

Description

[0001] This invention relates to fitments for containers such as paperboard cartons, such cartons being very commonly used as containers for milk or fruit juices etc.

[0002] Paperboard cartons have begun to be sold with plastics closures, avoiding the need to unfold or cut the carton. Such closures sometimes operate around a pre-cut opening, which has been resealed by a peelable foil. Other types of closure can, on opening, cut through a foil to gain access to the inside of the carton, or alternatively push out a pre-scored section of carton.

[0003] One type of carton system has a fitment surrounding a cut out hole in the carton. The hole is closed by a membrane on the fitment, which can be removed using a plastics ring pull element. Examples of this type of arrangement include US 5735426, US 5915574 and US 5934496.

[0004] An alternative, rather than providing a cut out hole and a plastics membrane, is to provide a pre-scored section on the carton and to attach the plastics ring pull directly to the pre-scored section. However, as cartons are normally manufactured from a multilayer laminate of different materials (plastics and aluminium films etc.), the effect of pulling on the ring pull is frequently to delaminate the carton material, removing only one or more layers of the laminated material. This leads to the ring pull being removed, without producing a proper opening in the carton. It is an object of the present invention to provide a fitment arrangement which has advantages over such prior art fitments.

[0005] Accordingly there is provided a fitment for use with a container having an operable section adapted to be activated to allow access to the contents of the container, the fitment comprising;

- i) a plastics housing adapted to be secured to the container surrounding the operable section; and
- ii) a tab including a panel portion adapted to be secured to the operable section of the container, a handle portion extending from the panel portion, and a plurality of lugs connecting the tab to the housing such that it is pivotable with respect thereto; the pivoting of the tab being adapted to cause a separation of at least a part of the operable section of the container to which it is to be attached.

[0006] The pivoting of the panel portion of the tab with respect to the housing causes the operable section to be broken by a pivoting of the tab rather than by simply pulling on it. In this way the operable section is more likely to be cleanly severed, as opposed to promoting a delamination of the materials from which the container is made.

[0007] The lugs connecting the tab to the housing are conveniently adapted to be breakable following pivoting of the tab, to allow the removal of the tab from the housing, and consequently the complete removal of the op-

erable section from the container. The lugs may conceivably be provided with weak sections to promote separation of the tab from the housing following its pivoting with respect thereto. By providing an operation which is essentially pivoting followed by a lateral displacement, the opportunity for a complete separation of the operable section is maximised, with a consequent decrease in the likelihood of delamination.

[0008] Conveniently the housing, lugs and tab are integrally moulded in one piece. To promote separation of the operable section, the tab conveniently has a nose portion situated opposite the handle portion. In order to provide reclosability, the fitment preferably includes a closure cap removably secured to the housing, conveniently by means of complimentary threads on the closure cap and the exterior of the housing.

[0009] According to a further aspect of the invention there is provided, in combination, a container and a fitment, the container having an operable section adapted to be activated to allow access to the contents of the container, the fitment comprising:

- i) a plastics housing secured to the container surrounding the operable section; and
- ii) a tab including a panel portion attached to the operable section of the container, a handle portion extending from the panel portion, and a plurality of lugs connecting the tab to the housing such that the tab is pivotable with respect thereto; wherein in order to open the container the tab is pivoted about the lugs so as to cause a separation of at least a part of the operable section. In the above combination the lugs are preferably breakable by the user following the pivoting of the tab with respect to the housing, so as to allow the complete removal of the operable section from the remainder of the container.

[0010] The panel portion of the tab preferably has an area substantially less than the area of the operable section of the container. Conveniently the panel portion of the tab is of such a shape and size as to leave a free region of the operable section which the panel portion does not cover, the panel portion having a nose portion adjacent a section of the operable section, the nose portion being opposite the free region of the operable section. In this way, as the tab panel does not cover the whole of the operable section of the container, the operable section is left free to flex or even form one or more natural hinges as the tab is being pivoted. It has been found that by leaving the operable section free to move in this way, the likelihood of delamination is further reduced.

[0011] Conveniently the operable section is an area of the container surrounded by a pre-scored track. This construction is typically employed where the container is a paperboard carton. Alternatively the operable section is a piercable foil, secured over an aperture cut in

the container. When a pre-scored track is provided, the nose portion of the panel portion preferably lies adjacent thereto.

