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NL Octrooi Centrum

11

2005355

12 C OCTROOI

21 Aanvraagnummer: 2005355

51 Int.Cl.: B65D 77/04 (2006.01) B65D 77/06 (2006.01)

22 Aanvraag ingediend: 15.09.2010

43 Aanvraag gepubliceerd:
-

47 Octrooi verleend:
19.03.2012

45 Octrooischrift uitgegeven:
28.03.2012

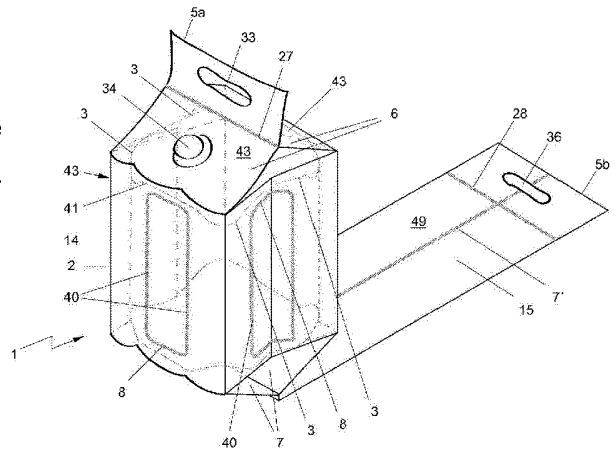
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54 Bag, in particular for bag-in-box packaging.

57 A bag (1) is provided having a flexible, liquid tight, outer sleeve (2), and a flexible inner sleeve (3) extending longitudinally within the outer sleeve (2). The inner sleeve (3) is over at least a part of the length of the outer sleeve (2) connected to the outer sleeve (2) at a number of locations that are spaced apart along the circumference of the inner sleeve (3) so as to form a bracing for the outer sleeve (3). When the bag is filled with liquid, the bracing of the bag (1) allows the bag to retain a block shape.



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Dit octrooi is verleend ongeacht het bijgevoegde resultaat van het onderzoek naar de stand van de techniek en schriftelijke opinie. Het octrooischrift komt overeen met de oorspronkelijk ingediende stukken.

Title: Bag, in particular for bag-in-box packaging

The invention relates to a flexible, liquid tight bag, in particular for a bag-in-box package.

Bag-in-box packaging, and bags therefore are generally known, and are e.g. disclosed in GB 1 092 336. The box of such a package is made of a
5 relatively rigid material, for example corrugated cardboard, and forms a cube-shaped shell for the flexible bag. The bag of such a package is commonly made of flexible sheet material, e.g. plastics, and forms a liquid tight liner for the shell.

Advantages of such bag-in-box packaging are that it is relatively light
10 weight, compact, self supporting and stackable. A disadvantage is, however, is that the wall thickness of the box needs to be relatively large to provide sufficient strength. In particular, the walls often need to be made of 2-ply corrugated material to provide a package that can retain a block shape, which material is relatively expensive. Further, it has proven difficult to provide a
15 leak proof bag that has a block shape. Also, the bag is not sufficiently stable to stand free in a reliable way.

The invention aims to provide a flexible liquid tight bag, in particular for bag-in-box packaging, in which the above problems are alleviated. Thereto, the invention provides for a flexible, liquid tight bag according to claim 1, and
20 a bag-in-box package according to claim 12. The invention is further embodied in a method for manufacturing a bag according to claim 13.

The flexible, liquid tight bag may comprise a flexible, liquid tight, outer sleeve, and a flexible inner sleeve. The inner sleeve may extend longitudinally within the outer sleeve. The inner sleeve may over at least a
25 part of the length of the outer sleeve be connected to the outer sleeve at a number of locations that are spaced apart along the circumference of the inner sleeve so as to form a bracing for the outer sleeve. When the bag is filled with liquid, the inner sleeve forms a tension loaded bracing that prevents the outer sleeve of the bag from bulging out, and that helps to keep the bag from

sagging. This allows the bag to be free standing, and allows a bag-in-box package that is provided with such a bag to retain its block shape with a relatively thin wall thickness.

The bracing may lie within a zone extending over a top half of the
5 length of the outer sleeve. This way, a portion of the top half of the length of the outer sleeve may e.g. be provided with a block shape. Portions of the outer sleeve that are longitudinally adjacent to the bracing may be free of a bracing so as to allow formation of a bottom and/or top of the bag. A portion of the outer sleeve that extends longitudinally beyond an upper portion of the inner
10 sleeve may form a top of the bag, and a portion of the outer sleeve that extends longitudinally beyond a lower portion of the inner sleeve may form a bottom of the bag.

