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(56) Documents Cited:  
**WO 2018/104692 A1** **MC 000002488 A1**  
**US 2992118 A**  
**KR 1020070041693**

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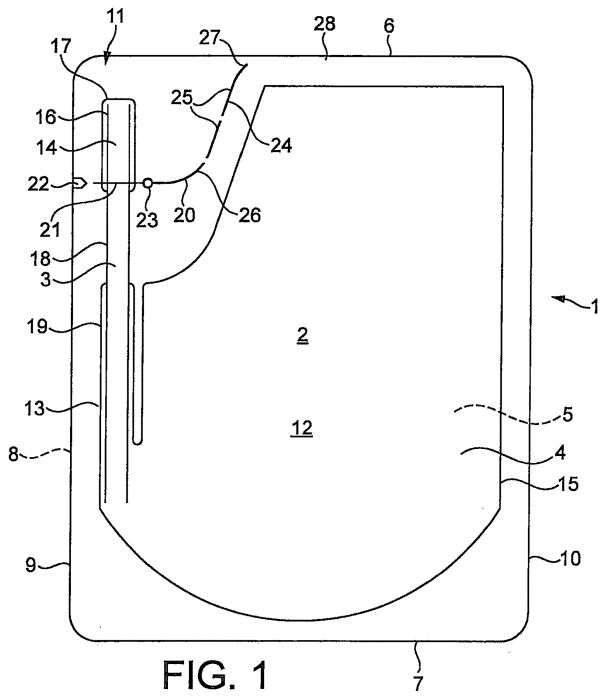
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(54) Title of the Invention: **Drinks pouch**  
 Abstract Title: **Drinks pouch with integral straw and tear line**

(57) A drinking pouch has front 4 and rear 5 faces joined to form a sealed pouch 1, with an extended corner portion 11 defined between a top 6 and side 9 edge. The interior volume 12 of the pouch is divided into a minor portion 13 adjacent a side edge 9 where a straw 3 is located, and a major portion 15 in communication with the minor portion. The straw of the minor portion extends into the extended corner portion 11, where this portion is sealed except where the straw enters the corner portion. The corner portion has a tear line 20 from adjacent a side edge along a curved path 26 to or adjacent a top edge, tearing exposes a straw from which a user can drink. The straw may be adhered to the pouch, the minor portion may have a middle section of reduced width, where the straw seals 18 and fills the middle section. The tear line may have a notch 22, a through hole 23 or instructional indicia (37, fig 2), where it may terminate at a position 27 before an edge allowing the corner to remained attached after tearing.



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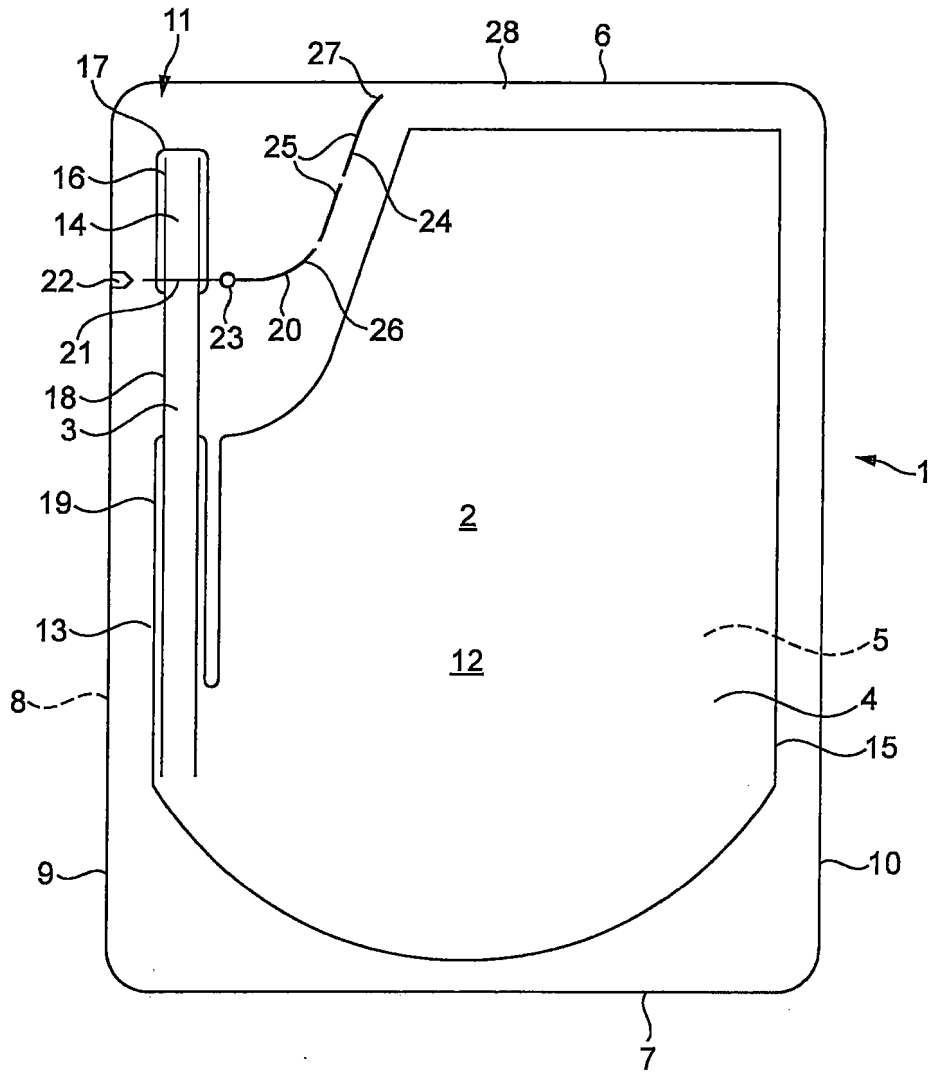
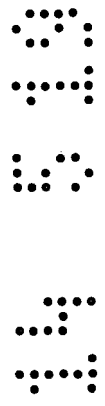


