



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 1 598 282 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
23.11.2005 Bulletin 2005/47

(51) Int Cl.7: **B65D 39/08, B65D 41/34**

(21) Application number: **05394015.1**

(22) Date of filing: **23.05.2005**

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

(72) Inventor: **Goggin, James**
Bray County Wicklow (IE)

(74) Representative: **O'Brien, John Augustine et al**
John A. O'Brien & Associates,
Third Floor,
Duncairn House,
14 Carysfort Avenue
Blackrock, County Dublin (IE)

(30) Priority: **21.05.2004 IE 20040358**

(71) Applicant: **Nypro Research and Developments
Limited**
Bray, County Wicklow (IE)

(54) A covering device

(57) A device (1) for covering a container comprising a cup-shaped body with a covering top (2) and a peripheral skirt (3) and a tear band lock (5). The device further

comprises a seal (11) for engaging the container to prevent contamination from entering a space between the device (1) and a container surface.

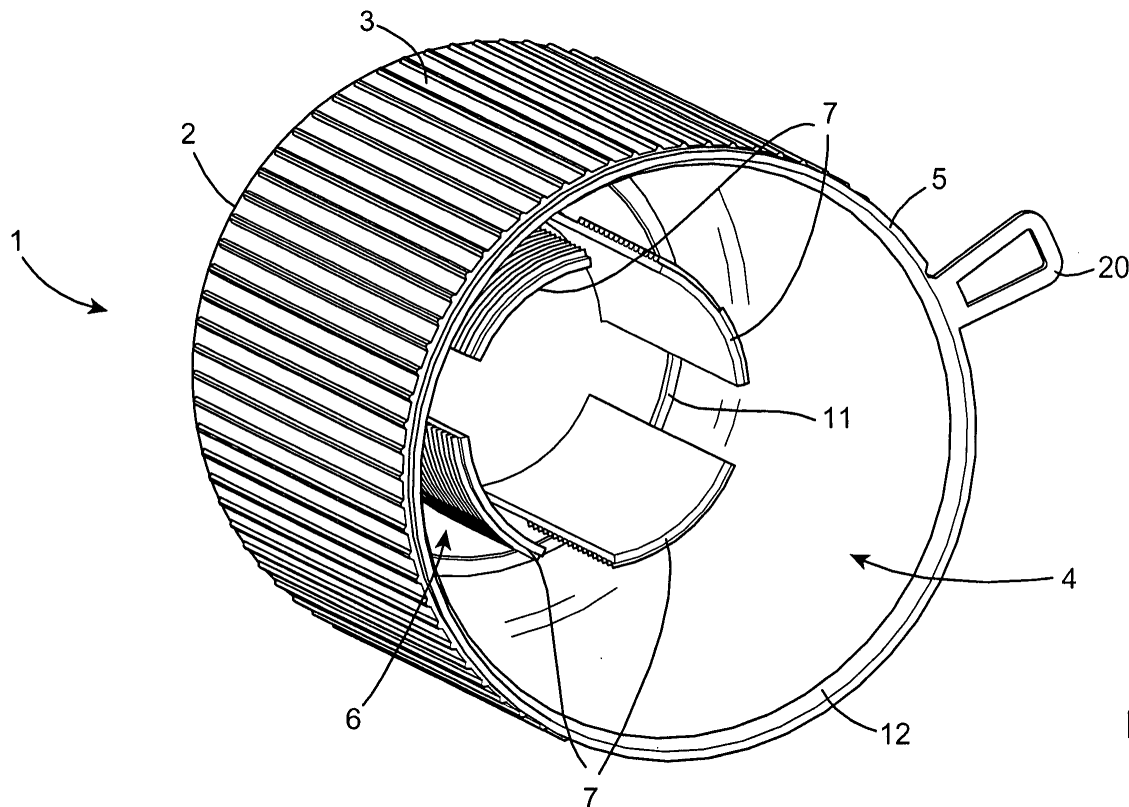


Fig. 2

Description

Introduction

[0001] The invention relates to a device for covering a container, for example that of the type comprising a valve, such as a beer keg.

[0002] In one approach, as described in GB2211830 a heat shrink cover may be fitted onto a beer keg. In another approach, as described in EP0950613 a snap fit cover may be fitted onto a beer keg.

[0003] However, there is a need for an improved cover to provide improved ease of use and improved security.

[0004] The invention aims to provide an improved cover.

Statements of Invention

[0005] According to the invention there is provided a device for covering a container comprising a cup-shaped body with a covering top and a peripheral skirt, and a tear band lock, wherein the device further comprises a seal for engaging the container to prevent contamination from entering a space between the device and a container surface.

[0006] In one embodiment the tear band lock is configured for snap-fitting engagement with a container.

[0007] In another embodiment the tear band lock has a locking ring having a lower tapered surface and an upper ledge for snap-fitting engagement.

[0008] In a further embodiment the tear band lock is located at the lower end of the skirt.

[0009] In one embodiment the tear band lock is integrally moulded with the peripheral skirt.

[0010] In another embodiment the device material is resilient.

[0011] In a further embodiment the seal comprises a resilient wall.

[0012] In one embodiment the seal wall extends from an inner surface of the cup.

[0013] In another embodiment the seal wall extends from the covering top of the device.

[0014] In a further embodiment the wall extends downwardly.

[0015] In one embodiment the seal wall extends inwardly and downwardly.

[0016] In another embodiment the device comprises a fastener for engagement with a container.

[0017] In a further embodiment the fastener depends from the inner surface of the covering top.

[0018] In one embodiment the fastener is substantially concentric with the peripheral skirt.

[0019] In another embodiment the fastener is threaded.

[0020] In a further embodiment the fastener comprises a plurality of sections.

[0021] In one embodiment the sections are arcuate, together forming a circular configuration.

[0022] In one embodiment the fastener is flexible.

[0023] In another embodiment the seal wall extends from the fastener.

[0024] In a further embodiment the seal wall extends outwardly from the fastener.

[0025] In one embodiment the location of the seal relative to the tear band lock is such that the seal is drawn into sealing engagement with the container upon engagement of the tear band lock with a container.

[0026] In another embodiment the location of the seal relative to the fastener is such that the seal is drawn into sealing engagement with the container upon engagement of the fastener with a container.

[0027] In a further embodiment the device comprises a hand grip formed on the external surface of the cover.

