paint; a convenient method for paint storage; quick painting/touch-up; a combination system for keeping paint and an applicator together in an airtight container for quick access to the tools/supplies needed for painting or applying other liquids.

[0006] In an embodiment of the invention, a method of painting with the paint device comprises: removing the lid from the container; optionally attaching a handle to lid; gripping the handle or the lid; and painting.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] Non-limiting and non-exhaustive embodiments of the present invention are described with reference to the following figures, wherein like reference numerals refer to like parts throughout the various views unless otherwise specified.

Figure 1 is a front-top perspective view of the paint device in accordance with one embodiment of the present invention;
Figure 2 is a front view of the paint device of Figure 1;
Figure 3 is a top view of the paint device of Figure 1;
Figure 4 is a bottom view of the paint device of Figure 1;
Figure 5 is a front-top perspective view of the paint device in accordance with another embodiment of the present invention;
Figure 6 is a front view of the paint device of Figure 5;
Figure 7 is a top view of the paint device of Figure 5;
Figure 8 is a bottom view of the paint device of Figure 5;
Figure 9 is a front-top perspective view of a lid of the paint device in accordance with another embodiment of the present invention;
Figure 10 is a front view of the lid of Figure 9;
Figure 11 is a side view of the lid of Figure 9;
Figure 12 is a top view of the lid of Figure 9;
Figure 13 is a bottom view of the lid of Figure 9;
Figure 14 is a front-top perspective view of a lid of the paint device in accordance with another embodiment of the present invention;
Figure 15 is a front view of the lid of Figure 14;
Figure 16 is a first side view of the lid of Figure 14;
Figure 17 is a second side view of the lid of Figure 14;
Figure 18 is a top view of the lid of Figure 14;
Figure 19 is a bottom view of the lid of Figure 14;
Figure 20 is a front-top perspective view of a lid of the paint device in accordance with another embodiment of the present invention;
Figure 21 is a front view of the lid of Figure 20;
Figure 22 is a side view of the lid of Figure 20;
Figure 23 is a top view of the lid of Figure lid device of Figure 20;
Figure 25 is a front-top perspective view of a lid of the paint device in accordance with another embodiment of the invention;
Figure 26 is a front view of the lid of Figure 25;
Figure 27 is a side view of the lid of Figure 25;
Figure 28 is a top view of the lid of Figure 25;
Figure 29 is a bottom view of the lid of Figure 25;
Figure 30 is a perspective view of a container of the paint device;
Figure 31 is a cross section of the paint device;
Figure 32 is a perspective view of a section of a portion of a wiper device;
Figure 33 is a cross section of a portion the wiper device;
Figure 34 is a perspective view of a cartridge according to an embodiment of the invention;
Figure 35 is cross section of a portion of the paint device; and
Figure 36 is a perspective view of a handle with cartridge applicator of the paint device.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENTS

[0008] The following description is provided to enable any person having ordinary skill in the art to make and use the invention, and is provided in the context of a particular application and its requirements. Various modifications to the embodiments will be readily apparent to those skilled in the art, and the principles defined herein may be applied to other embodiments and applications without departing from the spirit and scope of the invention. Thus, the present invention is not intended to be limited to the embodiments shown, but is to be accorded the widest scope consistent with the principles, features and teachings disclosed herein.

[0009] Embodiments of the invention can be used to hold liquids that are used to cover surfaces with an applicator, such as, but not limited to, paint and paint thinner.

[0010] As shown in the figures, the paint device 100 comprises a lid 1 and a container 2. The lid 1 includes a small shaft 5, that extends outward and perpendicular from an inside surface of the lid 1, down approximately 2.5" but can extend further or can be made shorter. The shaft 5, is designed to hold an applicator 6, to the lid. The shaft 5, is cylindrical in shape, but is not limited to this shape, and it can be made so that it tapers at the bottom to hold the applicator and reduce the amount of material used to make the device 100.

[0011] The lid 1 of the paint device 100 in combination with the shaft 5, extending from its inside surface and the applicator 6, that is attached to the shaft 5, can be used to apply various liquids to varying surfaces. The shaft 5, can be a permanent part of the lid 1, but it can also be an independent part 11 as shown in Figure 36, that attaches to the lid 1, still providing the same function. The removable shaft 11, attaches to the lid 1 with a threaded interlock, press fit/friction interlock, a snap-on interlock or other mechanism. The removable shaft 11, allows for easy cleaning of the shaft 5, and an applicator 6, such as an applicator 6a (Figure 9 - Figure 13). The applicator 6, can be made out of bristles, both synthetic and natural, sponge, cloth, fabric, hair, rubber, plastic, paper, or other material. The applicator 6 can also be a cylindrical device 6b (Figures 14 - 19), covered with synthetic or natural nap (like a paint roller). The size of the applicator 6a, 6c, or 6d, is approximately 1.0" x 1.0" but can be made as small as 0.2" x 0.1", or as large as 5.0" x 5.0". The applicator 6, can be made as a permanent part of the shaft 5, and lid 1, or it can be made to attach and detach to the shaft 5 and/or 11, in a cartridge format 20, like that of a disposable razor cartridge, as shown in Figure 34.

[0012] The cartridge applicator 20, attaches to the shaft 5 and/or 11, using a press-fit/friction fit interlock, snap on interlock or other mechanism. The cartridge applicator 20, can be made to attach to the bottom of the shaft 5, or it can be made to attach by fastening around the shaft's 5, outer surface using a friction fit application or an elastic application that would hold the applicator over the shaft 5 and/or 11.

[0013] The cartridge applicator 20 eliminates any possibility of the applicator 6 and/or 20, from drying out and becoming unusable. The cartridge applicator 20 can be a cartridge-like system that enables the user to apply the liquids from the container 2, and after the task is completed the cartridge applicator 20, is removed and discarded or cleaned. The cartridge applicator 20 can be made from the same materials as those of the applicator 6. The cartridge applicator 20 attaches to the shaft 5 that extends from the lid 1. It attaches to the shaft 5 with a snap-fit, press-fit, friction-fit attachment or other mechanism that holds the cartridge applicator 20 securely to the shaft 5 and/or 11, so that it can be used to complete the task of applying liquids to surfaces. Once the task is completed the cartridge applicator 20 can be removed and discarded or cleaned for future use. This design removes the possibility of the applicator 20 and/or 6, from drying out if not submerged in enough liquid in the container 2, and damaging the applicator 6 and/or 20. Also, the cartridge system allows for a variety of applicator styles, such as sponges, synthetic bristles, natural bristles, and /or rollers etc. to be used interchangeably with one paint device 100.

[0014] The lid 1, is illustrated as domed shape but is not limited to this shape and can be approximately 3.25 inches across, but is not limited to this size. The lid 1 can be square, octagonal, triangular or any other shape. The exterior domed surface of the lid 1 can include a handle 10, as shown in Figures 5 - 8, that is held when applying liquids to surfaces. The shape of the lid 1 exterior surface can be spherical or domed, but as noted above, is not limited to this shape. The outer surface of the lid 1, can be spherical in shape to fit better in the hand of the user and give more surface-area to grip and hold onto. The outer edge of the lid 1, known as a grip 16, has ribs that provide the user with extra grip. The ribs make it easier for the user to grip the lid 1 when removing the lid 1 from the container 2 and when holding the lid 1 in hand to use the applicator 6. A handle 10, like that found on a typical paintbrush, can extend from the top of the lid 1 outer surface to provide the user with a handle with which to hold onto when using this device 100. This handle 10 can be permanent part of the lid/shaft/applicator 1, 5, 6, 11, 20 or it can be a separate detachable handle 10 that attaches to the lid 1, and/or shaft 5 and/or 11, in various ways including a snap fit, threaded fit, friction fit, etc. The handle 10 can also hold the shaft 5 and/or 11, and applicator 6 and/or 20 and pass through lid 1, so that when removed from the container 2, it would be similar to a traditional paintbrush, as shown in Figure 36. In this instance the lid 1 can also be removed from the handle 18, and shaft 5 and/or 11.

[0015] The container 2, as shown in Figure 30, is illustrated as cylindrical in shape but can be made any shape including square, rectangular, octagonal, triangu-

lar, etc. The volume of liquid that the container 2 holds can be approximately 13oz, but it is not limited to this volume. For example, the container 2 can hold as little as 1 ounce of liquid and as much as 5 gallons. The bottom surface of the container 2, may be flat on its external side so that it can stand on surfaces without tipping over.