A portion of the outer sleeve that extends beyond an upper portion of the bracing may be closed, e.g. by one or more welds, and may also be provided
15 with an outflow opening for the bag, e.g. a neck that surrounds an opening and that is closable with a cap.

A portion of the outer sleeve that extends longitudinally beyond a lower portion of the bracing may further be provided with lines along which the outer sleeve is connected to itself to allow the formation of a substantially
20 flat bottom. These lines may be used as fold lines, and may e.g. be provided as spotted or continuous seams, welds or glued areas. The bottom may be provided with a circumferential shape that corresponds with the shape of a bottom of a box, e.g. a square, rectangular or polygonal cross section.

The portion of the outer sleeve that extends longitudinally beyond a
25 lower portion of the bracing to form the bottom of the bag may be closed, e.g. by a closing clamp, glue or welds. Alternatively or in addition, a further longitudinal portion of the outer sleeve may be doubled back on itself to extend along the bracing. This allows the bag to be provided with a leak free bottom. In such a configuration, the sleeve may be left open at the area that forms the
30 bottom of the bag. The bag may then have a body portion comprising the

bracing and a tail portion extending beyond the bottom, which portions extend along each other and are in liquid communication with each other. In such a U-shaped configuration, the bottom of the bag is formed by the bottom of the U.

5 The bracing may extend along less than half of the length of the length of the outer sleeve, for example less than 45 or 40%, and/or more than 10 or 20% of the length of the outer sleeve. This is convenient to form of a bag with a braced body portion having a top and a bottom portion and a tail portion of which the tail portion can be folded upwards along the body portion.

10 Further objects, features, effects and details of the invention are defined in the claims and the specification below.

The invention will now be described, by way of a non-limiting example, with reference to the drawings that follow; in which:

15 Fig. 1a is a schematic front view of an example of an empty bag according to the invention in planar configuration;

 Fig. 1b is a schematic back view of the bag of Fig. 1a;

 Fig. 2 is a schematic perspective view of the bag of Fig.1 filled with liquid;

20 Fig. 3 is a schematic view of a cross-section of the bag of Fig. 1 along the line III-III; and

 Fig. 4 is a schematic view of the bag of Fig. 2 in a box.

In the figures, similar or corresponding elements have been provided with the same reference numerals.

25 Figs. 1a and 1b show a liquid tight, flexible bag 1, in particular for a bag-in-box package. The bag 1 has a flexible, liquid tight outer sleeve 2 and a flexible inner sleeve 3 that extends longitudinally within the outer sleeve 2. In this example, the inner sleeve 3 is spaced apart from top and bottom edges 5a, 5b of the outer sleeve 2, and is provided as one continuous piece. However, the inner sleeve 3 may alternatively e.g. extend along the full length L of the outer
30 sleeve 2. Further, the inner sleeve 3 may comprise of several parts that may or

may not be interspaced along the length of the outer sleeve 2. The inner sleeve 3 need not be manufactured from a liquid tight material, and may comprise cut-outs or perforations.

The outer sleeve 2 is liquid tight, and may be thus used to hold
5 liquids. The sleeves 2, 3 may be manufactured from a sheet material, e.g. a plastics material such as PE or a metal foil. The sleeves 2, 3 may comprise several layers of the same or different materials, and/or coatings. The sleeves 2, 3 may be formed as a tube, e.g. by extrusion, but may also be formed into a tube, e.g. by gluing or welding of a planar sheet into a hoop.

10 The inner sleeve 3 is over at least a part of the length of the outer sleeve 2 connected to the outer sleeve 2 at a number of locations 40 that are spaced apart along the circumference of the inner sleeve 3 so as to form a bracing 41. Such connection is advantageously made by spot or line welding, but may e.g. alternatively be made by gluing. In the embodiment shown,
15 endless substantially rectangular welds 45 are used.

A portion 43 of the outer sleeve that longitudinally extends beyond an upper portion 5a of the bracing 41 for forming a top 6 of the bag 1 is closed off with a transverse weld. In addition, the portion 43 of the outer sleeve 2 extending beyond the upper portion of the bracing 41 for forming a top 6 of the
20 bag 1 is provided in this embodiment with an outflow opening 34. The outflow opening may for example be embodied as a neck that surrounds an opening and that is closable with a cap.

When the bag 1 is filled with liquid, the inner sleeve 3 forms a tension loaded bracing 4 that prevents the outer sleeve 2 of the bag from bulging out,
25 as it is connected to the outer sleeve 2 at locations 40 along the circumference of the inner sleeve 3. Accordingly, the bag 1 allows a box 32 to retain its block shape when it is positioned therein and filled with liquid.