FIG. 1



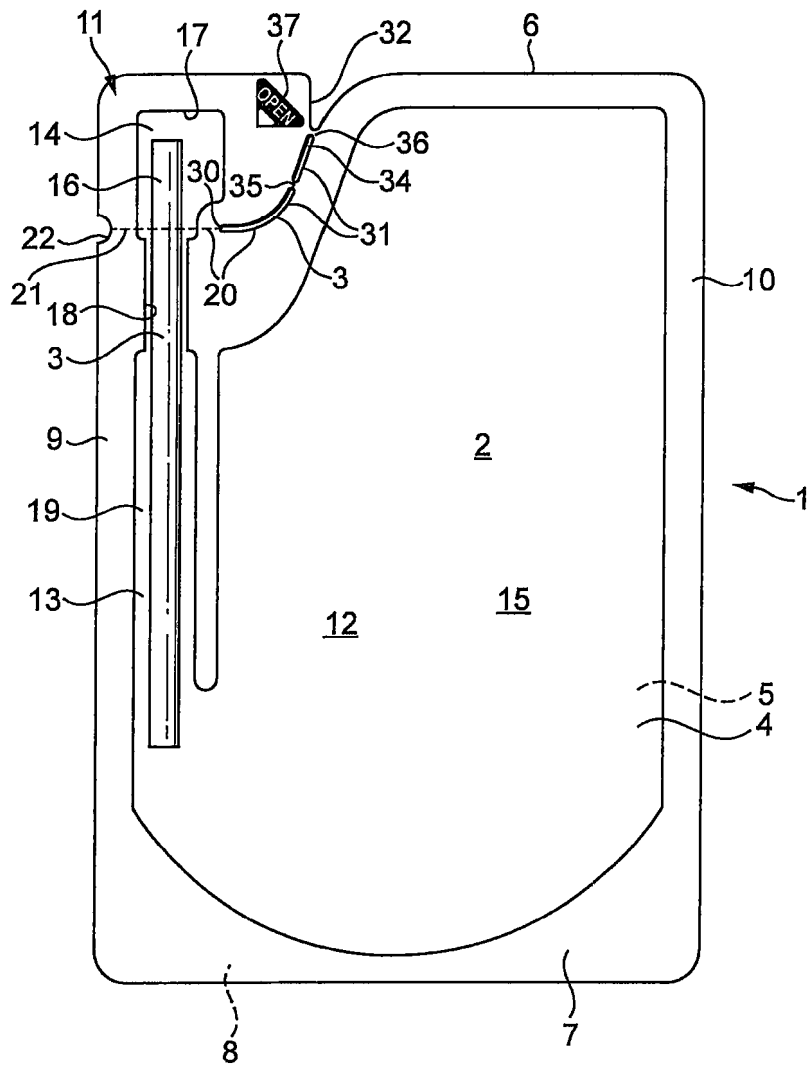
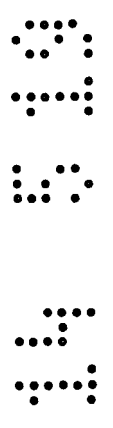


FIG. 2



## **DRINKS POUCH**

This disclosure relates to a drinks pouch.