[0016] The container 2, the lid 1, the shaft 5 and/or 11, and a wiper device 12 are made from plastic polymers. The design is not limited to plastic polymers and can be made out of any material that is able to hold liquid without leaking and be substantially airtight. The lid 1 and container 2 can be made in any color combination available, including clear, and opaque. In an embodiment of the invention, there are line indicators on the container 2 that show the minimum volume 4, and maximum volume 3, of liquid necessary to be kept in the container in order to keep the applicator 6 moist and supple.

[0017] The lid 1 can be secured to the container 2 with a threaded interlock 8, as shown in Figure 35. This system can also be made using a snap fit interlock where the lid 1 snaps onto the container 2, or has a friction fit that attaches the lid 1 to the container 2, or the lid 1 can be held down securely with locking devices such as a buckle(s) that are attached to the lid 1 and to the container 2. There is a tapered lip 14 inside the lid 1 that presses on the inside edge 15 of the container 2 when the lid 1 is fastened to the container 2 creating an airtight seal. The air tight seal is made because the two surfaces 14 and 15 come together in such a fashion that it prohibits air from entering into the container 2, which could ultimately ruin the liquid stored inside. An o-ring or a gasket or a washer, made from rubber, plastic, metal, paper or any other material, can also be fit between the lid 1 and the container 2 to create an airtight seal between the lid 1 and container 2 when they are put together.

[0018] Inside of the container 2 near the top of the container 2 there is a seat 19 (Figures 30 and 31) that holds the wiper device 12. The wiper device 12 (Figures 32 and 33) helps to keep excess paint in the container 2, off the inside of the lid 1, when the paint device 100 is being shaken, transported or stored statically, and also provides an edge to wipe the excess liquid off of the applicator 6 and/or 20, and/or the shaft 5 and/or 11. This wiper device 12 fits into the seat 19 on the inside of the container 2 and can be held in place with a snap fit, friction fit, threaded fit or can be held in place with an adhesive. On the outer perimeter 23 of the wiper device 12 there are dome shaped bumps 21 that protrude outward. The bumps 21 snap/press-fit into the seat 19 on the inside of the container 2 to secure the wiper into the container 2.

[0019] The wiper device 12 can also be manufactured as a part of the container 2 so that it is not a secondary part, but an integral part of the container. There is a hole 22 in the wiper device that allows the applicator 6 and/or 20, and shaft 5 and/or 11, to fit inside of the container 2. This hole 22 is in the center of the wiper device 12, but can also be offset. The hole 22 in the wiper device 12 is illustrated as round, but can be any shape or size that allows the applicator 6 and/or 20, and shaft 5 and/or 11, to move through it. The hole 22 can be small enough to rub snuggly against the applicator 6 and/or 20 removing excess liquid, and shaft 5 and/or 11 or it can be large enough that the applicator 6 and/or 20, and shaft 5 and/or 11 do not to touch the hole.

[0020] The applicator 6 and/or 20 and shaft 5 and/or 11 can be used as a stirring mechanism to keep the liquid inside mixed properly.

[0021] There are three slits 12a radially protruding from the hole 22 in the wiper device 12 that allow the wiper device 12 to flex around the applicator 6 and/or 20, and the shaft 5 and/or 11, when inserting and/or removing the applicator 6 and/or 20, and the shaft 5 and/or 11, to the container 2, and through the hole 22 in the wiper device 12. The number of slits is not limited to three; the wiper device 12 can have as few as one or as many as 100 or none. These slits 12a also enable any liquid that has gotten on the top surface of the wiper device 12 while the applicator 6 and/or 20, and the shaft 5 and/or 11, are in the container to drain back into the container.

[0022] The wiper device 12 can have a conical shape from its outer perimeter 23 to the center of the hole 22 tapering down toward the hole 22 that allows any liquid that has fallen on the top surface of the wiper device 12 to flow back into the container 2.

[0023] In order to paint with the paint device 100 the lid 1 is detached from the container 2 via unscrewing the lid 1 or via other mechanisms. If necessary, a cartridge applicator 20 can be coupled to the lid 1 (via the shaft 5 or 11). In addition, the handle 10 can be coupled to the lid 1. The user can then grip the handle 10 or the lid 1 via the ribs 16 to paint.

[0024] The foregoing description of the illustrated embodiments of the present invention is by way of example only, and other variations and modifications of the above-described embodiments and methods are possible in light of the foregoing teaching. The embodiments described herein are not intended to be exhaustive or limiting. The present invention is limited only by the following claims.

Claims

1. A paint device (100), comprising:

a lid (1),
an applicator (6;6a-6d; 20) coupled to an underside of the lid (1); and
a container (2) removably coupled to the lid (1).

2. The paint device (100) of claim 1, further comprising a handle (10) coupled to the lid (1).

3. The paint device (100) of claim 1 or claim 2, further

comprising a handle (10) that is removably coupled to the lid (1).

4. The paint device (100) of any one of claims 1-3, wherein the applicator (6; 6a-6d; 20) is removably coupled to the lid (1).

5. The paint device (100) of any one of claims 1-4, wherein the lid (1) and the container (2) form a leak proof and air tight seal (14, 15).

6. The paint device (100) of any one of claims 1-5, wherein an outer edge of the lid (1) has ribs (16).

7. The paint device (100) of any one of claims 1-6, further comprising a handle (10) is coupled to the applicator (6; 6a-6d; 20), which is removably coupled to the lid (1).

8. The paint device (100) of any one of claims 1-7, wherein at least a portion of the container (2) is substantially clear and includes indicators (3, 4) indicating approximately minimum and maximum amounts of a liquid that can be stored within.

9. The paint device (100) of any one of claims 1-8, wherein the container (2) has a seat (19) disposed in its interior for holding a wiper device (12).

10. The paint device (100) of claim 9, wherein the wiper device (12) is shaped to form a hole (22) therein and has a top surface slanted downwards to the hole (22).

11. The paint device (100) of claim 10, wherein the hole (22) is large enough for the applicator (6; 6a-6d; 20) to fit through.

12. The paint device (100) of claim 10 or claim 11, wherein the wiper device (12) has at least one slit (12a) disposed on a top surface of the wiper device (12) extending radially outwards from the hole (22).

13. A method of painting, comprising:

removing a lid (1) from a container (2), the lid (1) having an applicator (6; 6a-6d; 20) attached to an underside of the lid (1);
gripping the lid (1); and
painting.

14. The method of claim 13, wherein the applicator (6; 6a-6a; 20) is removably coupled to the lid (1).

15. The method of claim 13 or claim 14, wherein the lid (1) and the container (2) form a leak proof and air tight seal (14, 15).

16. The method of any one of claims 13-15, wherein the container (2) has a seat (19) disposed in its interior for holding a wiper device (12).

17. The method of claim 16, wherein the wiper device (12) is shaped to form a hole (22) therein and has a top surface slanted downwards to the hole (22).

18. The method of claim 17, wherein the hole (22) is large enough for the applicator (6; 6a-6d; 20) to fit through.

19. The method of claim 17 or claim 18, wherein the wiper device (12) has at least one slit (12a) disposed on a top surface of the wiper device (12) extending radially outwards from the hole (22).