Brief Description of the Drawings

[0028] The invention will be more clearly understood from the following description thereof given by way of example only with reference to the accompanying drawings, in which:-

Fig. 1 is a perspective view of a cover according to the invention;

Figs. 2 and 3 are perspective views from below of the cover of Fig. 1;

Fig. 4 is a cross sectional view of the cover of Fig. 1;

Figs. 5 and 6 are partially cut away perspective views of the cover of Fig. 1;

Figs. 7 and 8 are a cross sectional elevational view and a plan view from above respectively of an alternative cover according to the invention;

Fig. 9 is a cross sectional elevational view of an alternative cover according to the invention; and

Figs. 10 and 11 are a cross sectional elevational and a plan view from above respectively of an alternative cover according to the invention.

Detailed Description

[0029] Referring to the drawings, and initially Figs. 1 to 6, a cover 1 comprises a cup shaped body having a covering top 2 and a peripheral skirt 3 defining an opening 4. The covering top 2 is disc-shaped and the peripheral skirt 3 depends from the covering top 2 and has a substantially cylindrical form.

[0030] The cover 1 comprises a tear band 5 configured for snap-fitting engagement with a container. The tear band 5 has a circumferential form and comprises a locking ring 12 on the inner side thereof. The locking ring 12 protrudes inwardly towards the centre of the cov-

er and has a lower tapered edge 13 and an upper horizontal ledge 14. The locking ring 12 runs circumferentially around the inside of the tear band 5 and is continuous in form.

[0031] The tear band 5 is connected to the peripheral skirt 3 at a frangible line of weakness 16 which forms a tear-off joint. The tear band 5 further comprises a pull tab 20. A user grips the pull tab 20 to apply a force to remove the tear band 5. The tear band 5 is pulled away from the cover 1 at the frangible line of weakness 16, thereby disengaging the ledge 14 from its snap-fitting position on the container.

[0032] The cover 1 comprises an internal seal 11. The seal 11 comprises a wall extending downwardly and inwardly from the internal surface of covering top 2. The seal 11 extends radially inwardly towards the centre of the cover. The seal 11 is flexible and is configured to press against a surface of the top of the container in use, to seal it. The seal 11 prevents contamination for example dust which might pass between the container top and cover from entering into the container. The seal 11 has a continuous uninterrupted form.

[0033] The cover 1 further comprises an inner fastener 6 depending downwardly from the internal surface of the covering top 2. The inner fastener 6 is formed of a plurality of arcuate sections 7 in a pattern which is coaxial with the outer peripheral skirt 3. The sections 7 are resilient. In this case, the external surface of the sections 7 of the inner fastener 6 are threaded for engagement with an internal thread on the neck of the container.

[0034] The cover 1 is connected to the container by pushing it down onto the container neck so that the locking ring 12 of the tear band 5 snap fits into place onto the neck. By this same action, the inner fastener 6 is pushed down into the neck of the container so that it fits into place therein and the threads on the inner fastener 6 engage with the threads on the internal surface of the container neck. A push-fitting action is possible because of the resilience of the sections 7. The interengagement of the threads prevents the inner fastener from being pulled out of the container neck. The inner fastener 6 thus acts to secure the cover 1 in place on the container neck. The inner fastener also interacts with the container neck to draw and hold the cover 1 against the container neck so that the seal 11 is held in sealing engagement with a surface of the container to prevent contamination from entering the container.

[0035] The inner fastener 6 is normally fully engaged with the container neck simply by pushing it into place so that the inner fastener fits into place in the container neck. In some circumstances, after the inner fastener 6 is initially pushed into and engaged in the container neck, the cover 1 may be rotated to screw the inner fastener further home into to the container neck.

[0036] While in the embodiment described above the inner fastener 6 is threaded for engagement with a container neck, it will be appreciated that the inner fastener may comprise other suitable engagement means for ex-

ample, a friction fit arrangement with ridges or other surface features to engage with the inner surface of part of the container neck.

[0037] The external surface of the peripheral skirt 3 comprises a knurl 8 which provides a good hand grip to enable the user to grip and handle the cover with increased ease.

[0038] The cover 1 is manufactured of a plastics material, and the tear band 5 is integrally moulded with the cover. The seal 11 and inner fastener 6 are also integrally formed with the cover 1. The cover 1 will preferably be manufactured by injection moulding.

[0039] The cover 1 is suitable for covering the top of a keg for example, a beer keg. The top of a beer keg comprises a metal seat comprising an internally threaded keg neck. The keg neck comprises an external ring-shaped formation with which the tear band lock engages.

[0040] In use, the cover 1 is placed over the metal seat at the top of a beer keg. The tapered form 13 of locking ring 12 assists with placement of the cover 1 securely on the keg top, allowing it to be pushed home. The ring 12 snap fits under a corresponding ring-shaped formation on the keg top and the inner fastener 6 snap fits into the internally threaded keg neck. Removal of the cover 1 from the top of the keg is prevented as the ledge 14 of the locking ring 12 snap fits behind a corresponding ring formation on the metal seat of the beer keg to which it is fitted. In addition, the threaded inner fastener is securely engaged with the internal thread of the keg neck.

[0041] To remove the cover 1 a force is applied to the pull-ring 20 to tear off the tear band 5 and to remove the locking ring 12. With the locking ring removed, the cover 1 is then turned to unscrew the inner fastener 6 from the keg neck to remove the cover 1 from the keg.

[0042] The cover 1 may be used to cover kegs having kegs necks of different sizes and forms. As noted above the tear band 5 engages with a corresponding ring formation on the keg neck. However, if the distance between the top of keg neck and the ring formation on the keg neck is less than the distance between the tear band locking ring and covering top of the cover then the locking ring would not be permanently engaged with the ring formation. Consequently the cover would be free to move up and down on the keg neck and the seal would not be permanently engaged with a portion of the keg neck. This potential problem is overcome by the inner fastener 6. The inner fastener 6 engages with the keg neck to hold the cover 1 in position on the keg neck and to ensure that the seal 11 is continuously engaged with a portion of the keg neck in sealing engagement.

[0043] Referring to Figs. 7 and 8 a cover 21 is shown, similar features have been assigned the same reference numbers. In this case, the tear band 5 further comprises a pull-hoop 22 extending externally of the tear band. The pull-hoop 22 is connected to the tear band at a connector 23. A user grips the pull-hoop 22 and draws it up over the top of the cover to pull the tear band 5 away from

the cover 1 at the frangible line of weakness 16 and to pull the locking ring 12 with it.

[0044] Referring to Fig. 9 the cover 21 comprises peripheral knurles 8 on the exterior of the peripheral skirt 3.