The invention of the present disclosure may be regarded as an improvement or modification of the invention disclosed in our co-pending British Patent Application No: 5 1720237.5, the entire disclosure of which is to be regarded as incorporated into the present disclosure by reference.

The disclosures of Application No: 1720237.5 sought to overcome or reduce the occurrence of problems associated with spillage when seeking to open previously proposed drinks pouches. In particular, with pouches that needed a corner portion to be 10 torn off to reach a straw within the pouch, it was noted that there was a danger of spillage when making the tear. Even with practical embodiments of pouches of the kind described in WO 2016/124881 of Delivery Flexibles Ltd, with a line of weakness provided between a side edge of the pouch and a top edge of the pouch, the tear from the side to the top sometimes continues right across the top of the pouch so that the contents spill. Even 15 worse would be the result of tearing from the top edge towards the side edge if the tear continues down the side.

Embodiments of drinks pouch described in our aforesaid Application No: 1720237.5 sought to limit the extent of the tear by providing a secondary heat seal between front and rear faces of the pouch positioned inboard of a first side edge of the 20 pouch from which the tear is to be made and terminating the line of weakness defining the tear at the second seal by one means or another. A minor portion of the pouch interior is defined between the second heat seal and the first side edge for accommodating the straw. In one embodiment, the second seal is bifurcated by a cut extending from the top edge and the line of weakness ends at the cut. In another arrangement, the line of weakness 25 terminates at an abutment joining the front face of the pouch to its rear face. Another arrangement utilises a graspable tear strip to limit the extent of the tear.

As will become clear from the detailed description hereinbelow, we have now found that the line of tear can be restrained to a predetermined path by broadening out what is effectively the top end of the second heat seal of Application No: 1720237.5 into 30 an extended corner portion in which the front and rear faces are sealed to each other, into which extended corner portion the minor portion of the interior volume containing the

straw extends, and by and defining the line of tear wholly within this extended corner portion, along a line which crosses the said minor portion and extends by a curved perforated line to or adjacent to the top edge, in which perforated line the perforations extend through both the front and rear faces.

5 We have also found that with at least some of the embodiments disclosed in Application No: 1720237.5 in which only a small corner portion was removed, when trying to drink from the pouch, a user's nose could come into contact with the remaining part of the top edge left after removing the corner portion.

Thus, in accordance with the present disclosure, there is provided a fully sealed  
10 pouch containing a drink and a straw; the pouch having a front face and a rear face, and defining: a top edge where the front face and the rear face are sealed to each other, a bottom portion where the front face and the rear face are connected to each other optionally via a gusset, a first side edge extending from the top edge to the bottom portion, the front face being sealed to the rear face along the first side edge, and a second side edge  
15 also extending from the top edge to the bottom portion, the front face and the rear face either being continuous with each other or sealed to each other at the second side edge, and an extended corner portion defined between the top edge and the first side edge; the interior volume of the pouch being divided into a minor portion adjacent the first edge and extending into the extended corner portion, and a major portion communicating with the  
20 minor portion, the front face and the rear face being sealed to each other throughout the extended corner portion except where the minor portion extends into the extended corner portion; the straw being located in the minor portion with an end thereof extending into the extended corner portion; and a predetermined tear line being defined in the extended corner portion along a line that extends from a position at or adjacent the first side edge,  
25 across the minor portion where it extends into the extended corner portion, and along a curved path to or adjacent to the top edge at a position spaced from the join between the top edge and the first side, the tear line constraining a user seeking access to the straw readily to tear therealong to expose said end of the straw and to allow the user thereafter to drink from the pouch via the straw. The position of the end of the curved path at or  
30 adjacent the top edge is suitably chosen so that after tearing, a user can drink from the straw without their nose engaging the remaining portion of the top edge.

