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

(11) EP 1 520 793 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
06.04.2005 Bulletin 2005/14

(51) Int Cl.[7]: **B65D 23/10**

(21) Application number: **04380167.9**

(22) Date of filing: **05.08.2004**

(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 HR LT LV MK

(30) Priority: **03.10.2003 ES 200302297**

(71) Applicant: **Bericap, S.A.**
08430 La Roca del Valles (Barcelona) (ES)

(72) Inventor: **Jubany Claret, Antonio**
08430 La Roca Del Valles (Barcelona) (ES)

(74) Representative: **Duran Moya, Carlos et al**
DURAN-CORRETJER
Còrsega, 329
(Paseo de Gracia/Diagonal)
08037 Barcelona (ES)

(54) Handle for containers

(57) The handle (4) is of the type comprising a ring (2) which can be attached to the neck of the container, and a manual handle region (4) connected to the ring (2), and is characterised in that the unit composed of the handle (4) and the ring (2) for securing to the container to be transported is produced by moulding from a rigid synthetic material, the handle (4) region being located very close to the ring (2) which can be attached to the neck of the container.

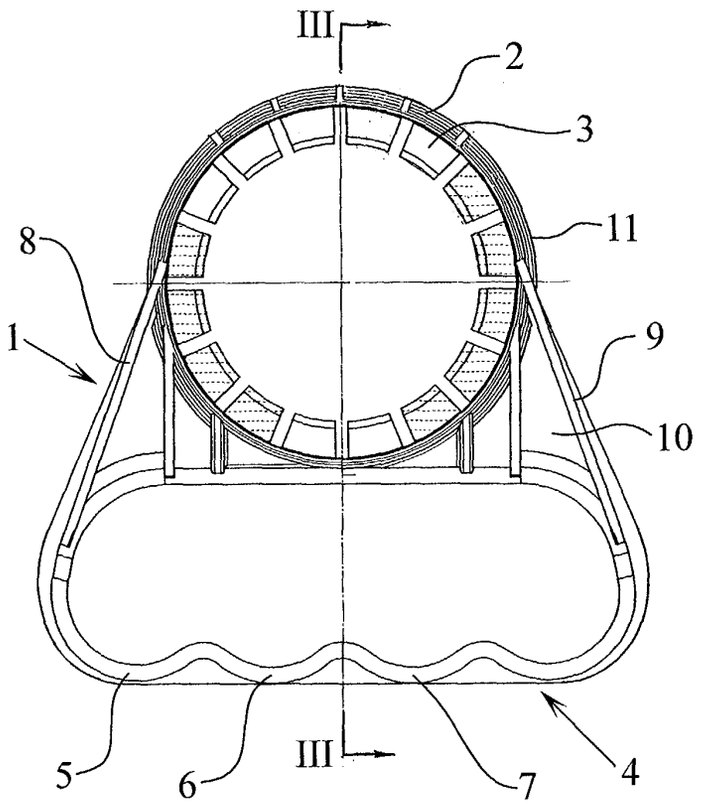

FIG. 1

EP 1 520 793 A1

Description

[0001] The present invention relates to a handle for containers which provides substantial advantages over the prior art.

[0002] The handle for containers to which the present invention relates is of the type used for fitting onto the neck of containers, such as bottles for liquids, having a substantial capacity, for example, four or more litres, in which the considerable weight of the full container makes it necessary to provide some type of handle in order to facilitate the handling thereof.

[0003] Among the examples of containers in which that type of handle is used, there may be mentioned large bottles of mineral water which are enjoying increasing popularity owing to the desire of consumers to have available drinking water of the best possible quality.

[0004] The detachable container handles that are currently known and used are based fundamentally on a handle having flexible characteristics and having a substantially U-shaped member which is to be connected to the neck of the bottle and which has two arms which are connected in the form of a handle of considerable length and which, when the full container is handled, are folded upwards, enabling the container to be transported in a substantially vertical position.

[0005] Handles of the known type have disadvantages for various reasons, among which the following should be mentioned:

- given that the handle has to be rotated by bending it upwards, it must be of a sufficient length to pass over the closure cap of the container, leaving enough space for the user's hand to transport the container comfortably by gripping the handle, avoiding interference of the fingers with the closure cap of the container. This requires substantial dimensions in the flexible handle, which also involves considerable consumption of material;
- the height of the handle is limited by the radial dimension of the container since, in the storage and transport position, the handle is arranged in a horizontal position and must not extend beyond the periphery of the container;
- during the automated feeding of the handles in the machines used to fill and close the containers, it is a disadvantage that the handles have a substantially long and flexible structure given that this presents difficulties in respect of the suitable guiding of the handle up to the place at which it has to be positioned on the neck of the container.