[0045] Referring to Figs. 10 and 11 a cover 41 of an alternative embodiment is shown. The cover 41 is similar to the covers 21 and 1 and similar features have been assigned the same reference numerals in the drawings.

[0046] The cover 41 comprises a seal 11 and a tear band 5 as described above. The cover 41 is configured for use with a keg comprising a keg neck having a depth corresponding to the depth of the cover. In this case, the seal is drawn into and held in sealing engagement against a portion of the keg neck by the tear band locking ring engaging an external ring formation on the keg neck. The cover 41 is suitable for use with a particular keg neck having a height corresponding to that of the cover 41.

[0047] The covers according to the invention advantageously provide excellent security. If the tear band is removed the cover cannot be subsequently replaced on a container, or reused without it being immediately evident that the cover had been tampered with. If the cover is tampered with, such interference will be evident from a simple visual inspection of the tear band. The configuration of the cover ensures that any interference or tampering with the cover will be immediately evident.

[0048] The covers of the invention have the further advantage of being easy to use. The cover is simply pushed into place on a keg neck as required. The cover is suitable for use with various kegs having necks of different heights. It is not necessary for a user to select a particular cover for a particular type of keg. The inner fastener is configured so that the cover may be correctly engaged with the keg neck to the required level and the seal is drawn into place on keg neck to seal it.

[0049] It will also be appreciated that the cover of the invention provides excellent sealing to prevent contamination particularly for the part of the keg's neck within the diameter of the seal. The inner fastener provides both sealing and security by its engagement with the keg neck. In effect, the inner fastener provides a second level of engagement of the cover on the container.

[0050] The dimensions of the cover and the features of the seal and inner fastener may be varied depending on the dimensions of the keg to be covered.

[0051] The cover of the invention has the advantage of providing increased security and a sealed cover on the keg.

[0052] The invention is not limited to the embodiments hereinbefore described which may be varied in detail. For example, the contamination seal may be integral with the skirt or inner fastener instead of or in addition to the covering top.

Claims

1. A device for covering a container comprising a cup-shaped body with a covering top and a peripheral skirt, and a tear band lock, wherein the device further comprises a seal for engaging the container to prevent contamination from entering a space between the device and a container surface.
2. A device as claimed in claim 1, wherein the tear band lock is configured for snap-fitting engagement with a container.
3. A device as claimed in claims 1 or 2, wherein the tear band lock has a locking ring having a lower tapered surface and an upper ledge for snap-fitting engagement.
4. A device as claimed in any preceding claim, wherein the tear band lock is located at the lower end of the skirt.
5. A device as claimed in any preceding claim wherein the tear band lock is integrally moulded with the peripheral skirt.
6. A device as claimed any preceding claim wherein the device material is resilient.
7. A device as claimed in any preceding claim, wherein the seal comprises a resilient wall.
8. A device as claimed in any preceding claim, wherein the seal wall extends from an inner surface of the cup.
9. A device as claimed in claim 8 wherein the seal wall extends from the covering top of the device.
10. A device as claimed in any preceding claim, wherein the wall extends downwardly.
11. A device as claimed in claim 10 wherein the seal wall extends inwardly and downwardly.
12. A device as claimed in any preceding claim wherein the device comprises a fastener for engagement with a container.
13. A device as claimed in claim 12 wherein the fastener depends from the inner surface of the covering top.
14. A device as claimed in claims 12 or 13 wherein the fastener is substantially concentric with the peripheral skirt.
15. A device as claimed in any of claims 12 to 14 where-

in the fastener is threaded.

- 16.** A device as claimed in any of claims 12 to 15 wherein the fastener comprises a plurality of sections.

5

- 17.** A device as claimed in claim 16 wherein the sections are arcuate, together forming a circular configuration.

- 18.** A device as claimed in any of claims 12 to 17 wherein the fastener is flexible.

10

- 19.** A device as claimed in any of claims 12 to 18 wherein the seal wall extends from the fastener.

15

- 20.** A device as claimed in claim 19 wherein the seal wall extends outwardly from the fastener.

- 21.** A device as claimed in any preceding claim wherein the location of the seal relative to the tear band lock is such that the seal is drawn into sealing engagement with the container upon engagement of the tear band lock with a container.

20

- 22.** A device as claimed in any of claims 12 to 20 wherein the location of the seal relative to the fastener is such that the seal is drawn into sealing engagement with the container upon engagement of the fastener with a container.

25

30

- 23.** A device as claimed in any preceding claim, comprising a hand grip formed on the external surface of the cover.

