



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 1 099 651 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
16.05.2001 Bulletin 2001/20

(51) Int Cl.7: **B65F 1/16**

(21) Application number: **00310044.3**

(22) Date of filing: **10.11.2000**

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

(72) Inventor: **Zagury, Eli**
London NW2 4HX (GB)

(74) Representative: **Hanson, William Bennett
J.Y. & G.W. Johnson,
Kingsbourne House,
229-231 High Holborn
London WC1V 7DP (GB)**

(30) Priority: **10.11.1999 GB 9926657**

(71) Applicant: **Zagury, Eli**
London NW2 4HX (GB)

(54) **Container having a multi-directional closure**

(57) A container (1) has a generally upward-facing opening, and a closure (2) fitting the opening and resting, in a closed position, on a plurality of supports (3a-3d) attached to an inner edge of the opening. The clo-

sure (2) can be opened in different directions, by being caused to pivot at a different one or different ones of the supports (3a-3d). The closure (2) is then held open in one of a plurality of different positions.

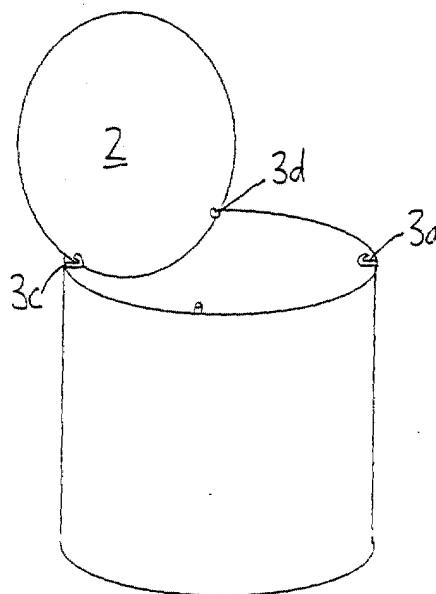


Fig 7

EP 1 099 651 A1

Description

[0001] The present invention relates to a container having a closure. The container may, for example, comprise a refuse bin, the closure providing a lid for the bin.

[0002] Known closures for containers such as bins are often hinged to the container. This means that the closure can only open in one direction, namely pivoting about the hinge axis. The same is true of door-type closures, box lids and the like.

[0003] It is an aim of the invention to provide a closure which can be opened in a plurality of different directions and which is preferably held open in one of a plurality of different positions.

[0004] Accordingly, the present invention provides a container according to claim 1. The container has a generally upward-facing opening, and a closure fitting the opening and resting, in a closed position, on a plurality of supports attached to an inner edge of the opening, the closure being arranged to open by pivoting at at least one of the supports, and is characterised in that the closure can be opened in different directions, by being caused to pivot at a different one or different ones of the supports.

[0005] In the preferred embodiment, the closure is openable in any direction, pivoting about any horizontal axis passing through one support and lying outside the supports peripherally adjacent to said one support, or any horizontal axis passing through two peripherally adjacent supports.

[0006] Preferably, the supports are arranged to hold the closure open in one of a plurality of different positions.

[0007] The supports may each have a generally horizontal portion extending inwardly from the inner edge, and a generally upwardly extending portion, the closure resting on either the horizontal or upwardly extending portions in the closed position, depending on the configuration of the supports and the closure. An edge of the closure may be engageable, in the open position, in the support(s) about which the closure has pivoted, the edge resting on the horizontal portion(s) and being retained by the upwardly extending portion(s), so that the closure is held open.

[0008] Preferably, the supports are evenly spaced around the inner edge of the opening. The closure may comprise a peripheral skirt for engaging the supports.

[0009] Advantageously, the opening direction of the closure can be selected by applying a force to the closure in that direction, and conveniently, the force is applied to a central handle of the closure.

[0010] The invention will now be described in more detail, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a container and closure according to an embodiment of the invention;

Figure 2 is a plan of the container of Figure 1, with the closure removed;

Figure 3 is a fragmentary section through the container, with the closure in place;

Figure 4 is a section as Figure 3, but with the container in the process of being opened;

Figure 5 is a section as Figures 3 and 4, but with the closure fully opened;

Figures 6 to 9 are perspective views showing the four possible opened positions of the closure; and

Figure 10 is a fragmentary sectional view showing a container and closure according to an alternative embodiment.