[0012] The invention will now be further described by way of example only, with reference to the accompanying drawings, in which:

Fig.1 is a schematic cross sectional view through a fitment in accordance with the present invention,
Fig.2 is a view, partly in section, of the fitment of Fig. 1 in a first stage of operation, and
Fig.3 is a perspective view of the tab of the fitment of Fig.2 once it has been fully removed therefrom.

[0013] Referring to the Figures, the fitment shown generally at 1 comprises a housing 2 including an up-standing cylindrical sidewall 3 and a peripheral flange 4. The flange 4 is attached to a container such as a laminated paperboard carton 5 by means of an adhesive 20. The cylindrical sidewall 3 is provided on its exterior surface with threads 6 which mate with complimentary threads 7 on a plastics closure 8 which is used to enclose the cylindrical sidewall 3.

[0014] Integrally moulded with the housing 2 is a tab shown generally at 9. The tab 9 comprises a generally flat disc-like panel 10 having a semi-circular ring pull handle 11 extending upwardly therefrom. The handle 11 meets the panel 10 towards one edge thereof, and this area is generally thickened to form a nose portion 12. The tab is attached to the sidewall 3 of the housing 2 by means of two lugs 13 extending one on each side of the tab.

[0015] The carton 5 has a pre-scored track 14, defining a circular removable section 15. The underside of the panel 10 is heat sealed or glued to the removable section 15, such that the nose portion 12 of the tab 9 is adjacent one region of the pre-scored track 14. The panel 10 is less in area than the removable section 15, such that a free region 16 thereof is left uncovered by the panel.

[0016] The operation of the closure 1 will now be described. When the user first wishes to open the carton 5, the closure 8 is unscrewed and removed from the housing to reveal the tab 9. Gripping the handle 11 and urging it upwardly, the tab 9 is caused to pivot about the lugs 13, pushing the nose portion 12 downwardly against pre-scored track 14. This causes a progressive separation of the removable section from the remainder of the carton, around the pre-scored track 14, to the position shown in Fig.2. As the separation is progressive around the track, the tendency for the removable section 15 to delaminate is reduced or eliminated.

[0017] Further pulling on the handle 11 will cause the lugs to break away from the housing 2, allowing the complete removal of the tab 9 together with the removable section 15 which is still attached thereto. This combination, shown in Fig.3, can thus be discarded, producing a circular aperture in the carton from which product can

be dispensed. The closure 8 can be reattached to allow re-closing of the carton for subsequent use.

[0018] The tendency of the removable section 15 to delaminate such that it is incompletely removed, is further reduced by the provision of the free region 16. When the tab is first pivoted about the lugs 13, the free region 16 allows the formation of hinge lines 17 and 18. Hinge line 17 is adjacent the edge of the panel 10, whilst hinge line 18 is generally towards the middle of the free region 16. The formation of hinge lines 17 & 18 helps to allow the pre-scored track to separate, in preference to a delamination of the layers of the removable section 15. It has been found that by making the free region 16 as much as a quarter or even a half of the total area of the removable section, delamination can be eliminated.

[0019] The fitment of the current invention can be applied to a gable top carton, after it has been filled and closed, allowing the possibility for aseptic filling if required. It will be appreciated that alternative designs of housing or ring pull handle, for example, could be employed without departing from the scope of the present invention, as well as different methods of attachment of fitment to the container. Also, the fitment may be deployed with containers other than paperboard cartons, such as plastics containers or foil/plastics laminates.

Claims

1. A fitment for use with a container having an operable section adapted to be activated to allow access to the contents of the container, the fitment comprising:
 - i) a plastics housing adapted to be secured to the container surrounding the operable section; and
 - ii) a tab including a panel portion adapted to be secured to the operable section of the container, a handle portion extending from the panel portion, and a plurality of lugs connecting the tab to the housing such that it is pivotable with respect thereto; the pivoting of the tab being adapted to cause a separation of at least a part of the operable section of the container to which it is to be attached.
2. A fitment according to claim 1, **characterised in that** the lugs are adapted to be breakable following pivoting of the tab, to allow removal of the tab from the housing.
3. A fitment according to claim 1 or claim 2, **characterised in that** the housing, lugs and tab are integrally moulded in one piece.
4. A fitment according to any preceding claim, **characterised in that** the tab has a nose portion situated

ed opposite the handle portion.