In the embodiment shown, the bracing 41 lies within a zone extending over a top half of the length of the outer sleeve 2, and extends along about 25%
30 of the length L of the outer sleeve 2. The outer sleeve 2 is unbraced along a top

portion 43 of about 15% of its length that is longitudinally adjacent to the bracing 41 so as to allow formation of a top 6 of the bag, and along a portion 42 of about 10% that is longitudinally adjacent to the bottom of bracing 41 so as to allow formation of a bottom 7 of the bag 1.

5 A further portion 44 of the outer sleeve 2 is to be doubled back on itself to extend along the bracing. In particular, in the embodiment shown, a further portion 44 of about 50 % of its length adjacent to the bottom forming portion 42 is intended to be looped back to the top 5A of the outer sleeve 2 to prevent liquid from flowing out at the bottom 7 of the bag 1.

10 The unbraced portion 42 of the outer sleeve 2 for forming the bottom 7 of the bag 1 comprises lines 9-12 along which the outer sleeve 2 is connected to itself. When the bag 1 is in use and filled with liquid, the bottom 7 is located at a position that divides the outer sleeve 2 longitudinally in a body portion 14 comprising the bracing 3 and a tail portion 15. The body portion 14 and the tail
15 portion 15 may be in liquid communication with each other. In particular, the tail portion 15 is provided with a duct 16 of reduced width that is in liquid communication with the body portion 15.

 The bag 1 shown in Figs. 1a, 1b may be manufactured by providing a flexible, liquid tight, outer sleeve 2, substantially square and a flexible inner
20 sleeve 3.

 The outer sleeve 2 is formed by taking a sheet of the flexible, liquid tight material, laying two longitudinal opposite edges thereof on top of each other and welding the edges together with a weld 8. A first longitudinal weld 7
25 is applied for realizing the outer sleeve 2, and further welds 8 are applied for securing the inner sleeve 3. In this embodiment, the inner sleeve 2 has been manufactured as an integral sleeve by extrusion.

 Next, the inner sleeve 3 may be positioned extend coaxially within the outer sleeve 2. The inner sleeve 3 is spaced apart from upper and lower edges
30 5a, 5b of the outer sleeve 2. Over at least a part of the length of the outer sleeve 2 the inner sleeve 3 may be connected to the outer sleeve 2 at a number

of locations 40 that are spaced apart along the circumference of the inner sleeve 3. In this embodiment, the inner sleeve 3 is attached in longitudinal direction 4 to the inner wall of the outer sleeve 2 at locations divided equally over its circumference using rectangular endless welds 45.

5 In a further step, the bag may be flattened by folding two opposite sides inwards between the top and bottom sides so that four flaps 46, 47, 48, 49 are formed. The fold lines 9 – 12 may then be formed by welding the two plies of each of the top and bottom flaps 4 - 48 at both sides of the folded sleeve together along lines that extend at an angle of 45° with respect to the
10 longitudinal direction of the outer sleeve 2, and that the fold lines 9 – 12 may be directed to a common point on the axis of the outer sleeve 2, but may stop before intersecting to leave an opening 46.

 In a further step, a duct 16 may be provided by welds 26 that extend along the flaps over the tail portion 15 and that connect to the ends of the
15 welds along folding lines 9 – 12. The top 6 of the bag 1 may be sealed by a weld 27 across the top of the outer sleeve 2, and may be provided with a carrying opening 33. Similarly, the end portion of the further portion 44 may be provided with a cross weld 28 and a carrying opening 36.

 A bag 1 manufactured by the method according to the steps described
20 above, is suitable for a bag-in-box packaging 18, as exemplarily shown in Fig. 4. Such a packaging 18 is manufactured by providing a bag 1 according to the method described above, providing a rectangular box 19 having a size adapted for accommodating the bag 1, and positioning the bag 1 in the box 19 with the body portion 14 and the tail portion 15 extending parallel to each other. The
25 box 19 may be provided with a flap 37 for closing the bag-in-box packaging. The box 19 may e.g. be made from single ply corrugated cardboard.

 As the bag provides a liner that is able to retain a block shape, the box can be made of single ply material without the risk of bulging due to deformation of the bag contained in the box. This allows for reducing the costs
30 of bag-in-box packaging.

While the invention has been illustrated and described in detail in the drawing and foregoing description, such illustration and description are to be considered illustrative or exemplary and not restrictive; the invention is not limited to the disclosed embodiments. For example, the inner sleeve may have
5 a circular shape or any other suited shape, that allows it to be connected to sides of an outer sleeve for acting as a tension loaded bracing for the outer sleeve. In addition, the bag may be used as a stand-alone bag, i.e. without a box.