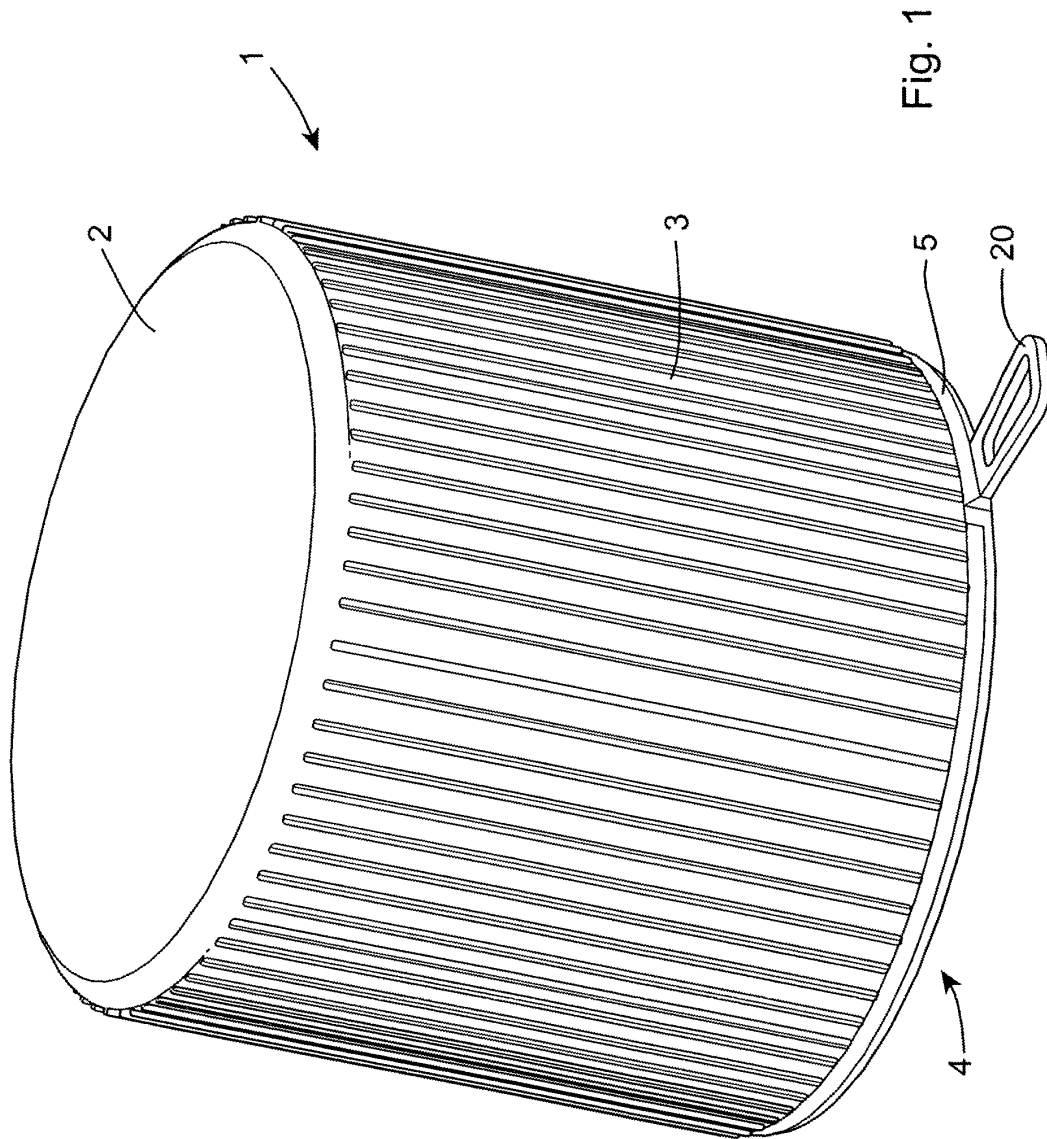
35

40

45

50

55



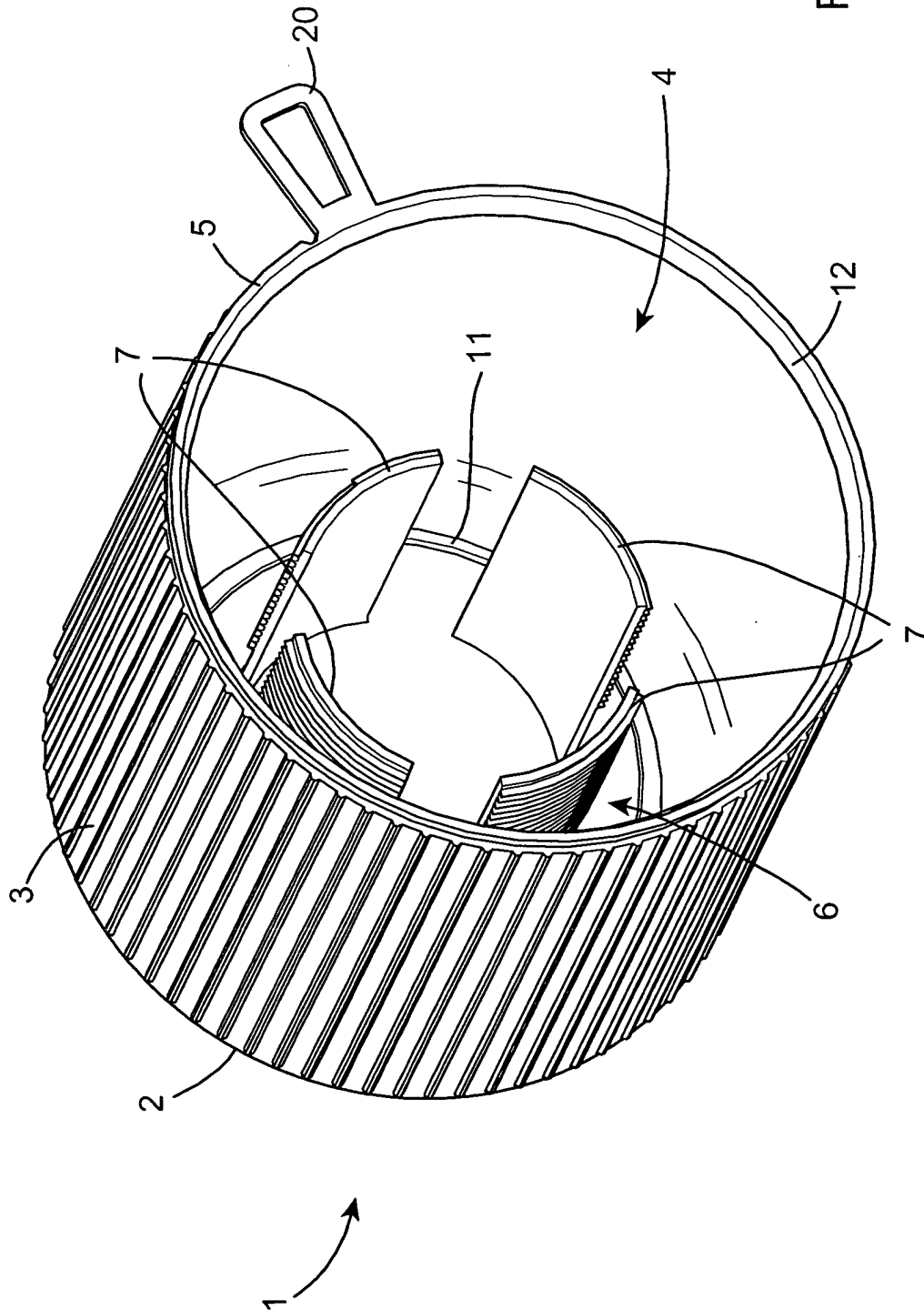


Fig. 2

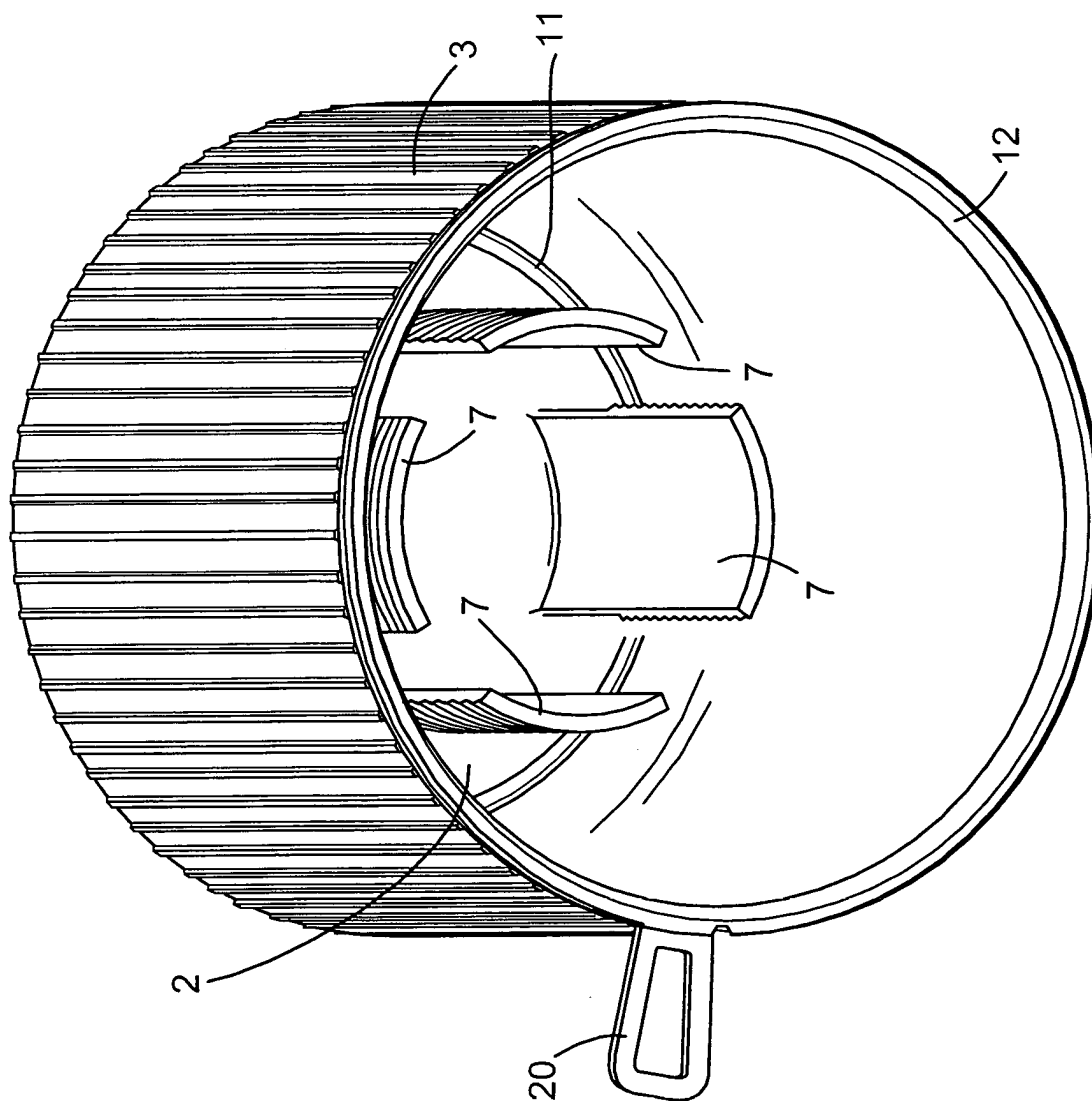


Fig. 3

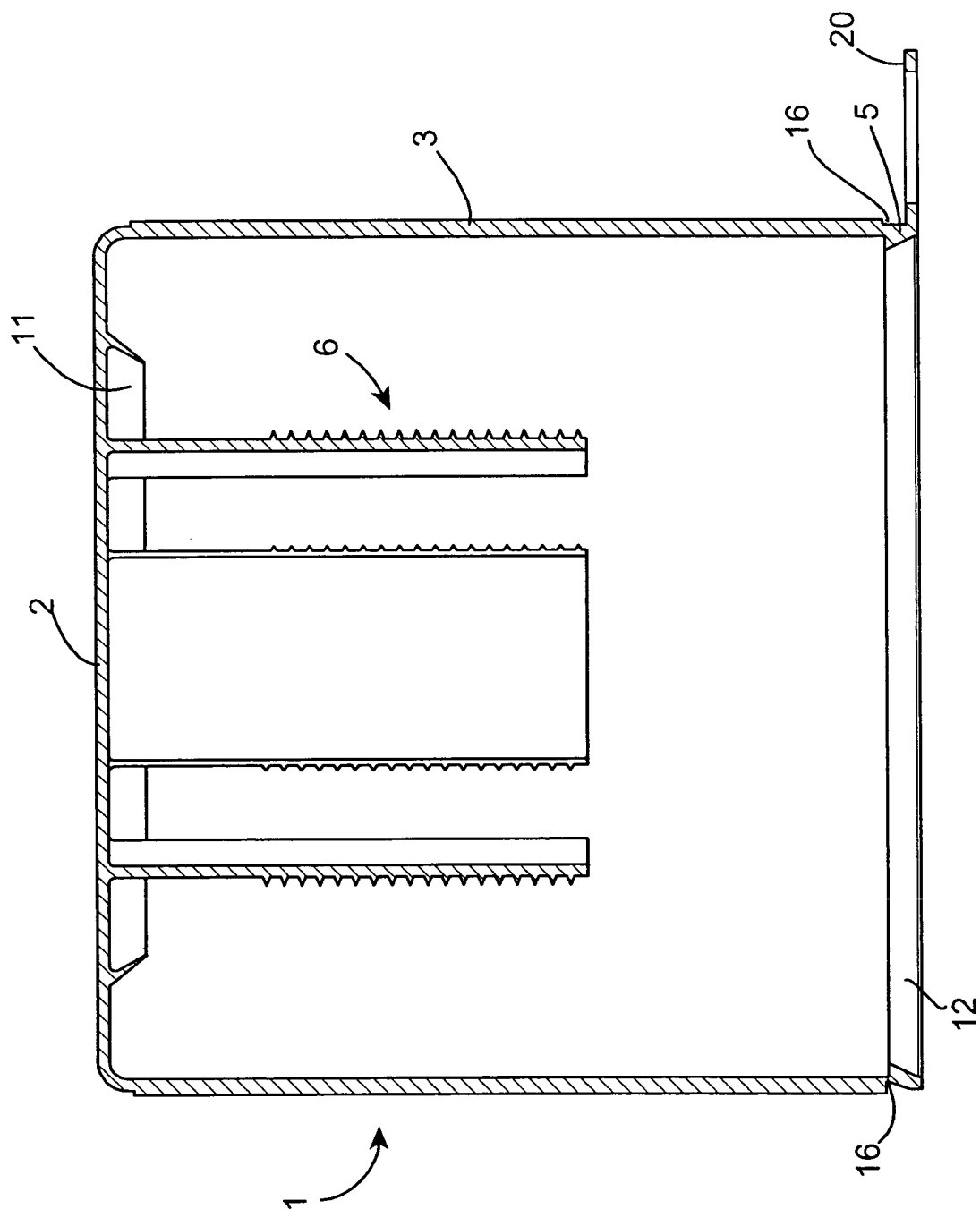


Fig. 4

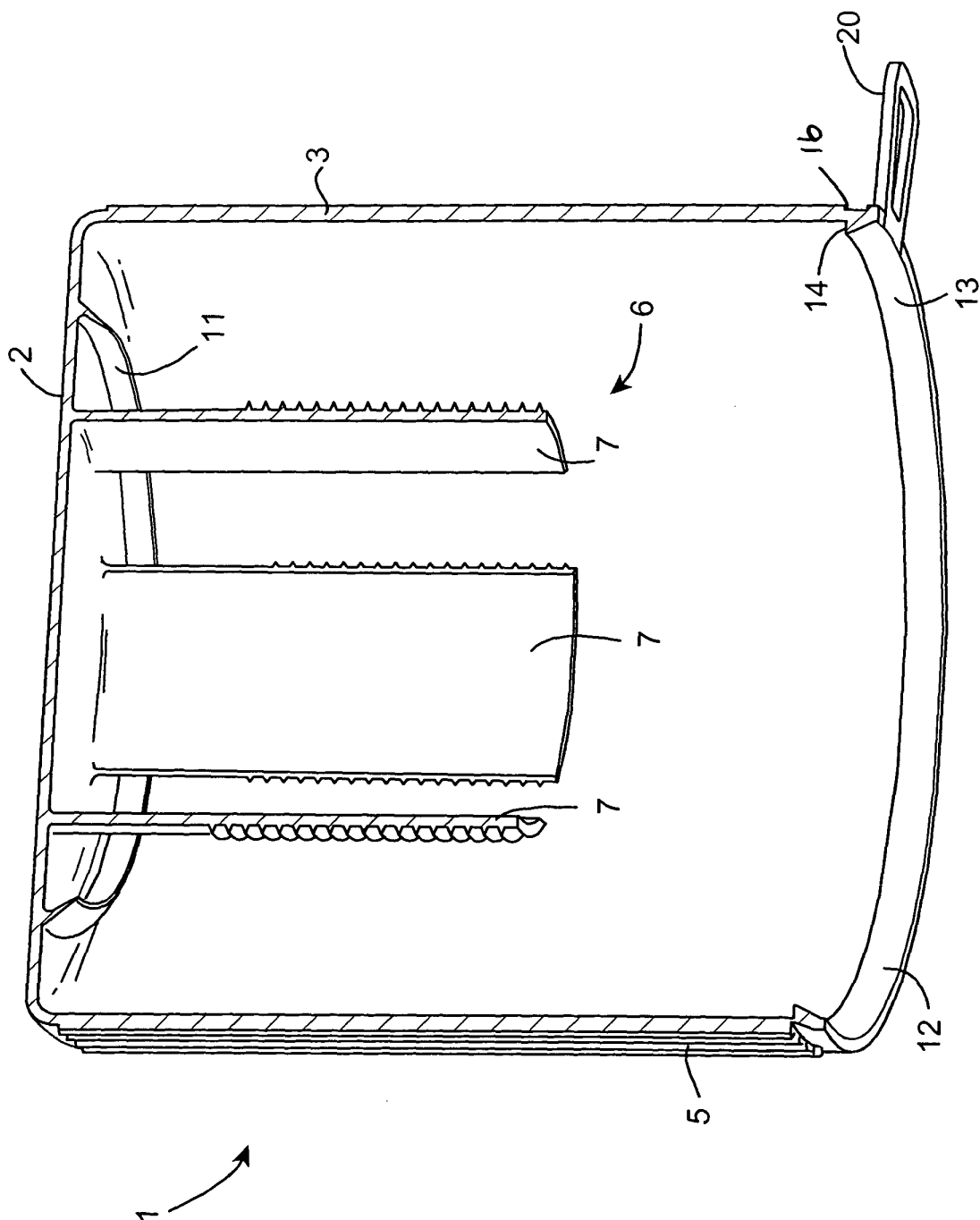


Fig. 5

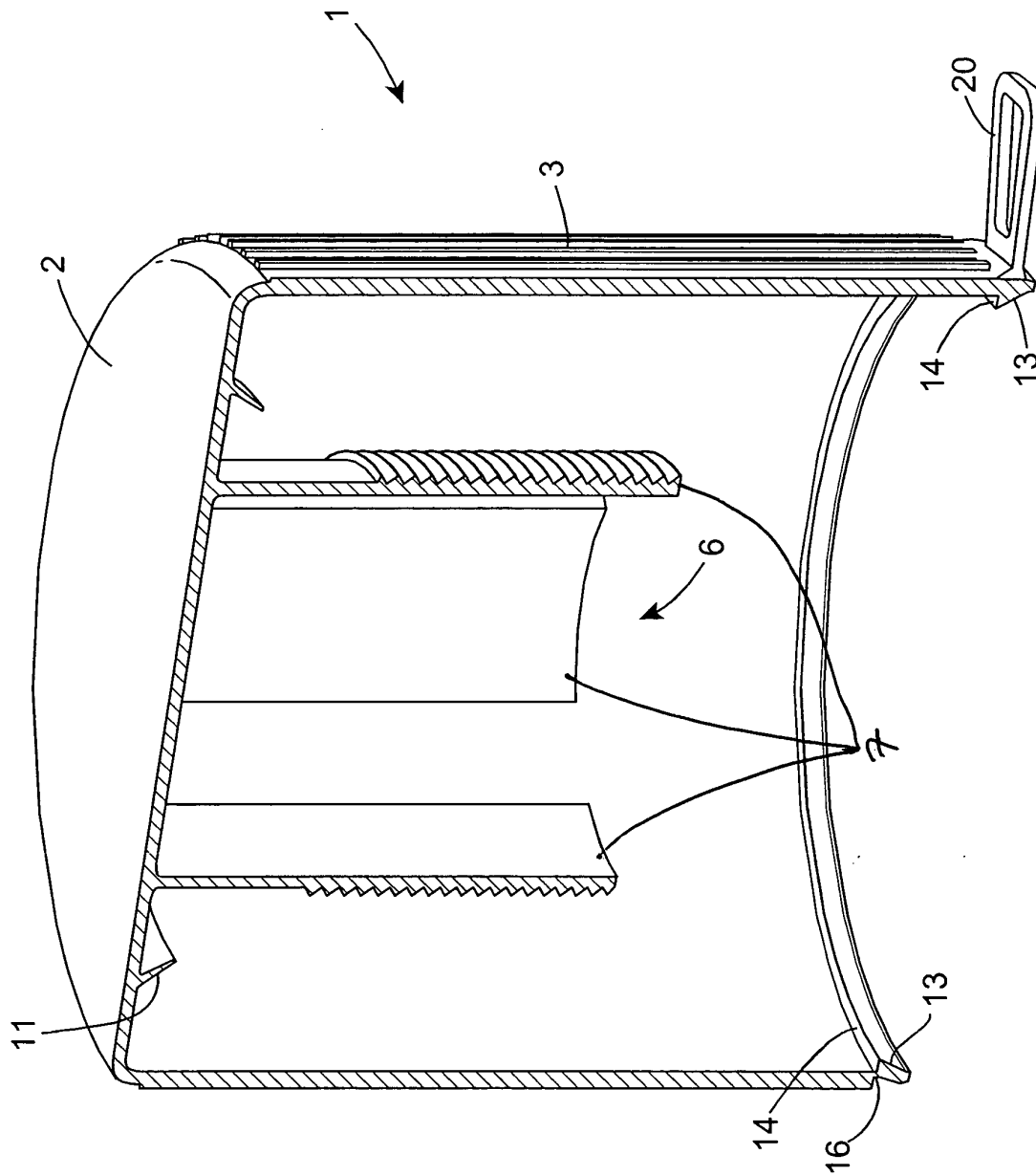


Fig. 6

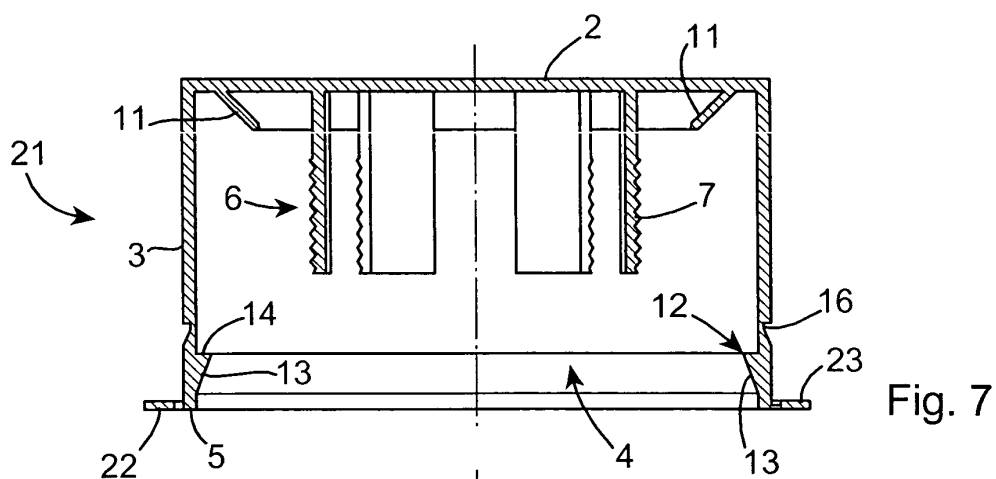


Fig. 7

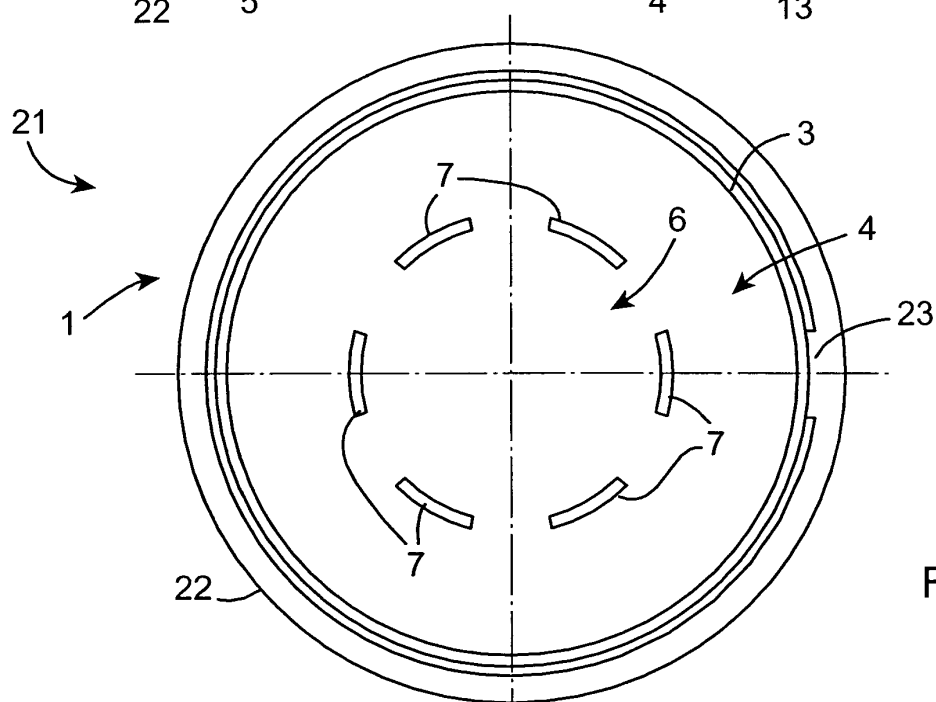