Preferred embodiments may have one or more of the following features:

- The straw is fixed in position by being attached to at least one wall with the said end of the straw being located at or adjacent an end of the minor portion within the extended corner portion.
- The minor portion defines a headspace located in the corner portion and containing the said end of the straw, a lower section of the minor portion which is in communication with the major portion and a middle section of the minor portion which is of reduced width compared to the headspace and lower section; and the straw is sealed into and entirely fills the middle section.
- One end of the predetermined tear line terminates short of the top edge so that tearing along the tear line up to the said termination leaves an almost fully detached corner portion still attached to the remainder of the pouch at said termination.
- The tear line is defined by a first section comprising laser cut lines on the external side of each of the front and rear faces which extends from a notch formed in the first side edge, crosses the minor portion and ends at a hole which extends through both the front and rear faces where they are sealed to each other in the extended corner portion, and by a second section comprising a perforated line in which perforations extend through both the front and rear faces, the perforated line following a curved path to terminate adjacent the top edge.
- Alternatively, one end of the predetermined tear line terminates at or adjacent the top edge, and an instruction icon is provided on the extended corner portion adjacent said one end to identify an intended direction of tearing from the top edge downwardly and towards the side edge.
- In this alternative arrangement, the other end of the predetermined tear line terminates inboard of a notch formed in the first side edge so that tearing along the tear line leaves an almost fully detached corner portion still attached to the remainder of the pouch adjacent the said side edge notch.

Reference may now be made to the accompanying drawing, by way of example only, in which:-

Fig. 1 shows a somewhat schematic view of a transparent pouch from its front side; and

Fig. 2 shows a somewhat schematic view of an alternative embodiment of transparent pouch from its front side.

5 The pouch 1 shown in Fig. 1 contains a drink 2 and a straw 3 sealed within the pouch. The pouch 1 has a front face 4 and a rear face 5, a top edge 6, along which the front face 4 and the rear face 5 are sealed to each other, and a bottom portion 7 where the front 4 and rear 5 faces are connected to each other, optionally via a gusset 8.

10 Respective first and second side edges 9, 10 of the pouch 1 extend from the top edge 6 to the bottom portion 7. The front face 4 of the pouch 1 is sealed to the rear face 5 along the first side edge 9. At the second side edge 10, the front and rear faces 4, 5 may again be sealed to each other as shown in the Figure. Alternatively, the front 4 and rear 5 faces may be formed from a single sheet which is folded at second side edge 10 so that the front and rear faces are continuous with each other at second side edge 10.

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An extended corner portion 11 is positioned between the top edge 7 and the first side edge 9, for a purpose to be explained.

20 The pouch defines an internal cavity 12 which is divided into two portions; a minor portion 13 that lies adjacent to the first side edge 9 and extends into the extended corner portion 11 to form a headspace 14 for the straw in the extended corner portion, and a major portion 15 which communicates with the minor portion 13. Except where the minor portion extends into the extended corner portion, the front and rear faces 4, 5 are sealed to each other throughout the extended corner portion.

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The straw 3 is located within the minor portion 13 of the internal cavity 12 so that its upper end 16 extends into the headspace 14, and preferably ends at or adjacent upper end 17 of headspace 14. In the Figure, minor portion 13 has a middle section 18 of lesser width than the headspace 14 or lower section 19 which communicates with the major portion 15 of internal cavity 12. As illustrated, the straw 3 is preferably of a width substantially or entirely to fill the width of middle section 18, and is suitably fixed in position in minor portion 13 by being adhered to one or both of the front and rear faces 4, 5. With a straw 3 that substantially fills the middle section 18, the risk of leakage when

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the pouch is opened as explained below is reduced. With a straw that entirely fills the middle section, the risk of leakage is virtually eliminated, as explained below.