[0006] In order to overcome the disadvantages mentioned above, in the invention a novel type of handle has been developed which enables considerable savings to be made in respect of the material used, enables smaller dimensions to be achieved in the handle and permits easy feeding thereof in the automatic devices which supply the handle in lines for bottling water and the like.

[0007] The basic features of the handle to which the present invention relates reside in the provision of a unit comprising a ring to be secured to the neck, and a gripping handle, forming a rigid and compact unit in which the handle is very close to or attached to the body of the ring which can be secured to the neck, minimising the dimensions of the handle as well as the weight of material necessary for the manufacture thereof, and, owing to the compact and rigid features of the handle, facilitating automatic feeding in the lines for filling and closing the containers.

[0008] In use, because the handle is rigid, the container will tilt slightly so that the centre of gravity is on the vertical of the hand which grips the handle, which does not constitute a disadvantage for the comfortable and easy transport of the full container, it being necessary to bear in mind that the handle, which has rigid characteristics and which forms the subject-matter of the present invention, provides advantageous handling owing to its greater stability compared with the current flexible handles in which the rocking of the full container with respect to the handle, which is relatively long and flexible, causes some discomfort for the user.

[0009] Preferably, the handle to which the present invention relates forms a coplanar unit constituted by the ring for securing to the neck and the handle proper, although it is also possible to confer on the handle portion a small angle with respect to the ring for securing to the neck, if it is desired to reduce the angle which the container forms with respect to the vertical.

[0010] Likewise, although the preferred version of the handle is that of a closed loop with a straight or undulating edge for manual gripping, a T-shaped structure having a single arm and perpendicular appendages for manual gripping could also be adopted.

[0011] So that it can be better understood, some drawings of preferred embodiments of the present invention follow by way of non-limiting example.

Figures 1, 2 and 3 show, respectively, a top view, an elevational view and a section through a preferred embodiment of the handle to which the present invention relates.

Figures 4 and 5 are each perspective views of the embodiment of Figures 1 to 3.

Figures 6, 7 and 8 show views similar to those of Figures 1 to 3 of a variant of the handle to which the invention relates.

Figures 9, 10 and 11 show, respectively, a top view, a lateral elevational view and a section through an embodiment of the handle to which the present invention relates and which is provided with a double gripping region.

Figures 12, 13 and 14 each show longitudinal sections with variants of the gripping region of the handle to which the present invention relates.

Figures 15, 16, 17 and 18 show, respectively, a top view, an elevational view, a section and a lateral elevational view along a plane perpendicular to that of Figure 16 of a handle variant in the shape of a T. Figures 19 and 20 each show sections along the indicated sectional planes.

[0012] As can be seen in the drawings, the present invention is based on the provision of a unit 1 of the rigid type which is preferably produced from an injection-moulded plastics material and which is composed of a ring region 2 having internal fins 3 in order to hold it on the neck of the container, and a handle region 4 in an adjacent arrangement, that is to say, very close to or even tangent with respect to the ring 2, in order to obtain greater rigidity, the gripping portion optionally being provided with several undulations, such as 5, 6 and 7, in order to improve the positioning of the hand on the gripping portion of the handle.

[0013] The version shown has several reinforcements between the handle 4 and the ring 2, such as the lateral reinforcements 8 and 9, which may form a wide connecting diaphragm 10 in which other longitudinal ribs may be located as shown in Figure 1, without specific numbering.

[0014] The ring 2 may have a peripheral rib 11 which extends over the entire external portion thereof, thus increasing its strength characteristics.

[0015] As a whole, a handle is formed which can be coupled to the neck of a container having a specific capacity and which, because it has rigidity characteristics, provides for very comfortable and stable handling of the full container and, at the same time, substantially facilitates feeding to the automatic devices for placing the handle in the lines for filling and closing the containers. Simultaneously, the compact construction of the handle having a securing ring can reduce the amount of material involved in the manufacture thereof.

[0016] Figures 6 to 8 show a variant in which the ring 12 and the handle 13 are connected by straight ribs, such as 14 and 15, delimiting an intermediate diaphragm 16.