5. A fitment according to any preceding claim, **characterised in that** it further includes a closure removably secured to the housing. 5
6. A fitment according to claim 5, **characterised in that** the exterior of the housing is provided with thread formations adapted to cooperate with complementary threads on the closure. 10
7. In combination, a container and a plastics fitment, the container having an operable section adapted to be activated to allow access to the contents of the container, the fitment comprising: 15
 - i) a plastics housing secured to the container surrounding the operable section; and
 - ii) a tab including a panel portion attached to the operable section of the container, a handle portion extending from the panel portion, and a plurality of lugs connecting the tab to the housing such that the tab is pivotable with respect thereto; wherein, in order to open the container, the tab is pivoted about the lugs so as to cause a separation of at least a part of the operable section. 20 25
8. The combination of claim 7, **characterised in that** the lugs are breakable by the user following the pivoting of the tab with respect to the housing, so as to allow complete removal of the operable section from the remainder of the container. 30
9. The combination of claim 7 or claim 8, **characterised in that** the panel portion of the tab has an area substantially less than the area of the operable section of the container. 35
10. The combination of claim 9, **characterised in that** the panel portion of the tab is of such a shape and size as to leave a free region of the operable section which the panel portion does not cover, the panel portion having a nose portion adjacent a section of the operable section, the nose portion being opposite the free region of the operable section. 40 45
11. The combination of any of claims 7 to 10, **characterised in that** the operable section is an area of the container surrounded by a pre-scored track. 50
12. The combination of any of claims 7 to 10, **characterised in that** the operable section is a piercable foil. 55
13. The combination of claims 10 and 11, **characterised in that** the nose portion of the panel portion is adjacent the pre-scored track.