Fig. 8

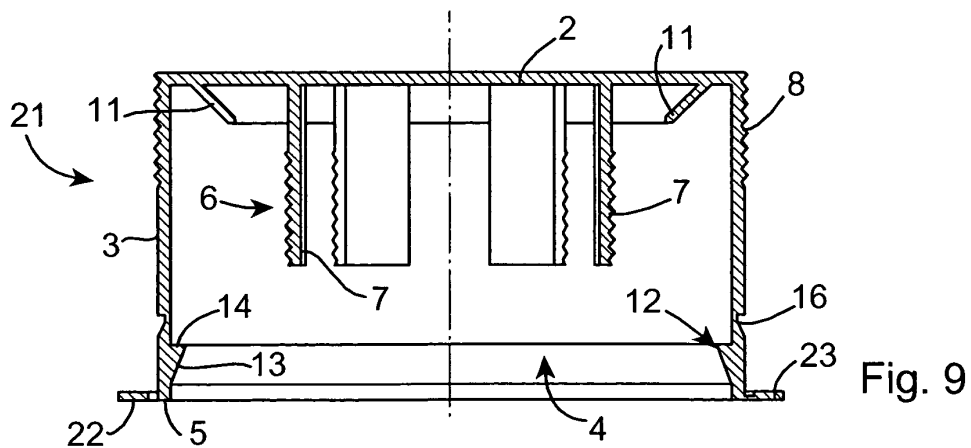


Fig. 9

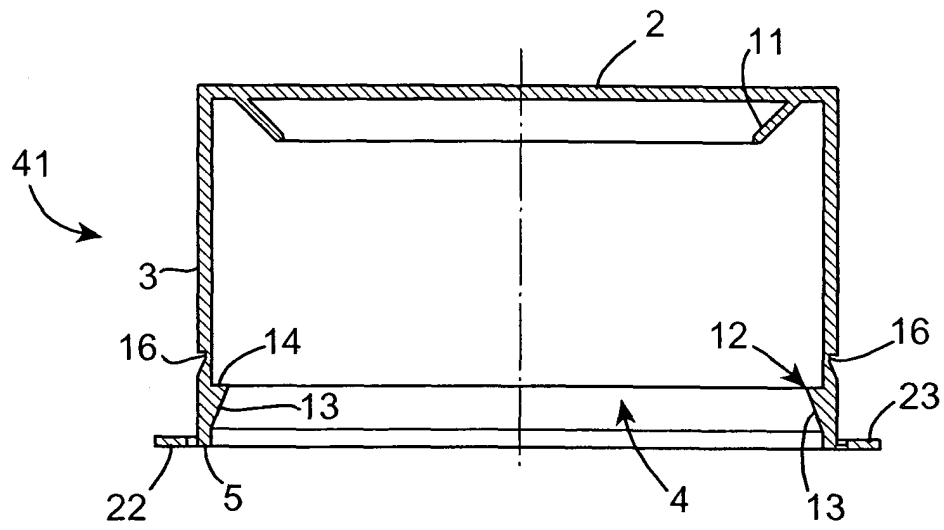


Fig. 10

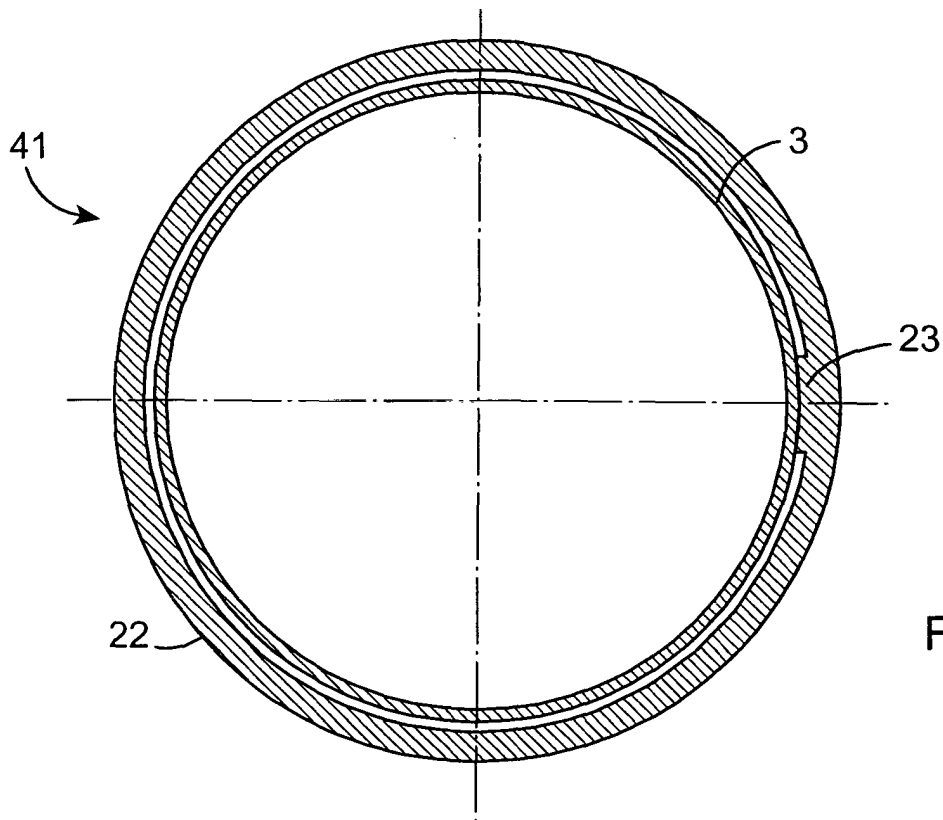


Fig. 11



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 05 39 4015

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	US 6 102 225 A (LYNN ET AL) 15 August 2000 (2000-08-15) * column 3, line 15 - line 34 *	1,2, 4-15, 18-22	B65D39/08 B65D41/34