[0017] In the embodiment of Figures 9 to 11, the handle is of the double type, having two extended regions 17 and 18 arranged diametrically opposite one another with respect to the central ring 19 which is secured to the neck of the container. That arrangement preferably enables the bottle to be transported by two persons, one on each side, which is an especially useful solution in the case of containers of considerable volume and weight.

[0018] In any case, ribs 20 may be located at the periphery of the gripping regions, as shown in the drawings.

[0019] In the variants of Figures 12 to 14, the unit composed of the handle 21 and the ring may be arcuate in the region 23 for gripping with the hand, or may have a specific inclination in said region 24, in the case shown in Figure 14, which has an arrangement of the handle 25 and the ring 26 similar to Figure 12, with the variant that the gripping region has said angled arrangement.

[0020] In another variant represented in Figure 13, the handle 27 is joined to the ring 28, forming a specific angle with respect to the horizontal, which can reduce the inclination of the transported container.

[0021] In the version shown in Figures 15 to 18, the handle has a T-shaped structure with an arm 29 for connection to the ring 30 and a crosspiece 31 which delimits two regions which are symmetrical with respect to the arm 29.

[0022] Figures 19 and 20 show, in the ring 30, the fins 32 and 33 corresponding to the different sections shown in Figure 15 with different thicknesses in accordance with the regions, in order to increase the rigidity of the fins in a selective manner. That arrangement of fins of greater and lesser rigidity can likewise be seen in the other versions of the handle which are shown as embodiments.

Claims

1. Handle for containers, of the type which comprises a ring which can be attached to the neck of the container, and a manual handle region connected to the ring, **characterised in that** the unit composed of the handle and the ring for securing to the container to be transported is produced by moulding from a rigid synthetic material, the handle region being located very close to the ring which can be attached to the neck of the container.

2. Handle for containers according to claim 1, **characterised in that** the handle region is located tangent to the ring for securing to the container, the connection being completed by a connecting diaphragm between the handle region and the ring, which diaphragm is provided with reinforcing ribs.

3. Handle for containers according to the preceding claims, **characterised in that** the handle region which is to receive the user's fingers has anatomical undulations for receiving the fingers.

4. Handle for containers according to claims 1 and 2, **characterised in that** the handle region for fitting the user's hand has a curved cross-section.

5. Handle for containers according to claims 1 and 2, **characterised in that** the region for fitting the user's fingers has a specific inclination with respect to the axis of the ring.

6. Handle for containers according to claim 1, **characterised in that** the ring and the handle region are coplanar.

7. Handle for containers according to claim 1, **characterised in that** the handle region and the ring form a small angle between each other.

8. Handle for containers according to claim 1, **characterised in that** the ring is fixedly joined to two handle extensions in a diametrically opposing arrangement.

9. Handle for containers according to claim 1, **characterised in that** the handle has a single arm connected to the ring and an end crosspiece for receiving the user's hand.

10. Handle for containers according to claim 1, **characterised in that** the internal fins of the ring for securing to the neck of the bottle have different thicknesses in accordance with different sectors of the internal shape of the ring.