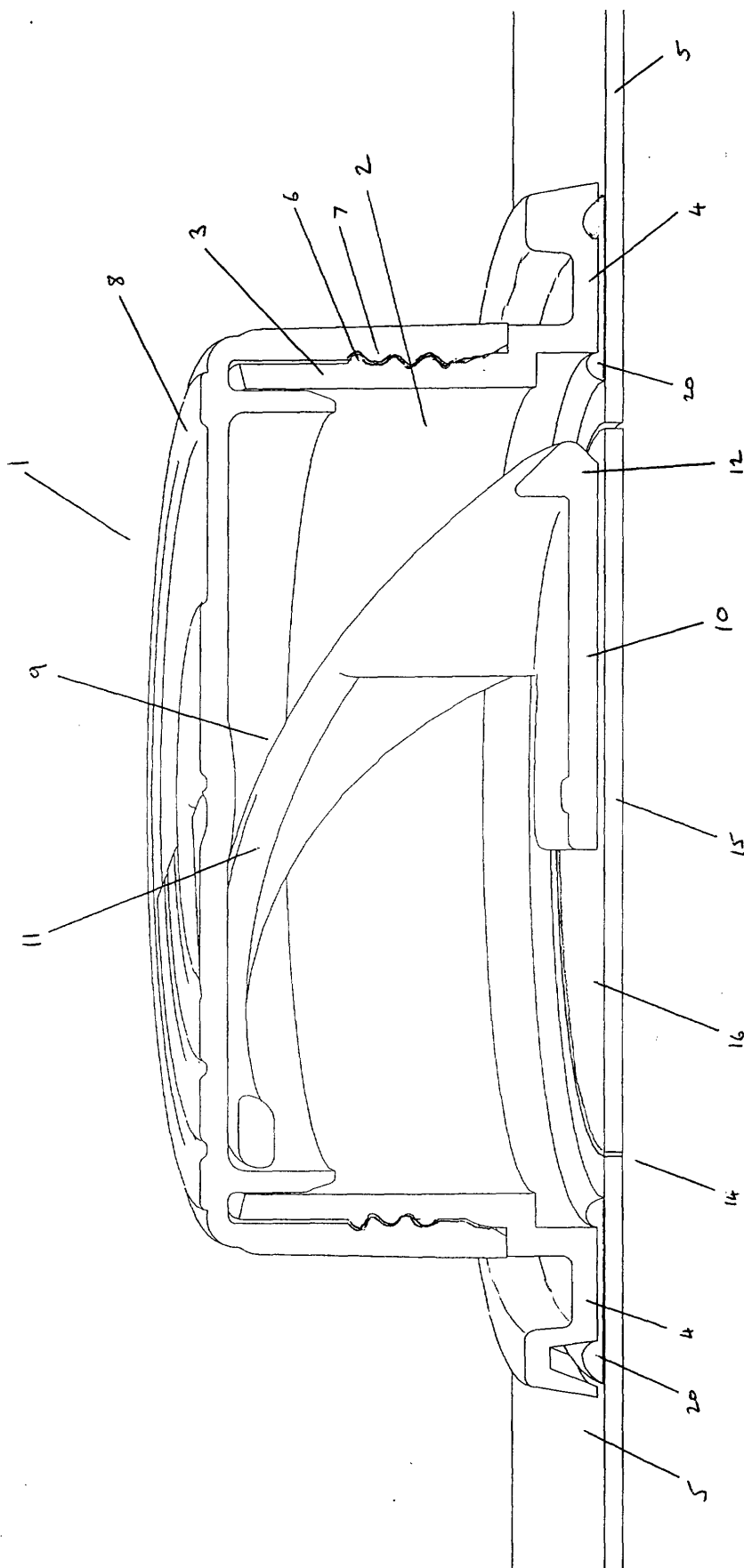
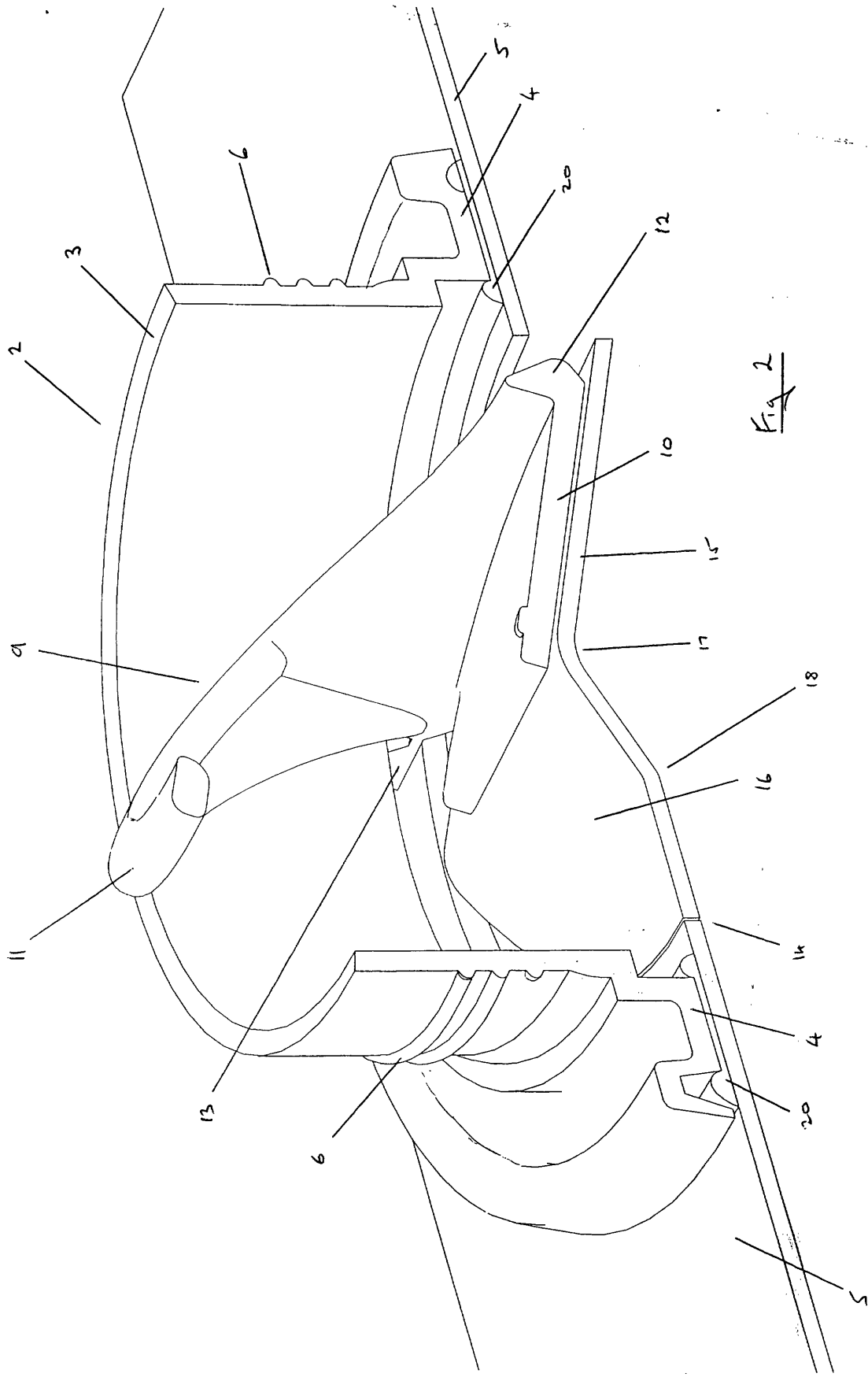