20. The method of any one of claims 13-19, further comprising attaching a handle (10) to the lid (1).

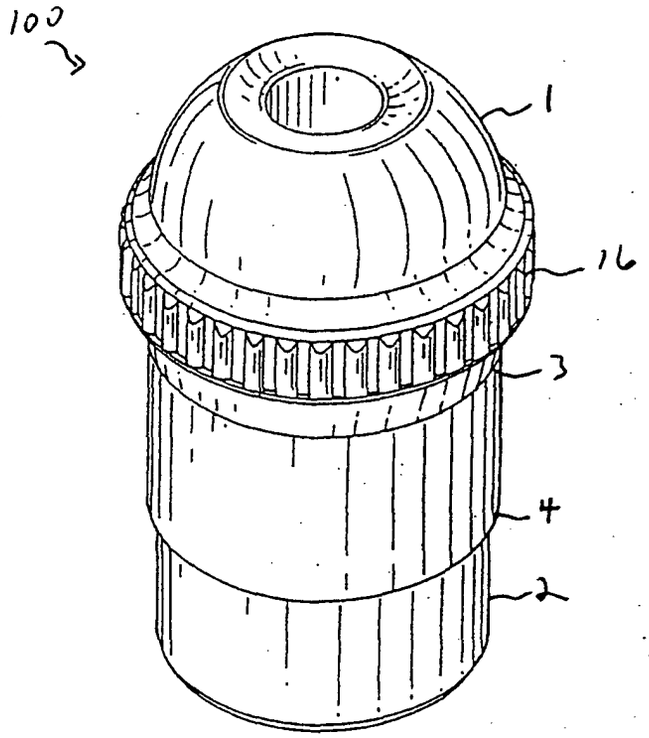


Fig.1

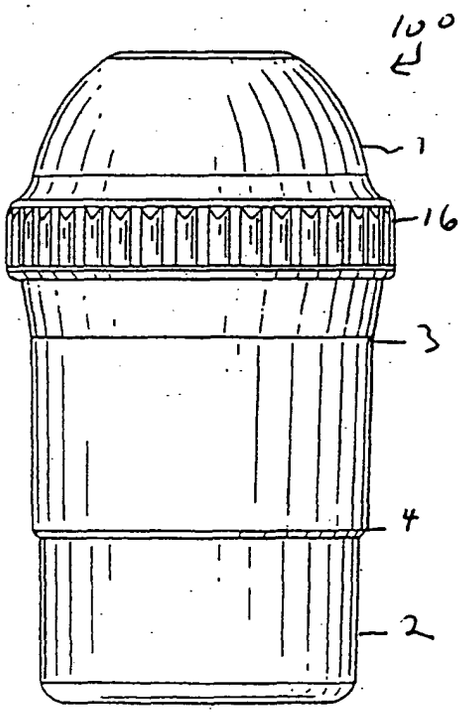


Fig.2

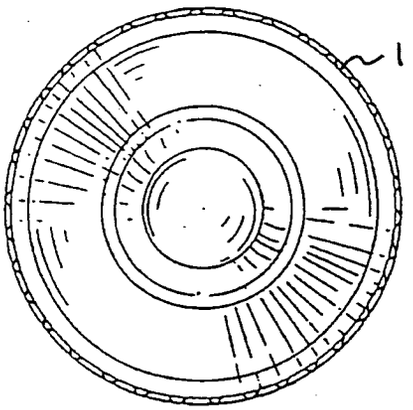
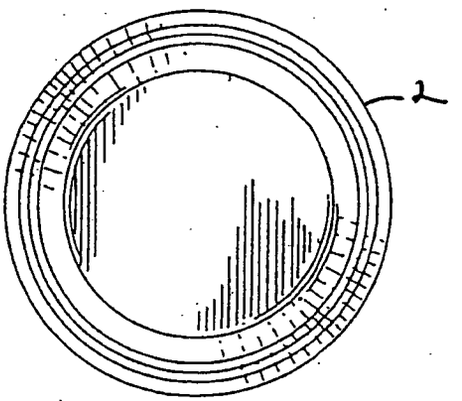


Fig. 3

Fig. 4



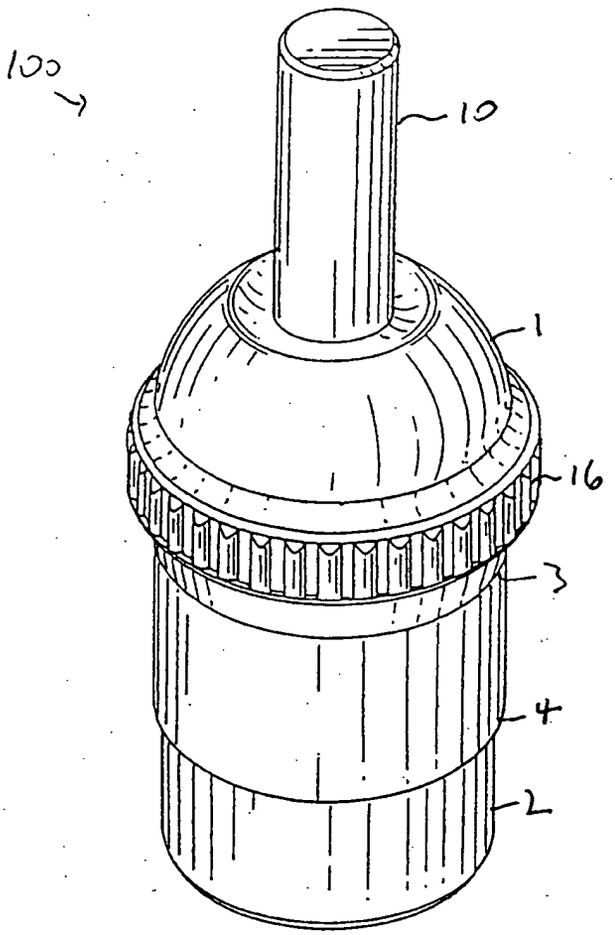


Fig. 5

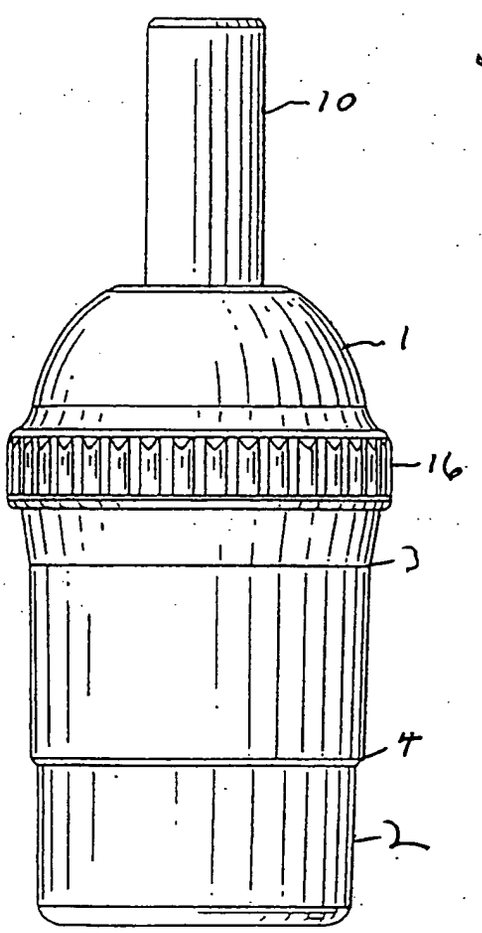


Fig. 6

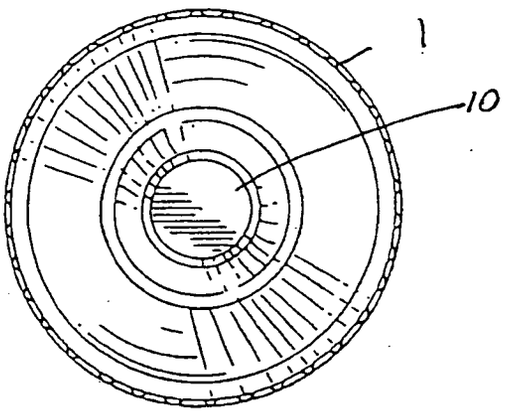
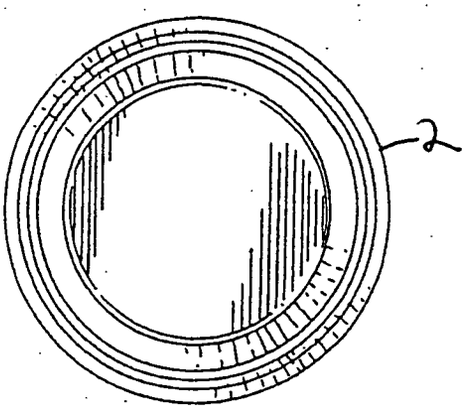