A major part of extended corner portion 11 is designed to be torn from pouch 1 to  
5 allow a user access to the straw 3 and thus to drink 2 sealed within the pouch. In the  
embodiment illustrated in Fig. 1, a predetermined tear line 20 is defined by a laser cut line  
21 on the external side of each of the front 4 and rear 5 faces which extends from a notch  
22 formed in the first side edge 9, crosses the minor portion 13 and ends at a hole 23  
which extends through both the front and rear faces. Beyond hole 23, the tear line 20 is  
10 defined by a perforated line 24 in which perforations 25 extend through both the front 3  
and rear 4 faces, the perforated line 24 following a curved path 26 to terminate at or  
adjacent the top edge 7 at a position 27 spaced from first side edge 9. In the embodiment  
of Fig. 1, line 24 terminates just short of top edge 7 so that the tear may not be complete,  
leaving the torn off portion of extended corner portion 11 still attached to the remainder of  
15 the pouch at position 27. This arrangement reduces the likelihood of a torn off portion  
forming litter. Having a straw 3 adhered to one or both of the front and rear faces 4, 5,  
especially when it entirely fills middle section 18, avoids the problem of the straw itself  
being discarded as litter.

20 The notch 22 and hole 23 define opposite ends of the laser cut line, and serve to  
confine the line of tear to the laser cut line 21. The perforated line 24 is already weak  
since its perforations go right through both the front and rear faces. Thus the illustrated  
predetermined tear line 20 effectively confines any tear in use to that line, greatly  
reducing the risk of an inadvertent tear elsewhere with resultant spillage of the drink 2. At  
25 the same time forming the corner with an extended corner portion 11 in which the front 4  
and rear 5 faces are sealed to each other both makes for easy manufacture and provides a  
degree of strength to the corner portion reducing the possibility of any tear straying from  
the predetermined line 20.

30 Users can readily reach the end 16 of the straw 3 by tearing along laser cut line 21  
from the notch 22 to the hole 23 and then along the curved perforated line 24. When the  
major portion of extended corner portion 11 is removed in this way, the pouch is still  
effectively sealed, but the straw end protrudes and can be reached by a user's mouth  
without their nose engaging remaining part 28 of top edge 6.



Thus, while the present disclosure in its broadest context is silent as to the direction in which the tear line was intended to be torn, in the embodiment of Fig. 1, the laser cut line 21 extended from a position close to but separated from notch 22 formed in a side edge 9 of the pouch, and terminated at hole 23 which extended through both the front and rear faces 4, 5 of the pouch where these were sealed together in the extended corner portion 11. The curved path defined by the tear line beyond the hole terminated a short distance from the top edge 6. As described above, the tear was said to be made from the notch 22 on the side edge to end just short of the top edge 6 so that the corner portion 11, when essentially fully detached to allow access to the straw, nevertheless remained still attached in a minor fashion to the remainder of the pouch at the top edge.

Described hereinbelow with reference to Fig. 2 is an alternative embodiment in which the tear is made in the opposite direction from the top edge to the notch formed in the side edge. Features of the Fig. 2 embodiment which are the same or closely similar to corresponding features of the Fig. 1 embodiment use the same reference numeral.

As before, the straw 3 is located within the minor portion 13 of the internal cavity 12 so that its upper end 16 extends into the headspace 14, and preferably ends at or adjacent upper end 17 of headspace 14. In the Figure, minor portion 13 has a middle section 18 of lesser width than the headspace 14 or lower section 19 which communicates with the major portion 15 of internal cavity 12. For clarity of illustration, the straw is shown as being of lesser width than middle section 18. However, in practice the straw 3 will be sealed in and to middle section 18 with the straw fully filling middle section 18, so that there is no leakage between the straw and middle section 18 when the pouch is opened as explained below. This virtually eliminates unwanted leakage since the only remaining route for the drink to escape is up the straw.

A major part of extended corner portion 11 is designed to be torn from pouch 1 to allow a user access to the straw 3 and thus to drink 2 sealed within the pouch. In the embodiment of Fig. 2, predetermined tear line 20 is again defined by a laser cut line 21 on the external side of each of the front 4 and rear 5 faces which extends from a notch 22 formed in the first side edge 9, and crosses the minor portion 13, but ends at one end 30 of a relatively wide through cut 31 which extends in an interrupted fashion from the end of

laser cut line 21 to terminate in a v-shaped notch 32 in the top edge 6. In this case, the through cut 31 is formed as two through cut portions 33, 34, and the detachable part of the extended corner portion is connected to the remainder of the pouch by narrow interconnections 35, 36 respectively provided between the two portions 33, 34 of the cut  
5 and between portion 34 and the v-shaped notch. The interconnections 35, 36 are readily severable by tearing downwardly and outwardly from the V-shaped notch 32 towards notch 22 formed in first side edge 9. Suitably, an instruction icon 37 printed on to the corner portion will direct users to open the pouch in this specific fashion. If the laser cut line 21 commences just inboard of notch 22, the otherwise almost fully detached corner  
10 11 may be left hanging adjacent notch 22, well out of the way of a user's nose when drinking from the straw.