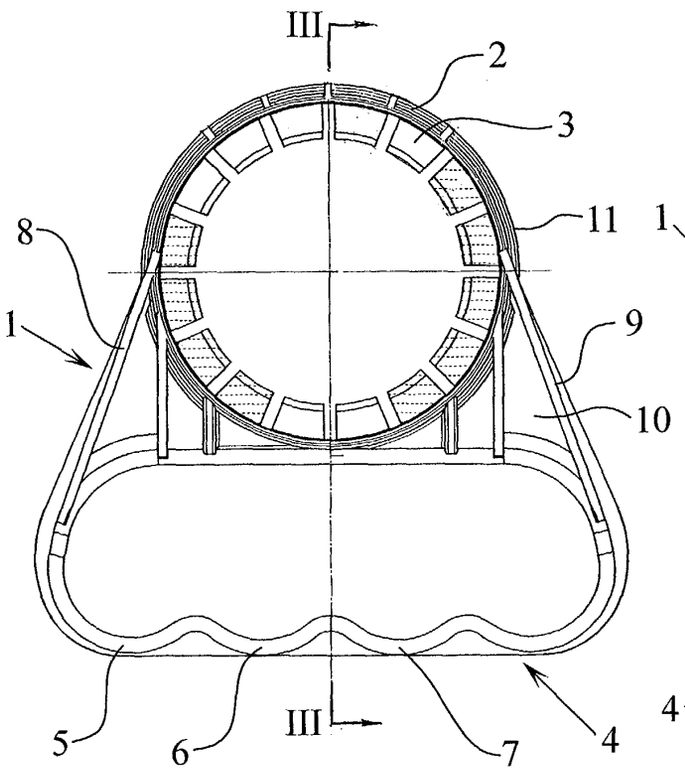

FIG. 1

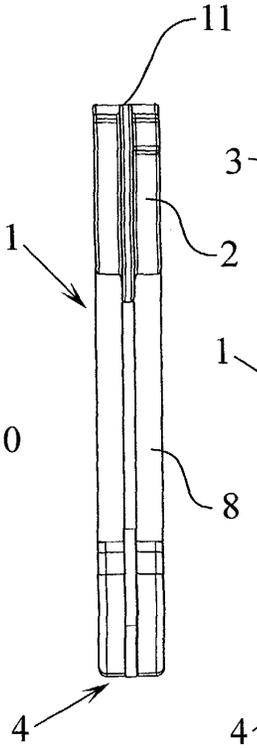

FIG. 2

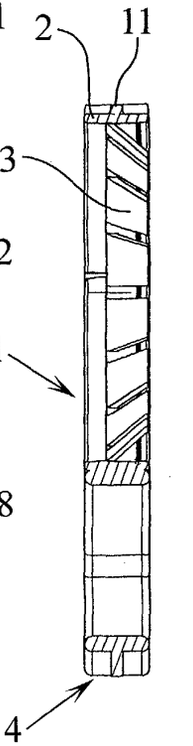

FIG. 3

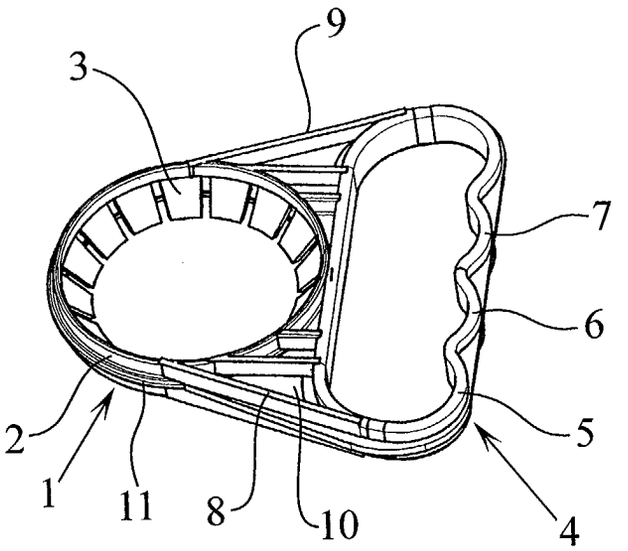

FIG. 4

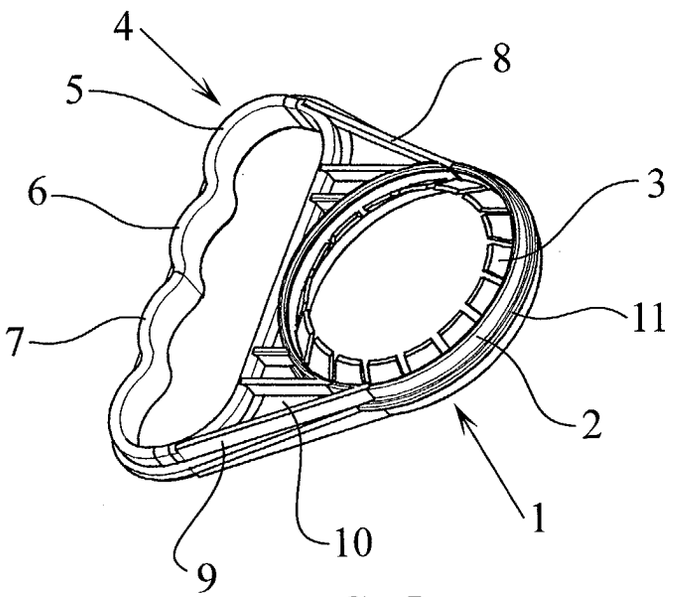

FIG. 5

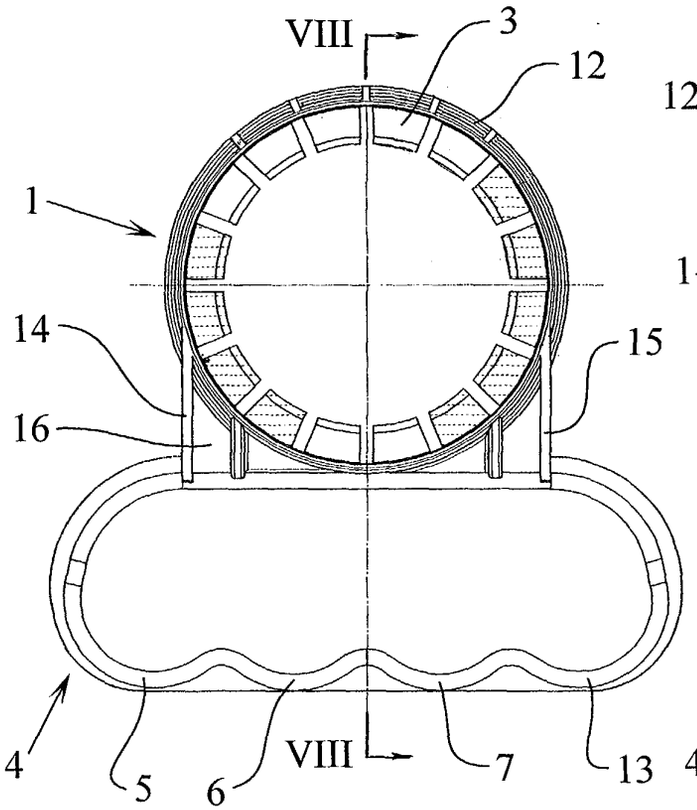

FIG. 6

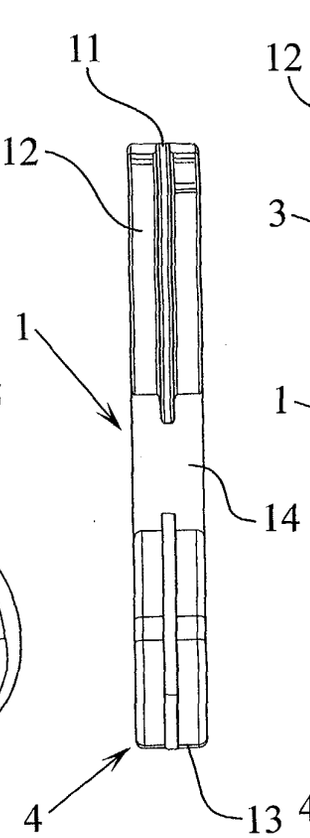

FIG. 7

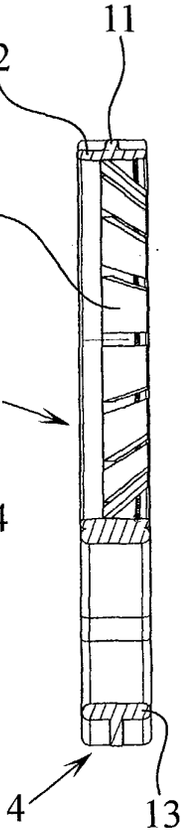

FIG. 8

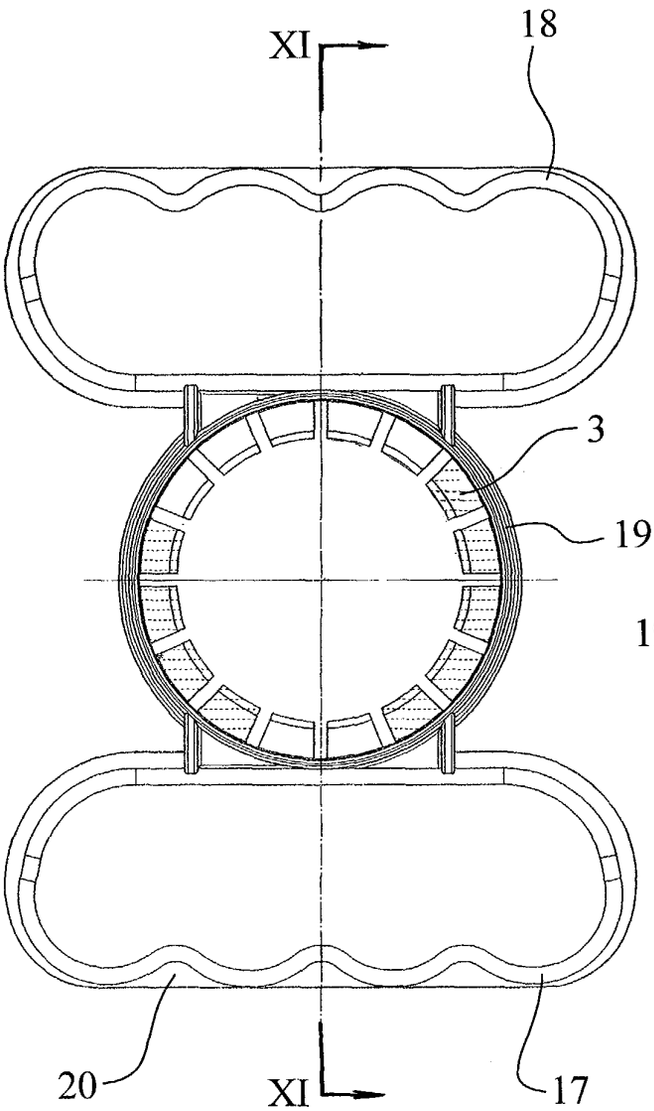

FIG. 9

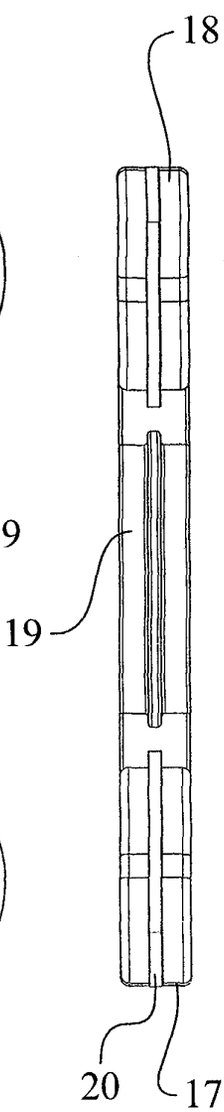

FIG. 10

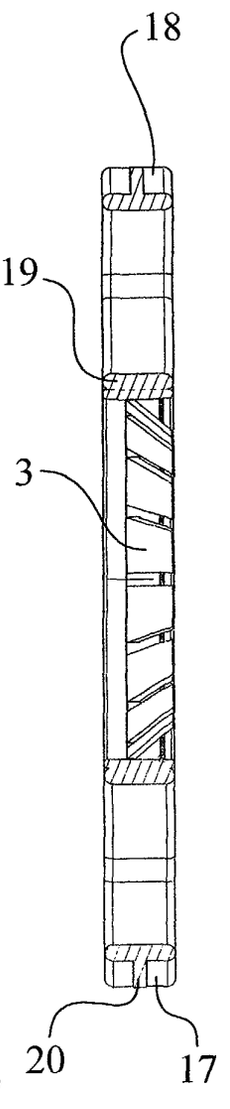

FIG. 11