[0011] Figures 1 to 9 show a generally cylindrical container 1, closed at its open upper end by a disc-shaped closure 2. A plurality (four in this example) of supports 3a to 3d are evenly spaced around the inner rim of the container 1 to support the closure 2. As shown, each support is in the form of a hook having a horizontal portion 4 attached to the container 1 and a curved portion 5, the end of which supports the closure 2 in the closed position shown in Figure 3.

[0012] The closure has a knob-shaped handle 6 at the centre of its upper surface. As shown by the arrow in Figure 3, to open the closure 2 a user pushes the handle 6 in a substantially horizontal direction, whilst allowing the handle to rise. This causes the closure to pivot about support 3a in the direction of which it is pushed. In this particular example, the closure pivots about the single support 3a moving through the position of Figure 4 to the position of Figure 5. Subsequently the closure gravitates into either the position of Figure 6, where it rests on supports 3a and 3b, or that of Figure 7, where it rests on supports 3a and 3d. Figures 6 to 9 show the four possible opened positions of the closure in this embodiment, and in each case the curved portions 5 of two of the four supports 3a to 3d and the inner rim of the container 1 hold the closure 2 with its major portion at 90° or slightly greater to the plane of the opening of the container.

[0013] In the example just described, the closure was pushed directly towards one of the supports 3a. It will be appreciated that the horizontal component of the force applied to the handle 6 can have any direction, either towards one support or between two circumferentially adjacent supports, and the closure 2 will open, pivoting about that support or those two supports to reach one of the four positions shown in Figures 6 to 9.

[0014] Figure 10 shows an alternative embodiment of the invention suitable for use when the container is used with a liner such as a refuse bin liner 7. In this case, a ring-shaped retainer 8 carries the supports, e.g. 3a, 3c.

The retainer is shaped to fit over the upper rim of the container 1, and is placed thereon after the container has been lined with the liner 7 which is sandwiched between the container 1 and the retainer 7. Thus the liner is conveniently held in place without snagging on the supports.

[0015] Figure 10 also shows a modified closure 9 which is domed and has a peripheral skirt 10 engaging the supports 3a etc.

[0016] Modifications to the embodiments described above, which do not depart from the scope of the appended claims, will readily occur to those skilled in the art. For example, the cross-sectional shape of the container could be square or another shape instead of circular.

[0017] The word "container" as used in this specification should be understood to mean any enclosure to which an openable closure is to be fitted.

Claims

1. A container (1) having a generally upward-facing opening, and a closure (2, 9) fitting the opening and resting, in a closed position, on a plurality of supports (3a-3d) attached to an inner edge of the opening, the closure (2, 9) being arranged to open by pivoting at at least one of the supports (3a-3d), characterised in that the closure (2, 9) can be opened in different directions, by being caused to pivot at a different one or different ones of the supports (3a-3d).

2. A container according to claim 1 or 2, wherein the closure (2, 9) is openable in any direction, pivoting about any horizontal axis passing through one support (3a) and lying outside the supports peripherally adjacent to said one support (3b, 3d), or any horizontal axis passing through two peripherally adjacent supports (3a, 3b).

3. A container according to claim 1 or 2, wherein the supports (3a-3d) are arranged to hold the closure (2) open in one of a plurality of different positions.

4. A container according to claim 1, 2 or 3, wherein the supports (3a-3d) each have a generally horizontal portion (4) extending inwardly from the inner edge, and a generally upwardly extending portion (5), the closure (2, 9) resting on either the horizontal (4) or upwardly extending (5) portions in the closed position.

5. A container according to claim 4, wherein an edge of the closure (2, 9) is engageable, in the open position, in the support(s) (3a, 3b) about which the closure has pivoted, the edge resting on the horizontal portion(s) (4) and being retained by the upwardly

extending portion(s) (5), so that the closure (2, 9) is held open.

6. A container according to claim 5, wherein the number of supports (3a-3d) is four and the closure can be held open in four positions between each two adjacent supports (3a, 3b; 3b, 3c; 3c, 3d; 3d, 3a).

7. A container according to any preceding claim, wherein the supports (3a-3d) are evenly spaced around the inner edge of the opening.

8. A container according to any preceding claim, wherein the closure (9) has a peripheral skirt (10) for engaging the supports.

9. A container according to any preceding claim, wherein the opening direction of the closure (2, 9) can be selected by applying a force to the closure in that direction.

10. A container according to claim 9, wherein the force is applied to a central handle (6) of the closure.

11. A container according to any preceding claim, including a removable retainer (8) for a liner (7), the retainer comprising a frame fitting over the rim of the container (1), and providing the opening to which the supports (3a-3d) are attached.