Y	* column 4, line 24 - line 36 * * figures 1,4 *	16,17	
X	US 4 342 400 A (LLERA ET AL) 3 August 1982 (1982-08-03) * column 2, line 44 - column 4, line 15 * * figures 3,4 *	1-9, 12-14, 18-22	
X	FR 2 523 551 A (GRAS MICHELE) 23 September 1983 (1983-09-23) * page 2, line 29 - page 4, line 35 * * figures 2,3 *	1-15,18, 21-23	
Y	FR 2 607 786 A (MENNESSON DOMINIQUE) 10 June 1988 (1988-06-10) * page 1, line 1 - page 2, line 16 * * figures 1-4 *	16,17	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
Y	GB 899 847 A (ESPECIALIDADES DOMESTICO INDUSTRIALES "BUPLAY" S.A.) 27 June 1962 (1962-06-27) * page 1, line 25 - page 2, line 20 * * figure 1 *	16,17	B65D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 31 August 2005	Examiner Rodriguez Gombau, 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	

1
EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 05 39 4015

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.

31-08-2005

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 6102225	A	15-08-2000	CN	1232768 A ,C	27-10-1999
US 4342400	A	03-08-1982	CA	1154402 A1	27-09-1983
FR 2523551	A	23-09-1983	FR	2523551 A1	23-09-1983
FR 2607786	A	10-06-1988	FR	2607786 A1	10-06-1988
GB 899847	A	27-06-1962	NONE		