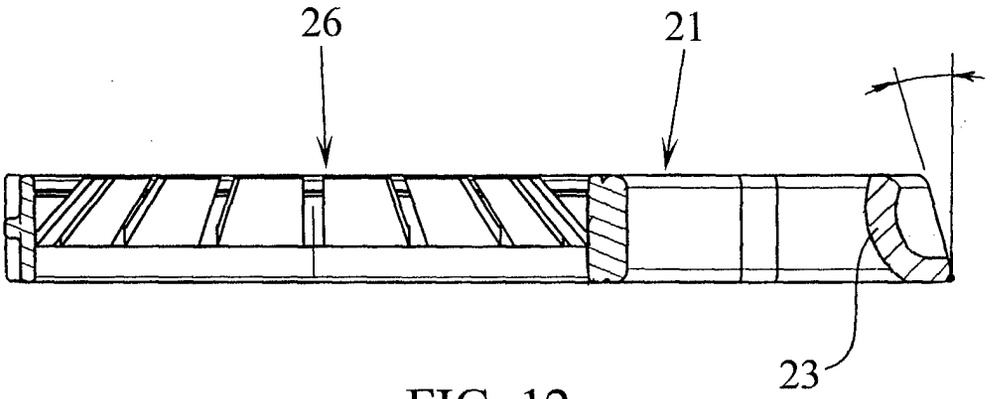

FIG. 12

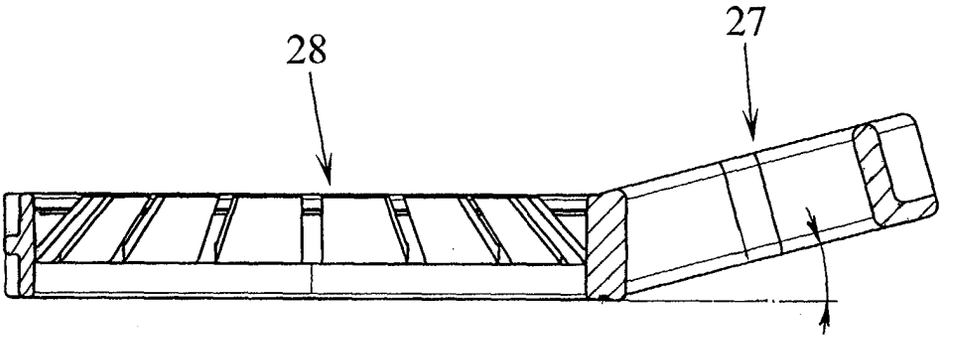

FIG. 13

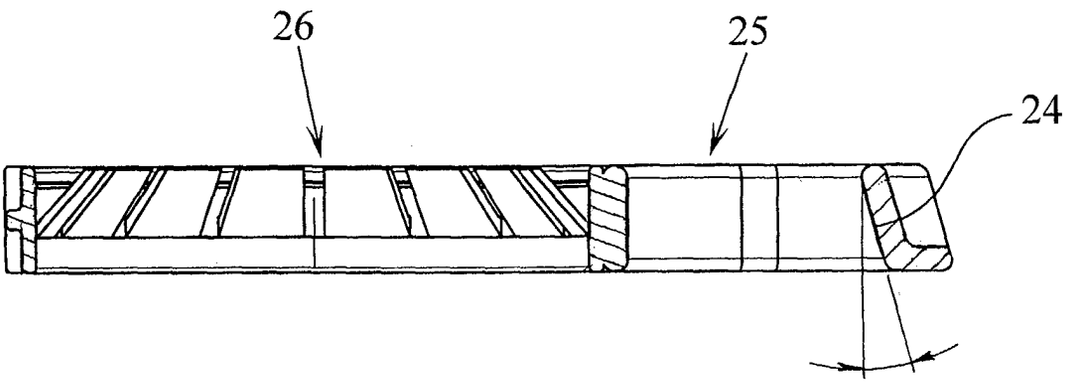

FIG. 14

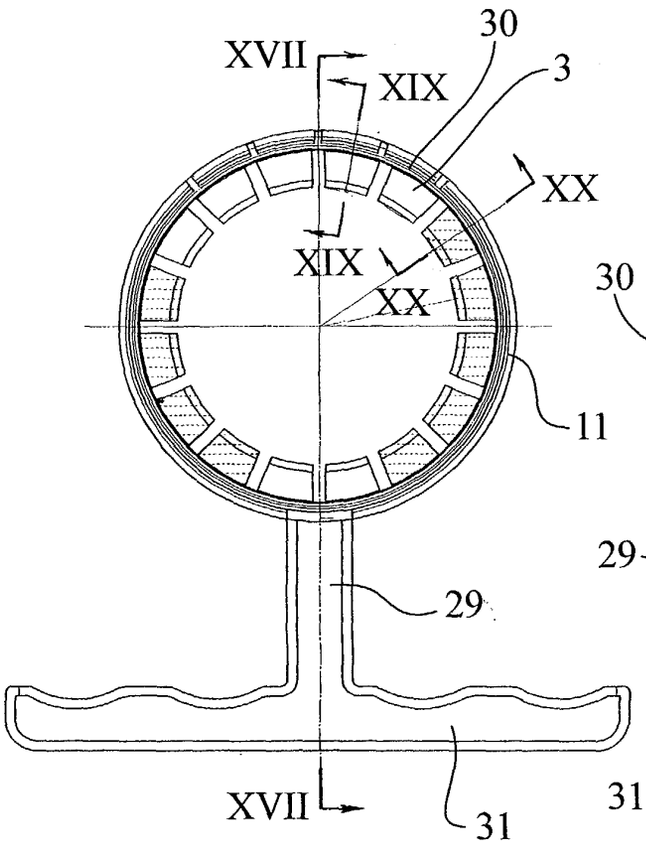

FIG. 15

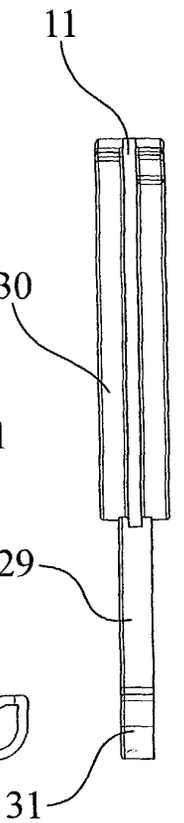

FIG. 16

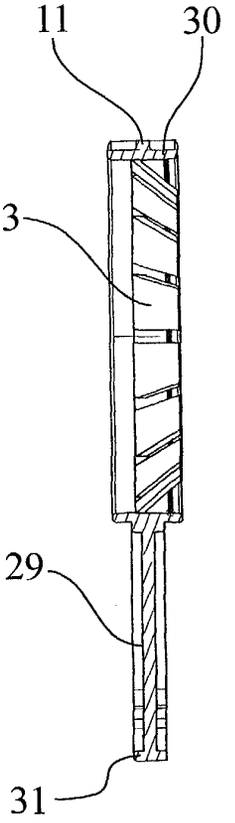

FIG. 17

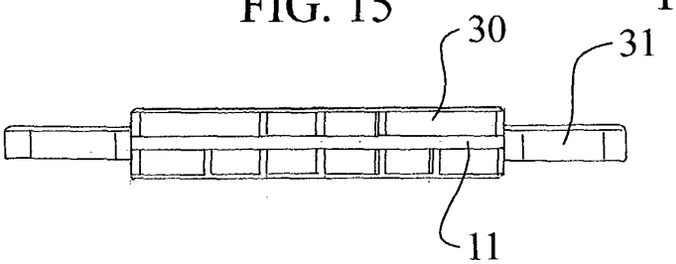

FIG. 18

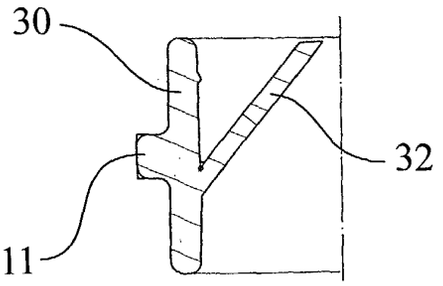

FIG. 19

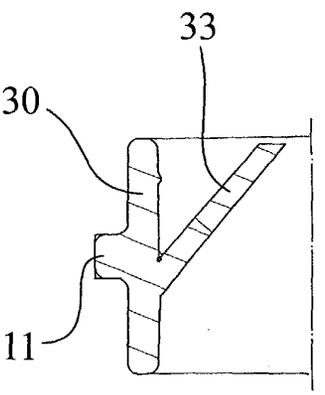

FIG. 20

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 04 38 0167