Fig. 7

Fig. 8



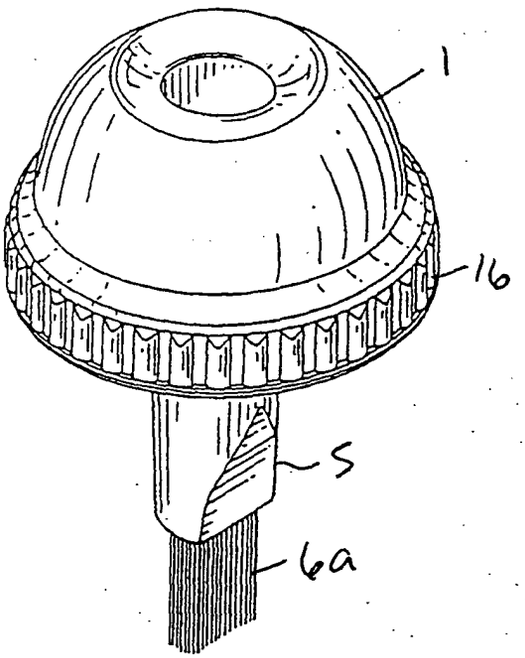


Fig. 9

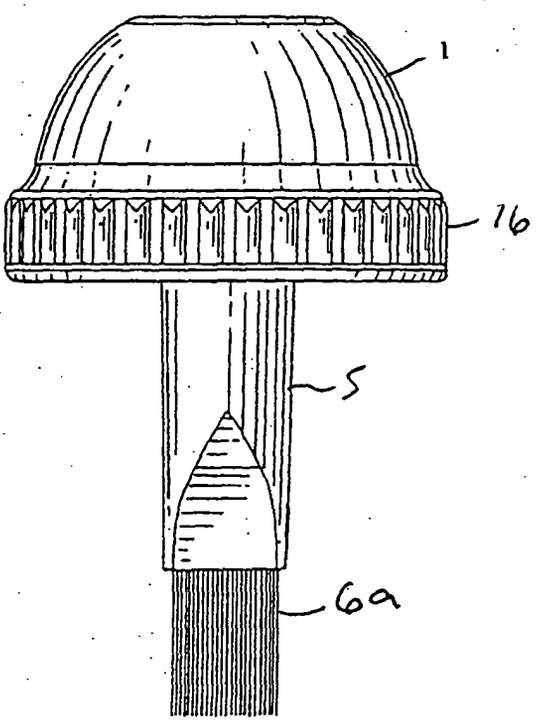


Fig. 10

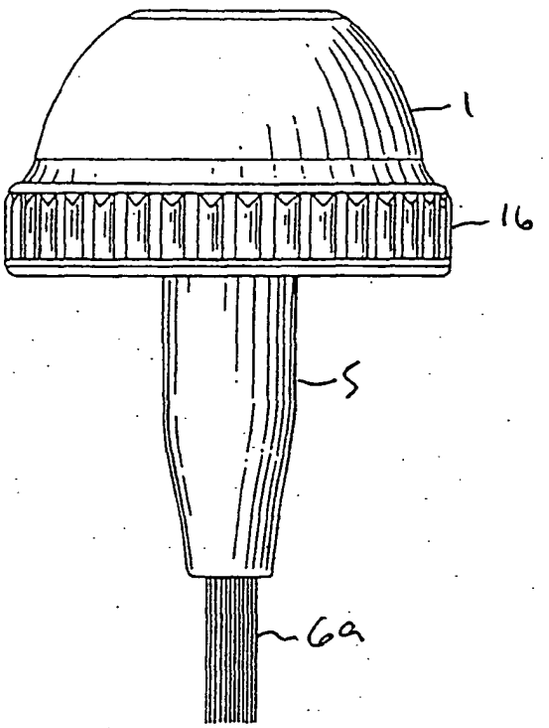


Fig. 11

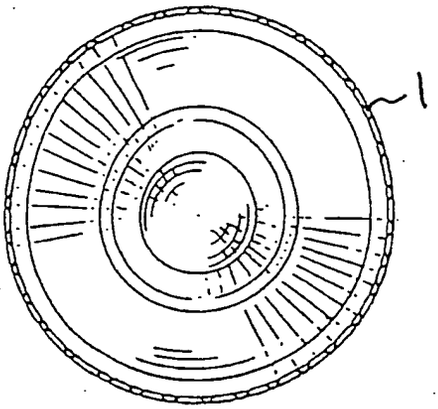


Fig.12

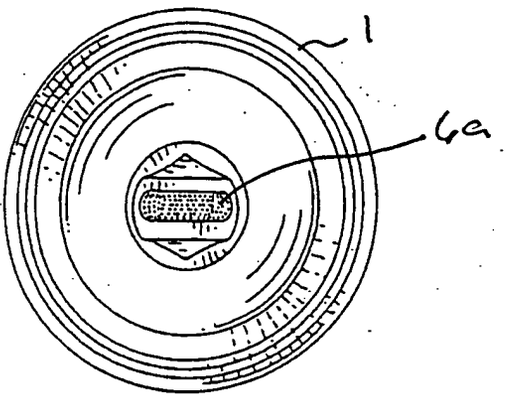


Fig.13

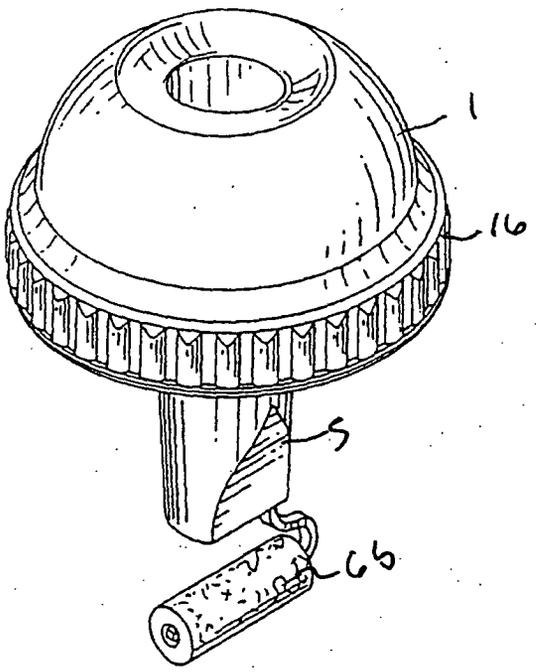


Fig.14

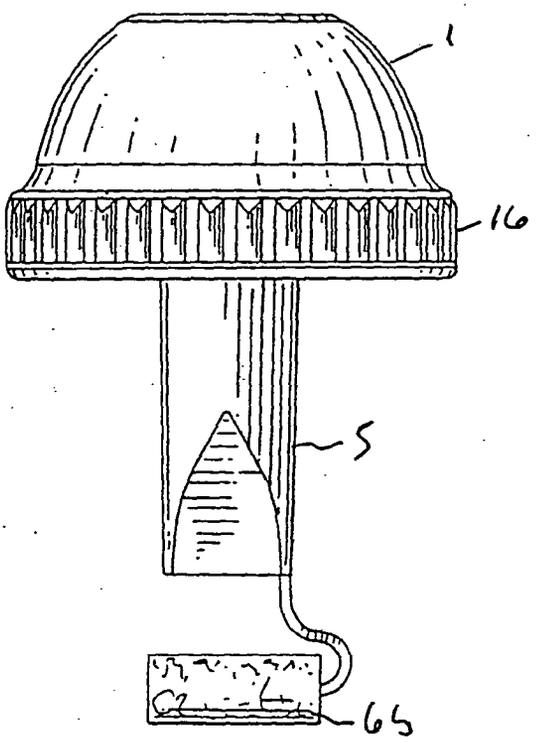


Fig. 15

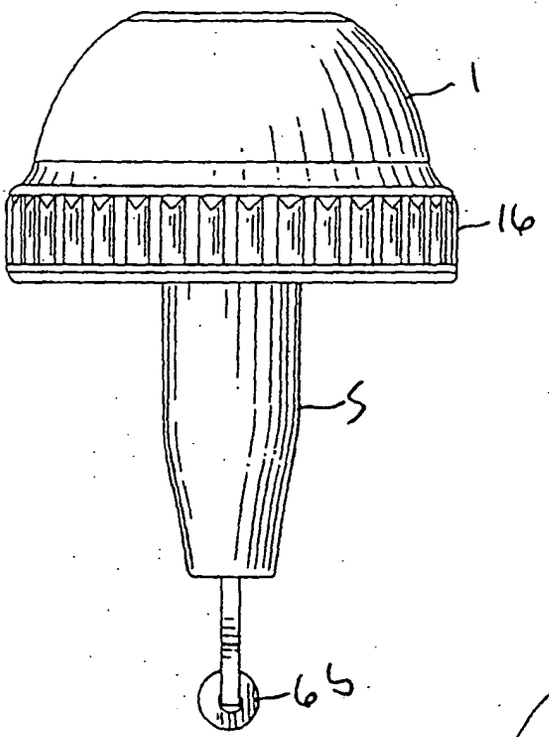


Fig. 16

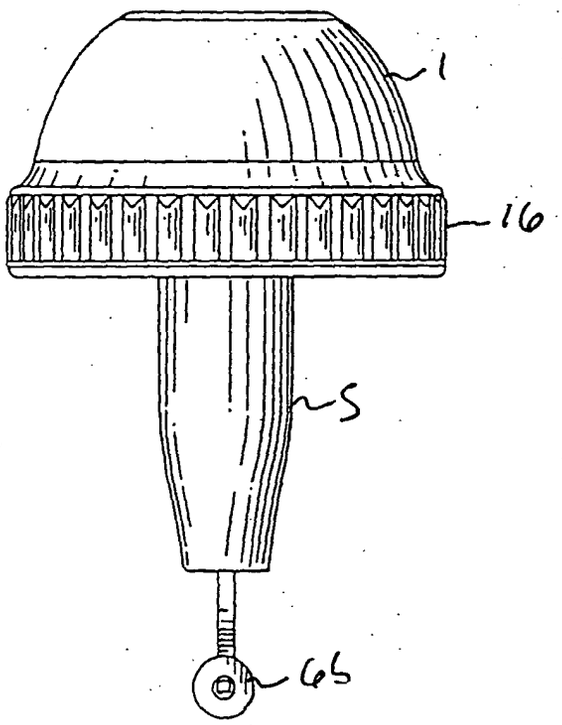


Fig. 17

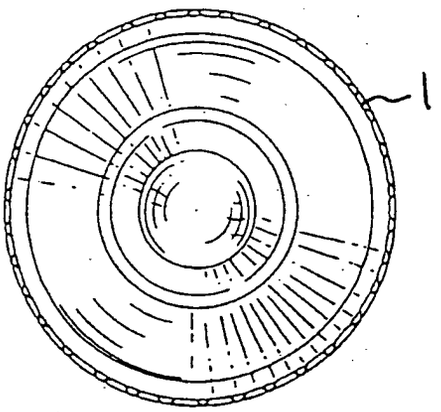
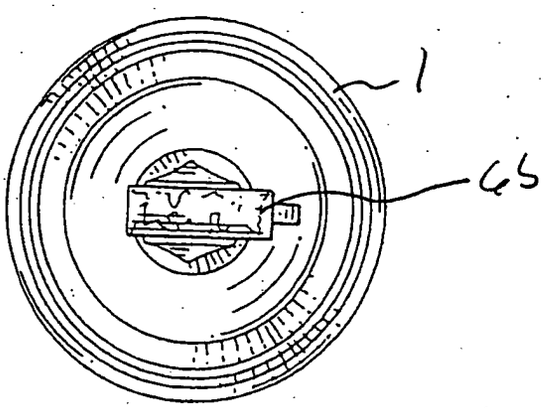