Fig. 1



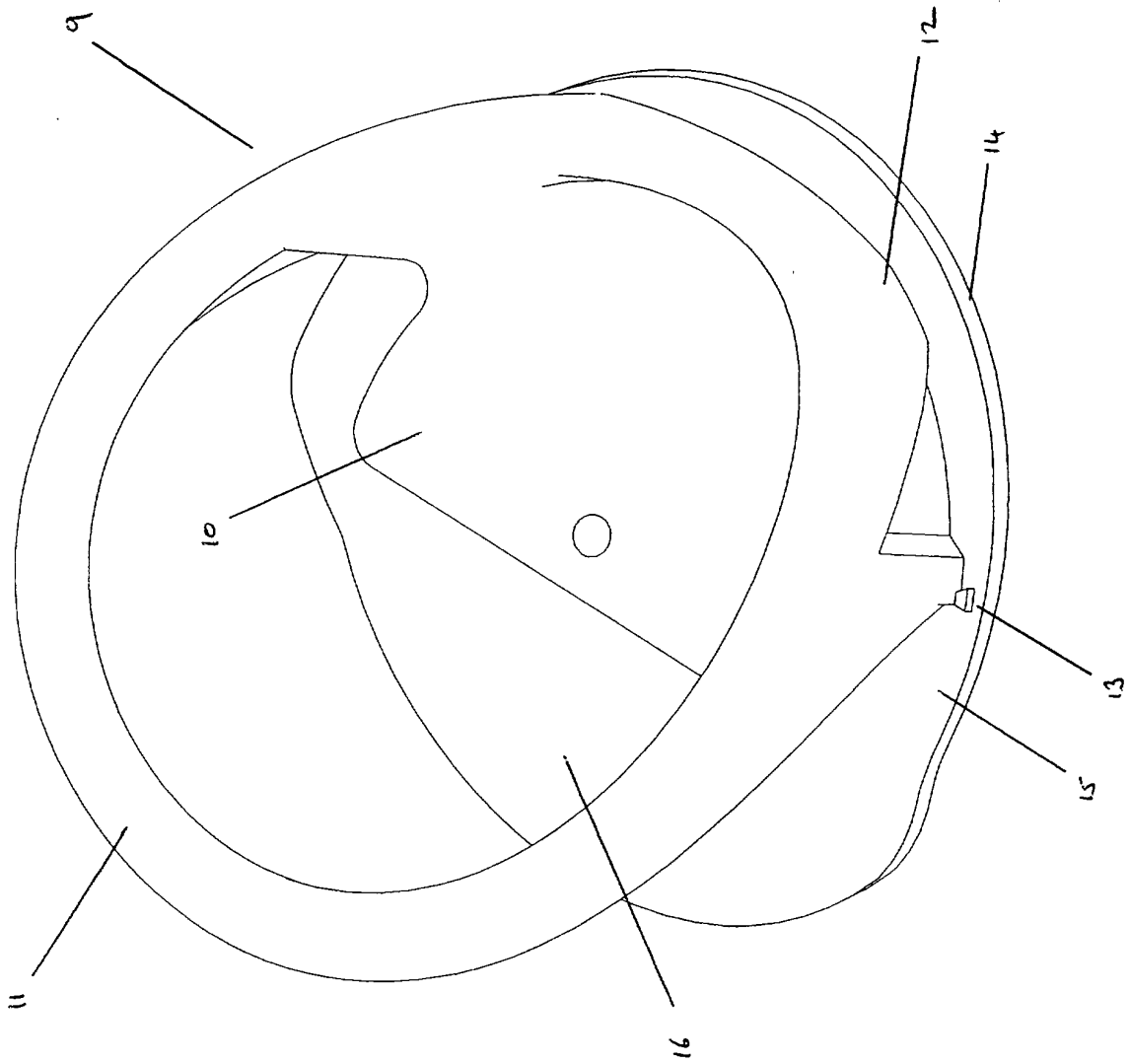


Fig. 3



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 00 30 5078

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Y	* column 5, line 21 - column 7, line 1; figures 1-9 *	2,6,8-10	
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.CI.7)
			B65D
Place of search		Date of completion of the search	Examiner
THE HAGUE		13 November 2000	Newell, P
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			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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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
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