12. A container according to any preceding claim, having a substantially circular cross-section and a substantially circular closure (2, 9).

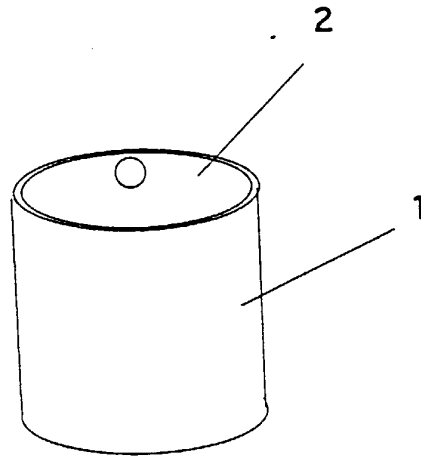


Fig 1

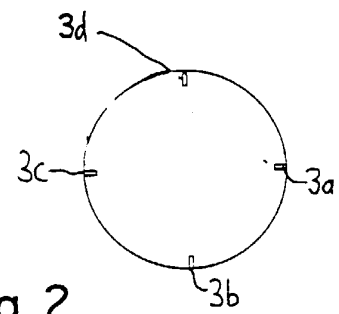


Fig 2

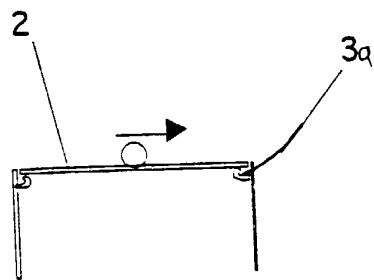


Fig 3

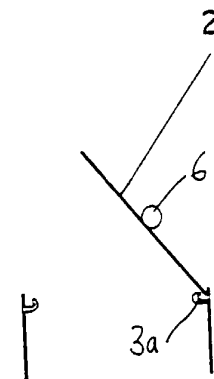


Fig 4

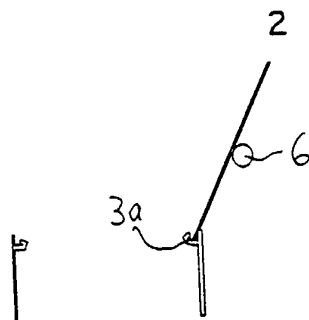


Fig 5

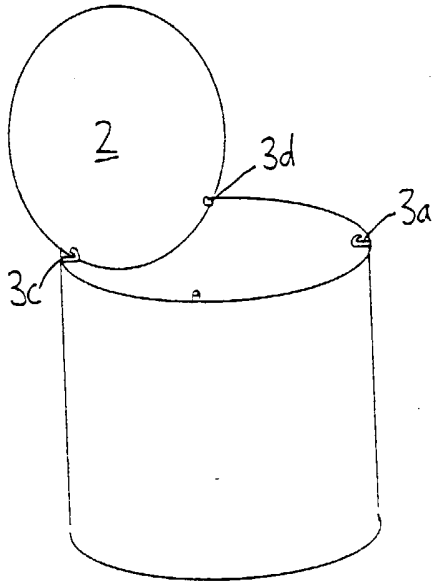


Fig 7

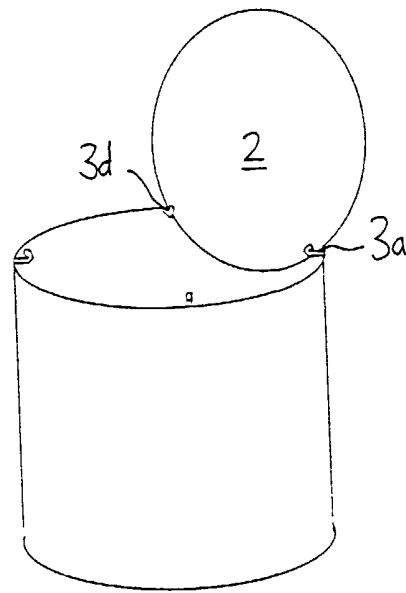


Fig 6

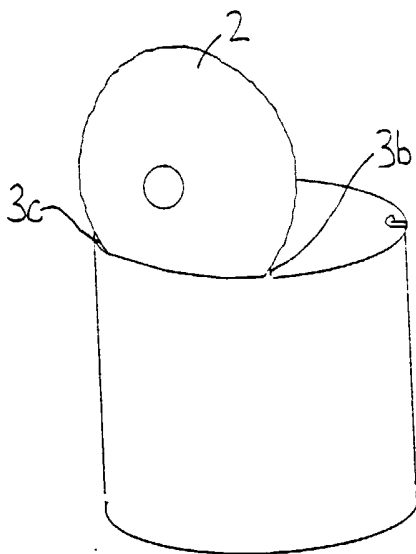


Fig 9

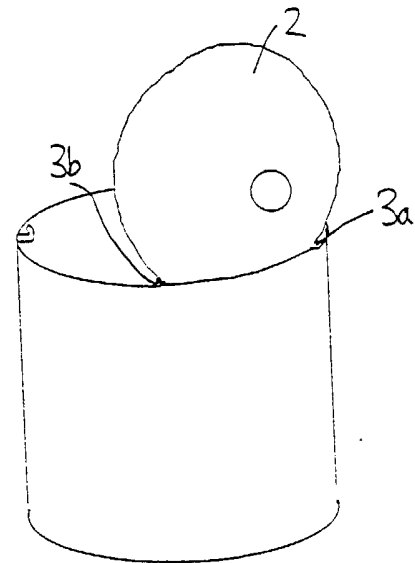
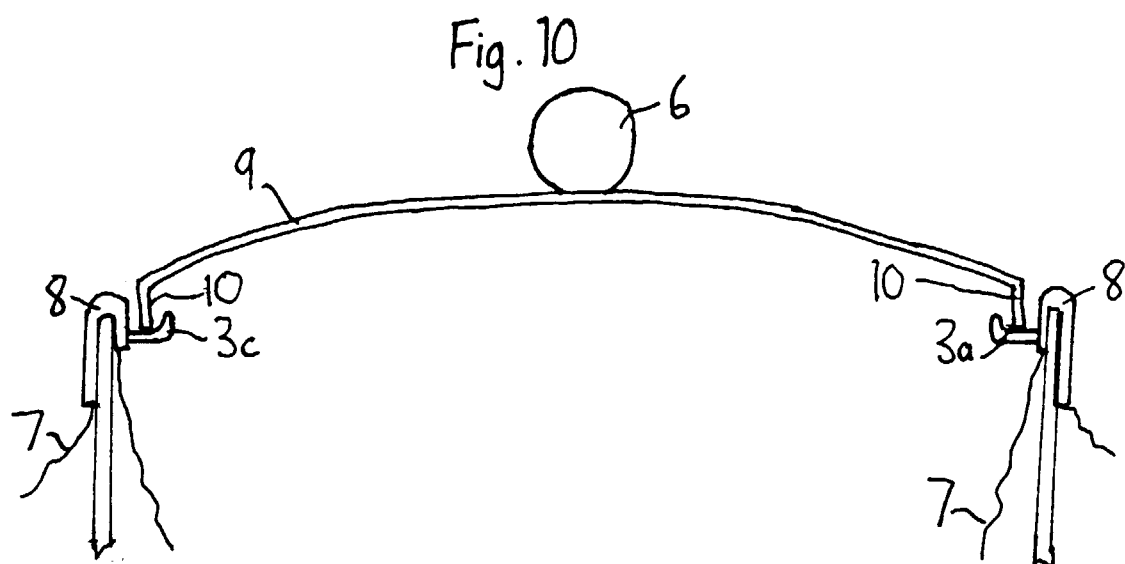


Fig 8





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 00 31 0044

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	WO 90 05092 A (K. VINTHER) 17 May 1990 (1990-05-17) * page 5, line 14 - page 9, line 13 * * figures 1,2 * ---	1,2,7-9	B65F1/16
X	US 2 026 463 A (O. DRIESS) 31 December 1935 (1935-12-31) * the whole document * ---	1,2,7,9	
Y	US 1 923 481 A (J. FORD) 22 August 1933 (1933-08-22) * the whole document * ---	1,3,4,8, 12	
Y	US 5 029 723 A (M. LO) 9 July 1991 (1991-07-09) * column 2, line 11 - column 3, line 3 * * figure 4 * -----	1,3,4,8, 12	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B65F B65D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 15 February 2001	Examiner Smolders, R
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 00 31 0044

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.

15-02-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9005092 A	17-05-1990	DK 625788 A AU 4633389 A EP 0442957 A	10-05-1990 28-05-1990 28-08-1991
US 2026463 A	31-12-1935	NONE	
US 1923481 A	22-08-1933	NONE	
US 5029723 A	09-07-1991	ZA 9103830 A	26-02-1992