Fig. 18

Fig. 19



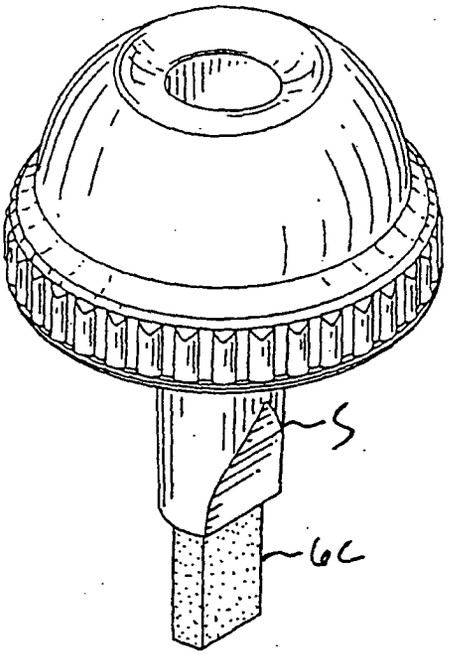


Fig.20

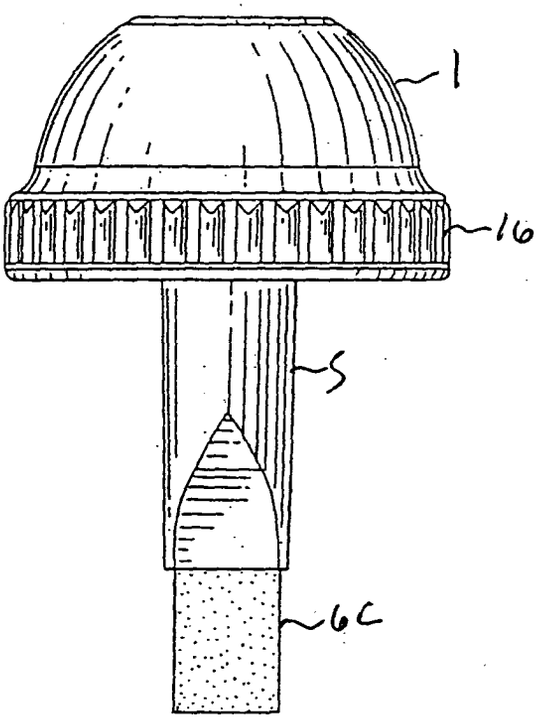


Fig.21

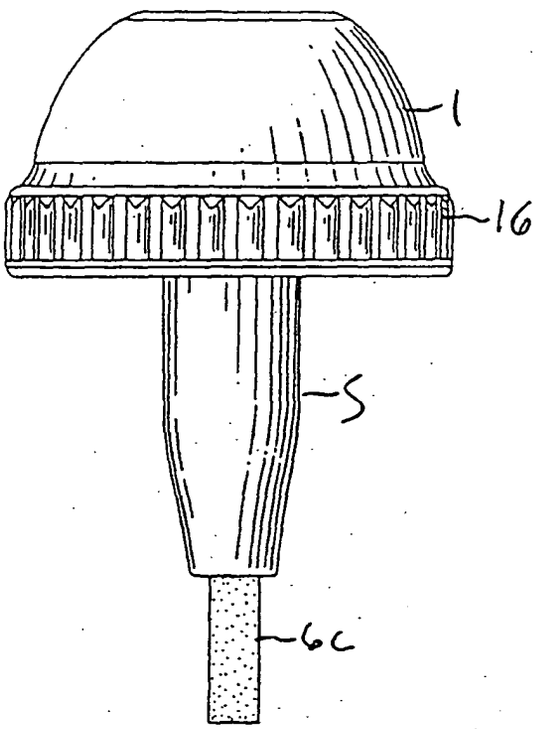


Fig.22

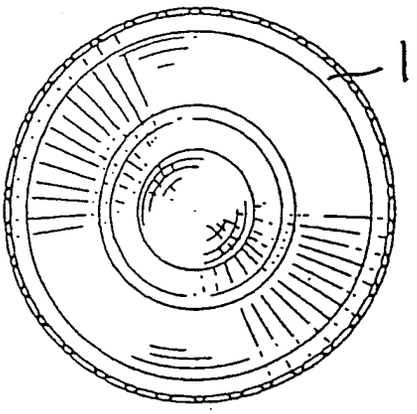


Fig. 23

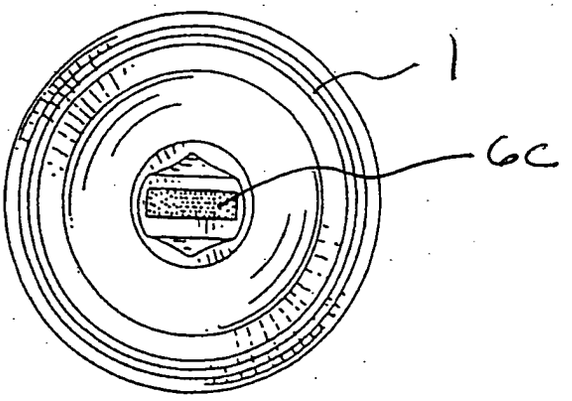


Fig. 24

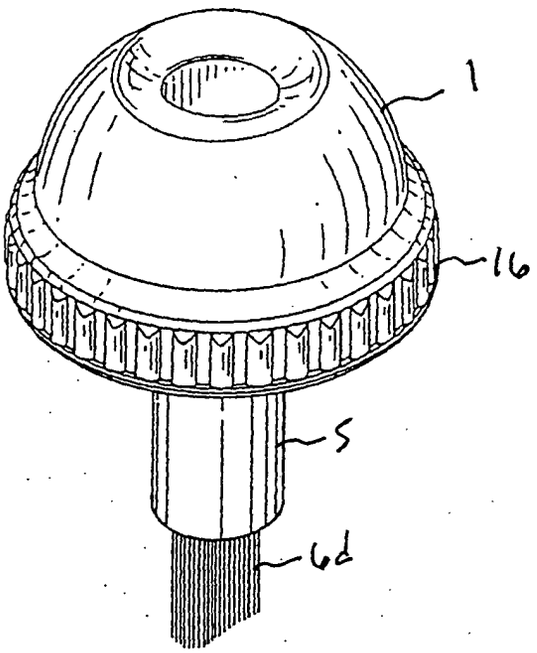


Fig. 25

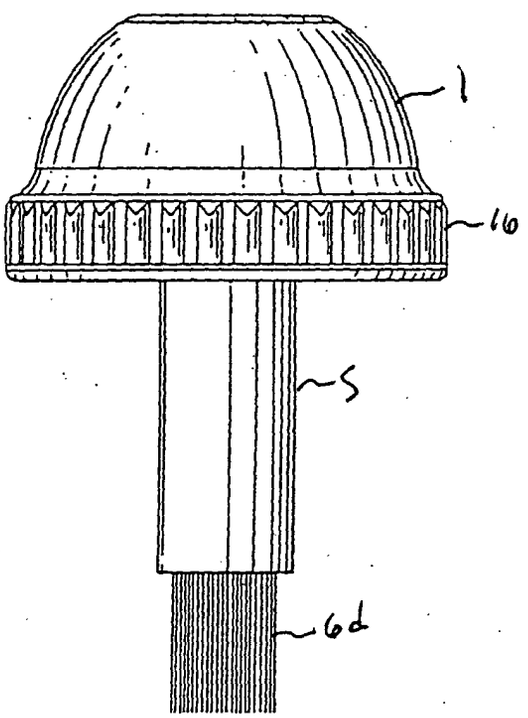


Fig. 26

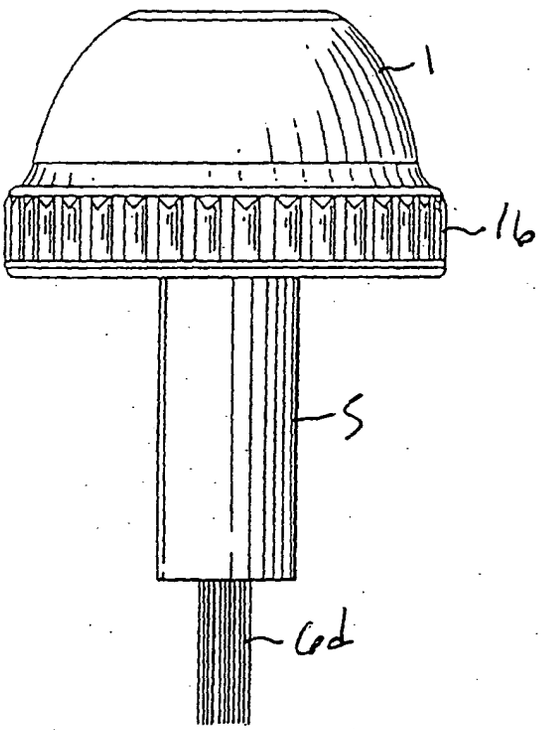


Fig. 27

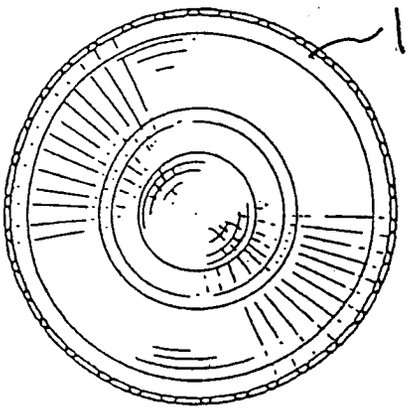
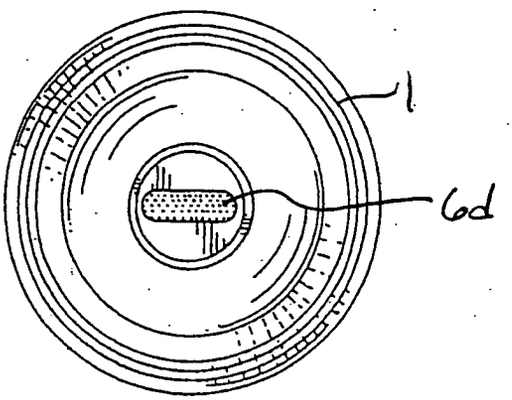