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 5 806 904 A (SMITH ET AL) 15 September 1998 (1998-09-15) * column 3, line 12 - column 4, line 15 * * claim 1 * * figures 1,2,5 *	1,3-6,10 7,8	B65D23/10
X Y	US 4 909 403 A (REYES ET AL) 20 March 1990 (1990-03-20) * column 3, line 27 - column 4, line 25 * * figures 2,3 *	1 7	
X Y	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 13, 30 November 1998 (1998-11-30) -& JP 10 218225 A (MITSUBISHI CHEM CORP), 18 August 1998 (1998-08-18) * abstract; figures 1,2,7 *	1,2,9 8	
X	US 6 364 385 B1 (STEWARD STERLING LANE ET AL) 2 April 2002 (2002-04-02) * column 3, line 20 - column 4, line 49 * * column 5, line 45 - line 51 * * figures 2,3,6 *	1	TECHNICAL FIELDS SEARCHED (Int.Cl.7) B65D
A	EP 0 069 334 A1 (RIEDEL-DE HAEN AKTIENGESELLSCHAFT) 12 January 1983 (1983-01-12) * page 3, line 4 - line 30; figures 1-6 *	1	
A	WO 03/062071 A1 (BETAPACK, S.A; OCHOA LABURU, ALBERTO) 31 July 2003 (2003-07-31) * page 5, line 18 - page 6, line 6 * * page 6, line 35 - page 7, line 6 * * figures 1-3 *	1,10	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	24 January 2005	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

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 04 38 0167

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.

24-01-2005

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5806904 A	15-09-1998	NONE	
US 4909403 A	20-03-1990	US 4832216 A	23-05-1989
JP 10218225 A	18-08-1998	NONE	
US 6364385 B1	02-04-2002	NONE	
EP 0069334 A1	12-01-1983	DE 3126483 A1	20-01-1983
WO 03062071 A1	31-07-2003	BR 0116927 A	27-04-2004
		EP 1459994 A1	22-09-2004

EPO FORM P0459

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