**Claims**

1. A fully sealed pouch containing a drink and a straw; the pouch having a front face and a rear face, and defining: a top edge where the front face and the rear face are sealed to each other, a bottom portion where the front face and the rear face are connected to each other optionally via a gusset, a first side edge extending from the top edge to the bottom portion, the front face being sealed to the rear face along the first side edge, and a second side edge also extending from the top edge to the bottom portion, the front face and the rear face either being continuous with each other or sealed to each other at the second side edge, and an extended corner portion defined between the top edge and the first side edge; the interior volume of the pouch being divided into a minor portion adjacent the first edge and extending into the extended corner portion, and a major portion communicating with the minor portion, the front face and the rear face being sealed to each other throughout the extended corner portion except where the minor portion extends into the extended corner portion; the straw being located in the minor portion with an end thereof extending into the extended corner portion; and a predetermined tear line being defined in the extended corner portion along a line that extends from a position at or adjacent the first side edge, across the minor portion where it extends into the extended corner portion, and along a curved path to or adjacent to the top edge at a position spaced from the join between the top edge and the first side, the tear line constraining a user seeking access to the straw readily to tear therealong to expose said end of the straw and to allow the user thereafter to drink from the pouch via the straw.
2. A fully sealed pouch according to Claim 1, wherein the straw is fixed in position by being attached to at least one of the front face and the rear face with the said end of the straw being located at or adjacent an end of the minor portion within the extended corner portion.
3. A fully sealed pouch according to Claim 1, wherein the minor portion defines a headspace located in the corner portion and containing the said end of the straw, a lower section of the minor portion which is in communication with the major portion and a middle section of the minor portion which is of reduced width compared to the headspace and lower section; and the straw is sealed into and entirely fills the middle section.
4. A fully sealed pouch according to any preceding Claim, wherein one end of the predetermined tear line terminates short of the top edge so that tearing along the tear line

up to the said termination leaves an almost fully detached corner portion still attached to the remainder of the pouch at said termination.

5. A fully sealed pouch according to Claim 4, wherein the tear line is defined by a first section comprising laser cut lines on the external side of each of the front and rear faces which extends from a notch formed in the first side edge, crosses the minor portion and ends at a hole which extends through both the front and rear faces where they are sealed to each other in the extended corner portion, and by a second section comprising a perforated line in which perforations extend through both the front and rear faces, the perforated line following a curved path to terminate adjacent the top edge.
- 10 6. A fully sealed pouch according to any of Claims 1 to 3, wherein one end of the predetermined tear line terminates at or adjacent the top edge, and an instruction icon is provided on the extended corner portion adjacent said one end to identify an intended direction of tearing from the top edge downwardly and towards the side edge.
- 15 7. A fully sealed pouch according to Claim 6, wherein the other end of the predetermined tear line terminates inboard of a notch formed in the first side edge so that tearing along the tear line leaves an almost fully detached corner portion still attached to the remainder of the pouch adjacent the said side edge notch.



**Application No:** GB1902588.1

**Examiner:** Mr Joe Pratt

**Claims searched:** 1-7

**Date of search:** 6 August 2019

**Patents Act 1977: Search Report under Section 17**

**Documents considered to be relevant:**

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-7	MC2488 A1 (BEVERAGGI) See figs. 4-10
X	1-7	WO2018/104692 A1 (NASH) See line 3, page 11 to line 17 page 12, lines 18-25, page 13 and figs. 4-6 particularly
X	1-7	KR 1020070041693 A (PARK) See WPI abstract and fig. 3
A	-	US2992118 A (DALINE) See lines 47-50, column 1 and fig. 3

**Categories:**

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

**Field of Search:**

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC<sup>X</sup> :

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Worldwide search of patent documents classified in the following areas of the IPC

B65D

The following online and other databases have been used in the preparation of this search report

WPI, EPODOC

**International Classification:**

Subclass	Subgroup	Valid From
B65D	0077/28	01/01/2006
B65D	0075/00	01/01/2006
B65D	0075/20	01/01/2006
B65D	0075/58	01/01/2006