Fig.28

Fig.29



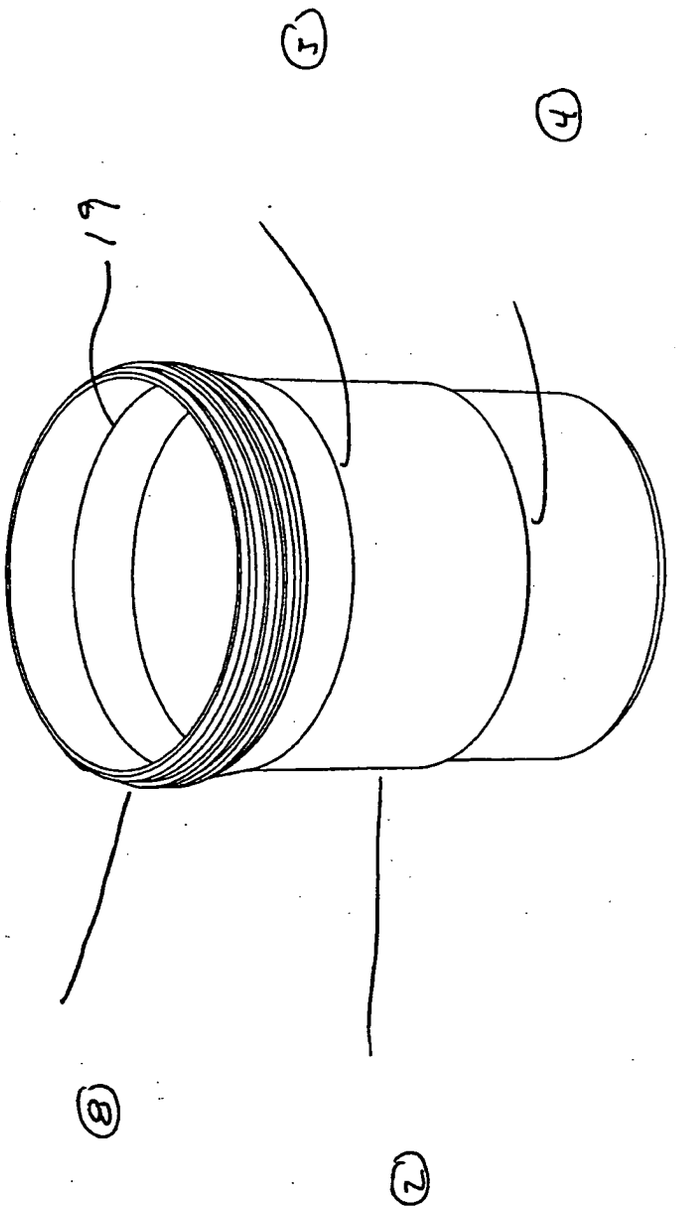


Fig. 30

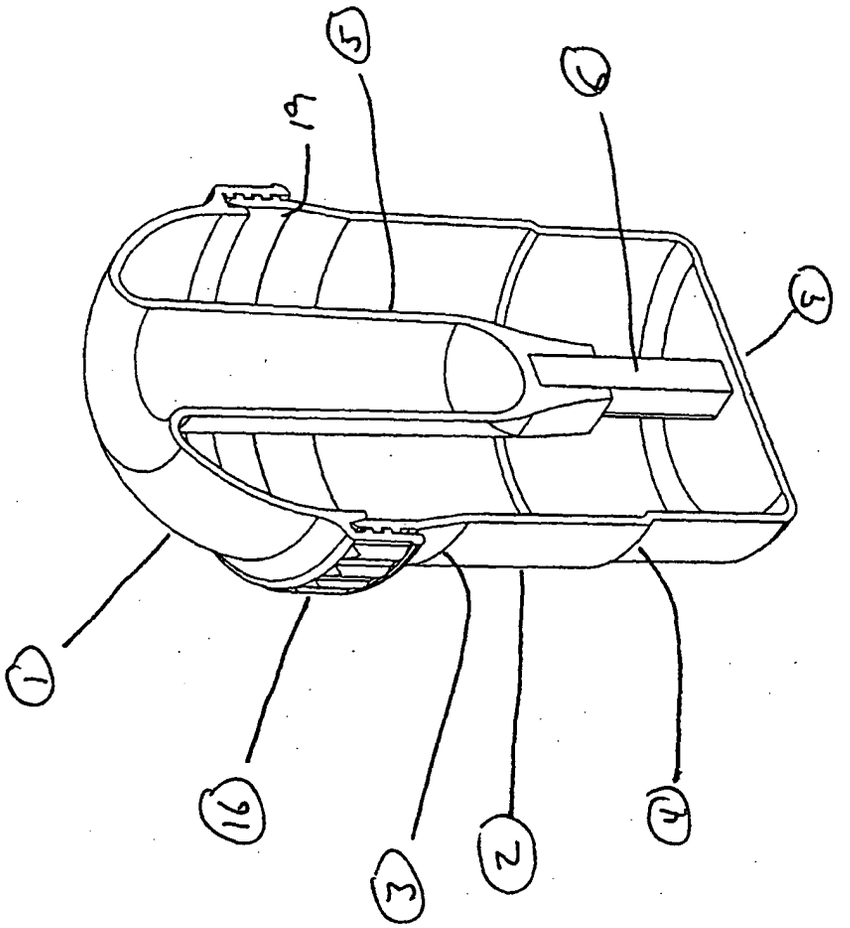


Fig. 31

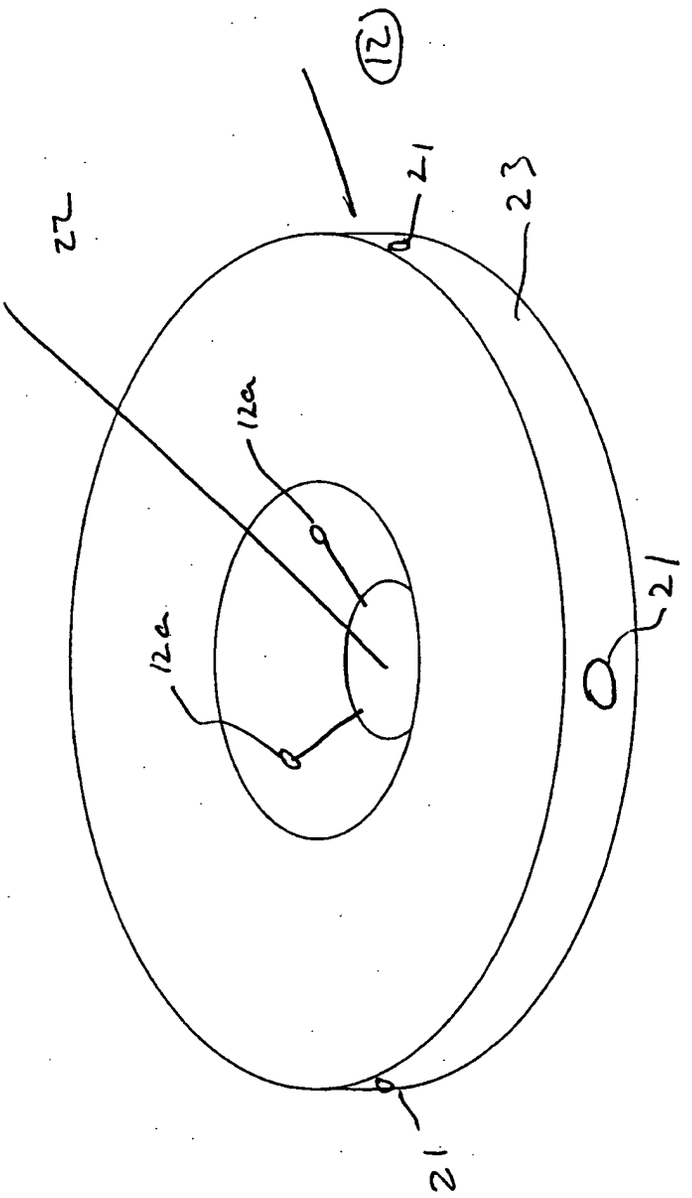


Fig. 32

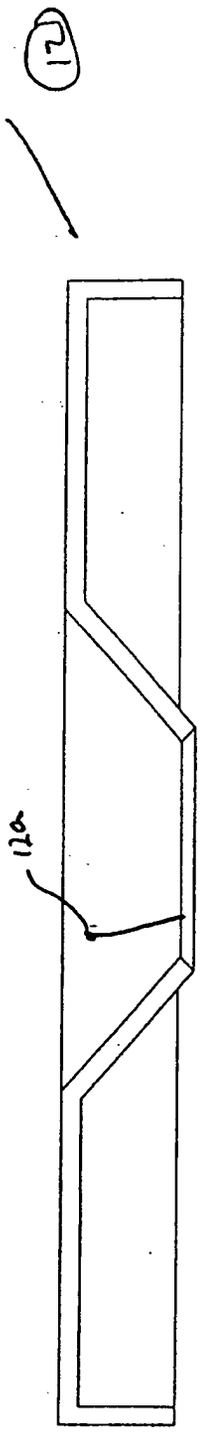


Fig. 33

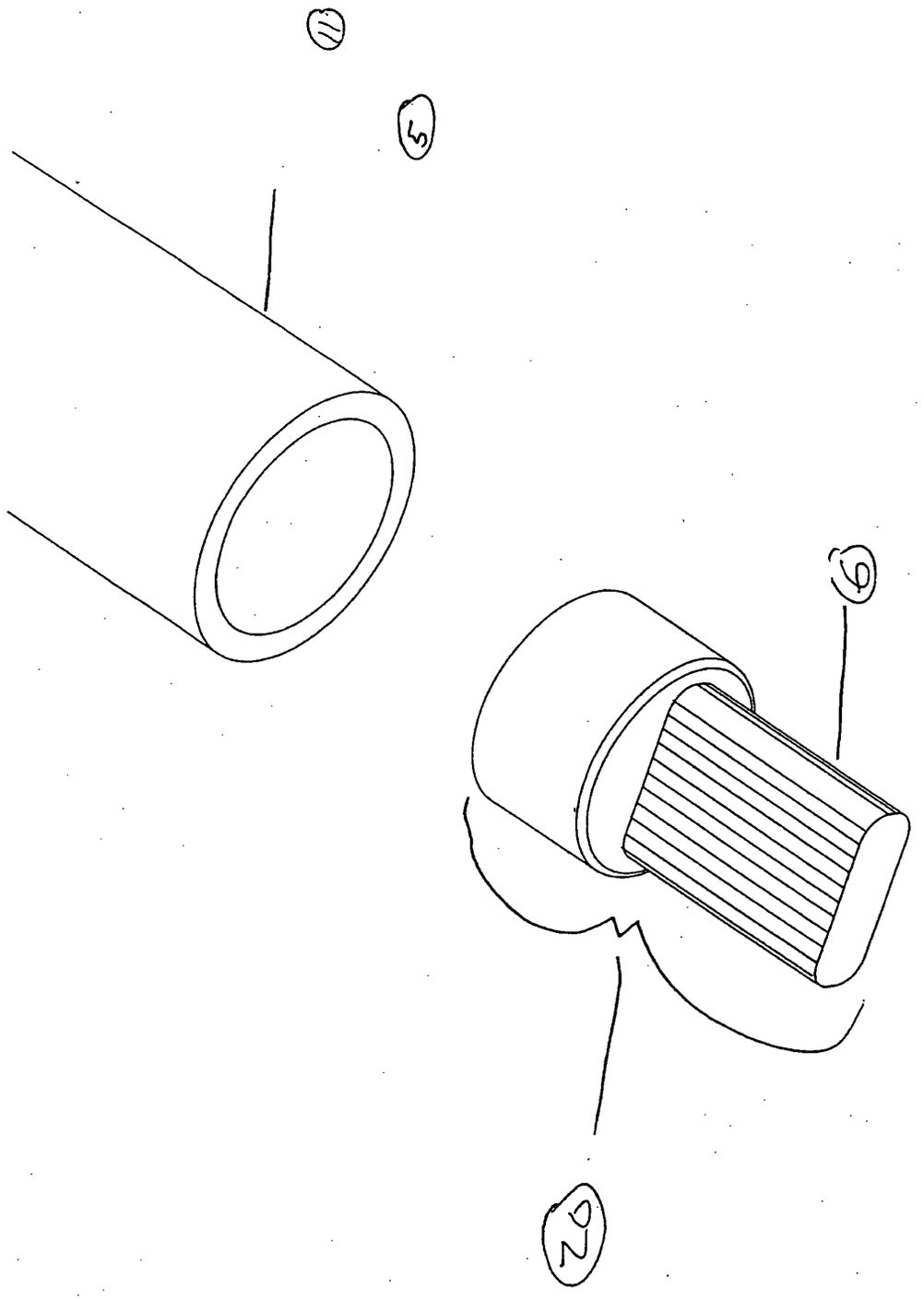


Fig. 34

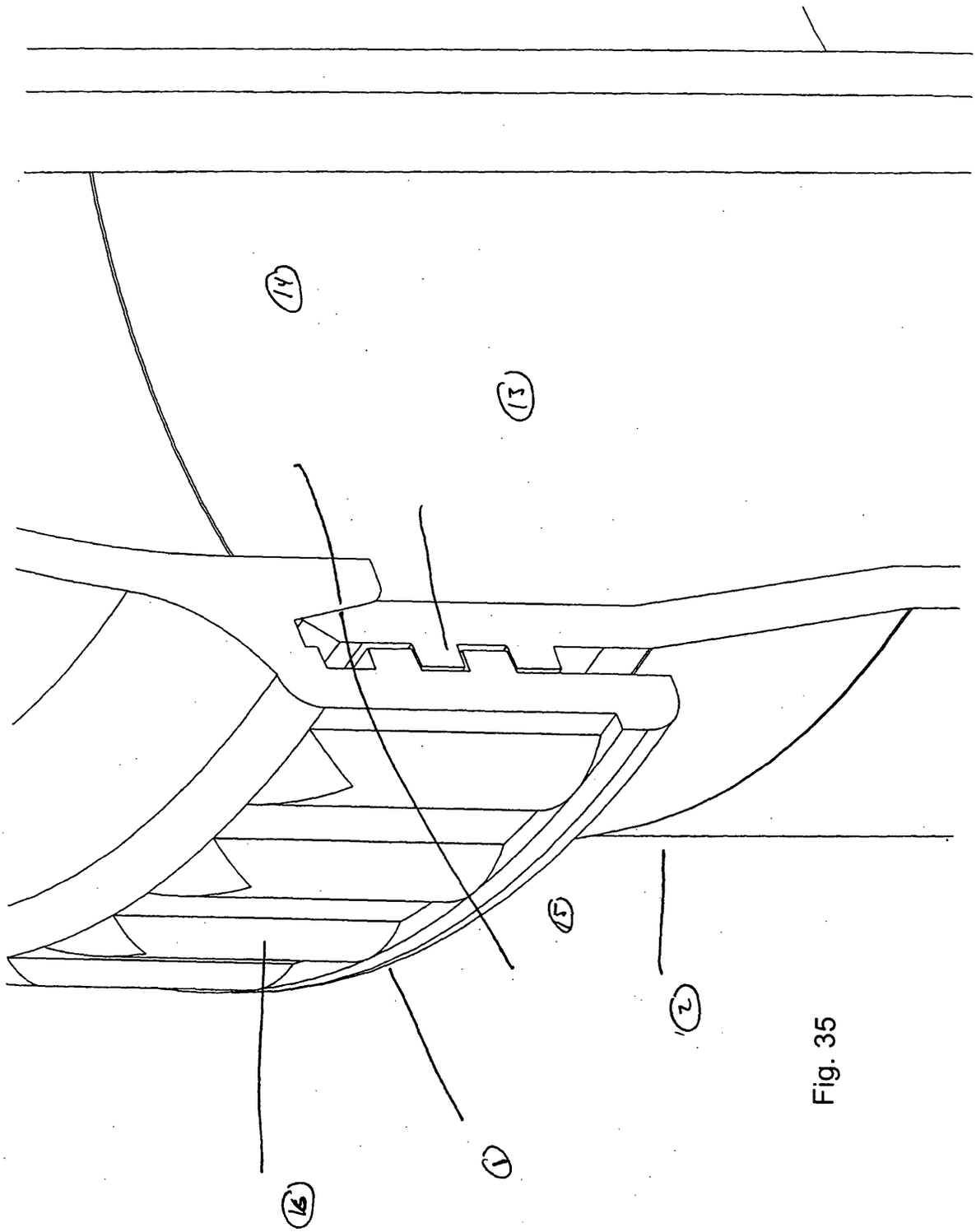


Fig. 35

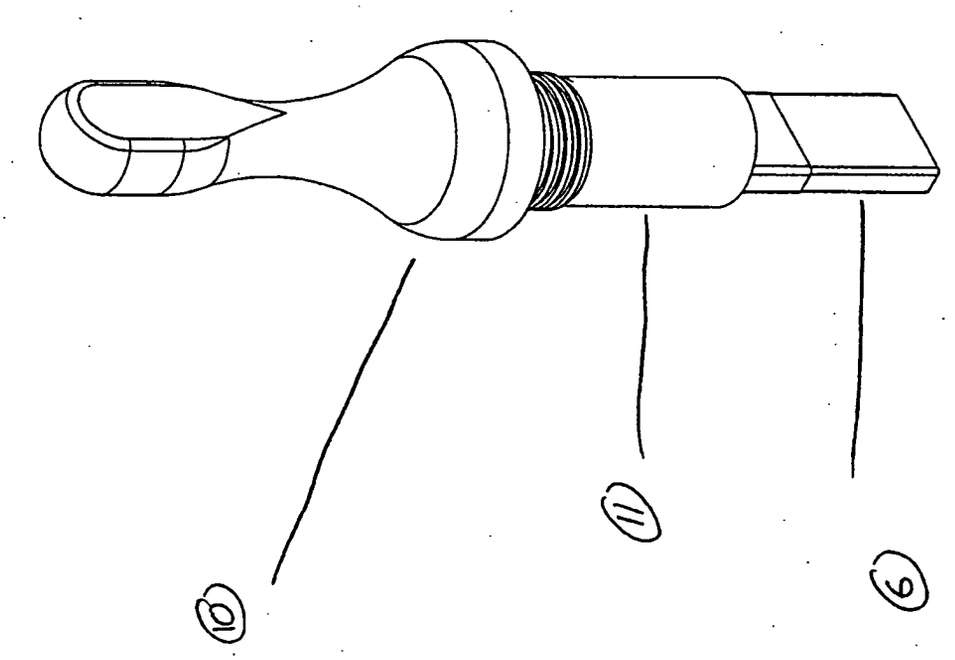


Fig. 36

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 04 00 5085

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X Y	US 6 190 075 B1 (LEWIS EDWARD) 20 February 2001 (2001-02-20) * the whole document *	1,2,4-7, 13-15,20 9-12, 16-19	A46B11/00 B44D3/12 A45D34/04
Y	EP 0 900 534 A (GEKA MFG LTD) 10 March 1999 (1999-03-10) * the whole document *	9-12, 16-19	
X	GB 2 328 683 A (DOBSON MARK) 3 March 1999 (1999-03-03) * the whole document *	1,2,4,5, 7,13-15, 20	
X	US 3 895 877 A (FOMBY KENNETH A) 22 July 1975 (1975-07-22) * the whole document *	1,2,4,6, 7,13-15, 20	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)
A46B B44D A45D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	4 May 2004	Neiller, F

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 04 00 5085

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

04-05-2004

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6190075 B1	20-02-2001	NONE	
EP 0900534 A	10-03-1999	GB 2328863 A	10-03-1999
		EP 0900534 A1	10-03-1999
		US 6168334 B1	02-01-2001
		US 6502584 B1	07-01-2003
GB 2328683 A	03-03-1999	AU 748770 B2	13-06-2002
		AU 8191398 A	11-03-1999
		US 6213329 B1	10-04-2001
US 3895877 A	22-07-1975	US 3992116 A	16-11-1976

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82