In another embodiment, the duct could be provided with two or more
10 cross seals divided in longitudinal direction along the duct, thereby creating a pocket between two adjacent cross seals, from where a sample can be taken of the liquid contained without opening the bag itself.

Other variations to the disclosed embodiments can be understood and effected by those skilled in the art in practicing the claimed invention, from a
15 study of the drawings, the disclosure, and the appended claims.

CONCLUSIES

1. Een vloeistofdichte, flexibele zak (1) voor een zak-in-doos verpakking (18), omvattende,
een flexibele, vloeistofdichte buitenhuls (2), en
een flexibele binnenhuls (3) die zich in de lengterichting binnen de
5 buitenhuls (2) uitstrekt;
waarbij de binnenhuls (3) ten minste over een deel van de lengte (L) van de buitenhuls (2) verbonden is met de buitenhuls (2) op een aantal locaties (40) die langs de omtrek van de binnenhuls (3) uit elkaar geplaatst zijn om zo een ondersteuning (42) voor de buitenhuls (2) te vormen.
10
2. Een zak (1) volgens conclusie 1, waarbij de ondersteuning in een zone ligt die zich uitstrekt over een bovenste helft van de lengte (L) van de buitenhuls (2).
- 15 3. Een zak (1) volgens conclusies 1 of 2, waarbij de buitenhuls (2) onondersteund is over een deel van zijn lengte (L) dat in de lengterichting aangrenzend is aan de ondersteuning (42) om zo het vormen van een bodem (7) en/of top (6) van de zak (1) toe te laten.
- 20 4. Een zak (1) volgens één der voorgaande conclusies 1-3, waarbij een lager gelegen gedeelte (41) van de buitenhuls (2) is terug geslagen op zichzelf om zich langs de ondersteuning (42) uit te strekken.
- 25 5. Een zak (1) volgens één der voorgaande conclusies 1-4, waarbij een onondersteund gedeelte (43) van de buitenhuls dat zich in de lengterichting voorbij een boven gelegen gedeelte van de ondersteuning uitstrekt is voorzien van een afvoeropening (34).

6. Een zak volgens één der voorgaande conclusies 1-5, waarbij een niet ondersteund gedeelte (44) van de buitenhuls dat zich in de lengterichting voorbij een lager gelegen gedeelte van de ondersteuning uitstrekt, een bodem (13) van de zak (1) vormt.
- 5
7. Een zak (1) volgens conclusie 6, waarbij de bodem (13) zich op een locatie bevindt die de buitenhuls (2) in longitudinale richting (4) deelt in een lijfdeel (14) dat de ondersteuning (3) omvat en een staartdeel (15).
- 10 8. Een zak (1) volgens conclusie 7, waarbij het lijfdeel (14) en het staartdeel (15) zich langs elkaar uistrekken en in vloeistofverbinding met elkaar staan.
9. Een zak (1) volgens één der voorgaande conclusies 1-8, waarbij een
15 onondersteund gedeelte (44) van de buitenhuls (2) dat zich in de lengterichting voorbij een onder gelegen gedeelte van de ondersteuning uitstrekt voor het vormen van een bodem (13) van de zak lijnen (9-12) omvat waarlangs de buitenhuls (2) met zichzelf is verbonden.
- 20 10. Een zak (1) volgens één der voorgaande conclusies 7-9, waarbij het staartdeel (15) is voorzien van een buis (16) dat in vloeistofverbinding staat met het lijfdeel (15).
11. Een zak (1) volgens één der voorgaande conclusies, waarbij de
25 ondersteuning (41) zich over 20-45% van de lengte van de buitenhuls (2) uitstrekt.
12. Een zak-in-doos verpakking, omvattende:
een zak (1) volgens één der voorgaande conclusies 1-11;
30 een doos (19) met een gepast formaat om een zak (1) op te nemen; en

waarbij de zak (1) in de doos (19) is gepositioneerd met het lichaamsdeel (14) en staartdeel (15) langs elkaar uitgestrekt.

- 5 13. Een werkwijze voor het vervaardigen van een zak voor een zak-in-
doos verpakking, omvattende:
- voorzien van een flexibele, vloeistofdichte, buitenhuls (2);
 - voorzien van een flexibele binnenhuls (3);
 - positioneren van de binnenhuls (3) om zich in de lengterichting binnen de
- 10 buitenhuls (2) uit te strekken;
- bevestigen van de binnenhuls (3) over ten minste een deel van de lengte (L) van de buitenhuls (2) op een aantal locaties (40) die langs de omtrek van de binnenhuls (3) uit elkaar zijn geplaatst om zo een ondersteuning (41) voor de buitenhuls (2) te vormen.

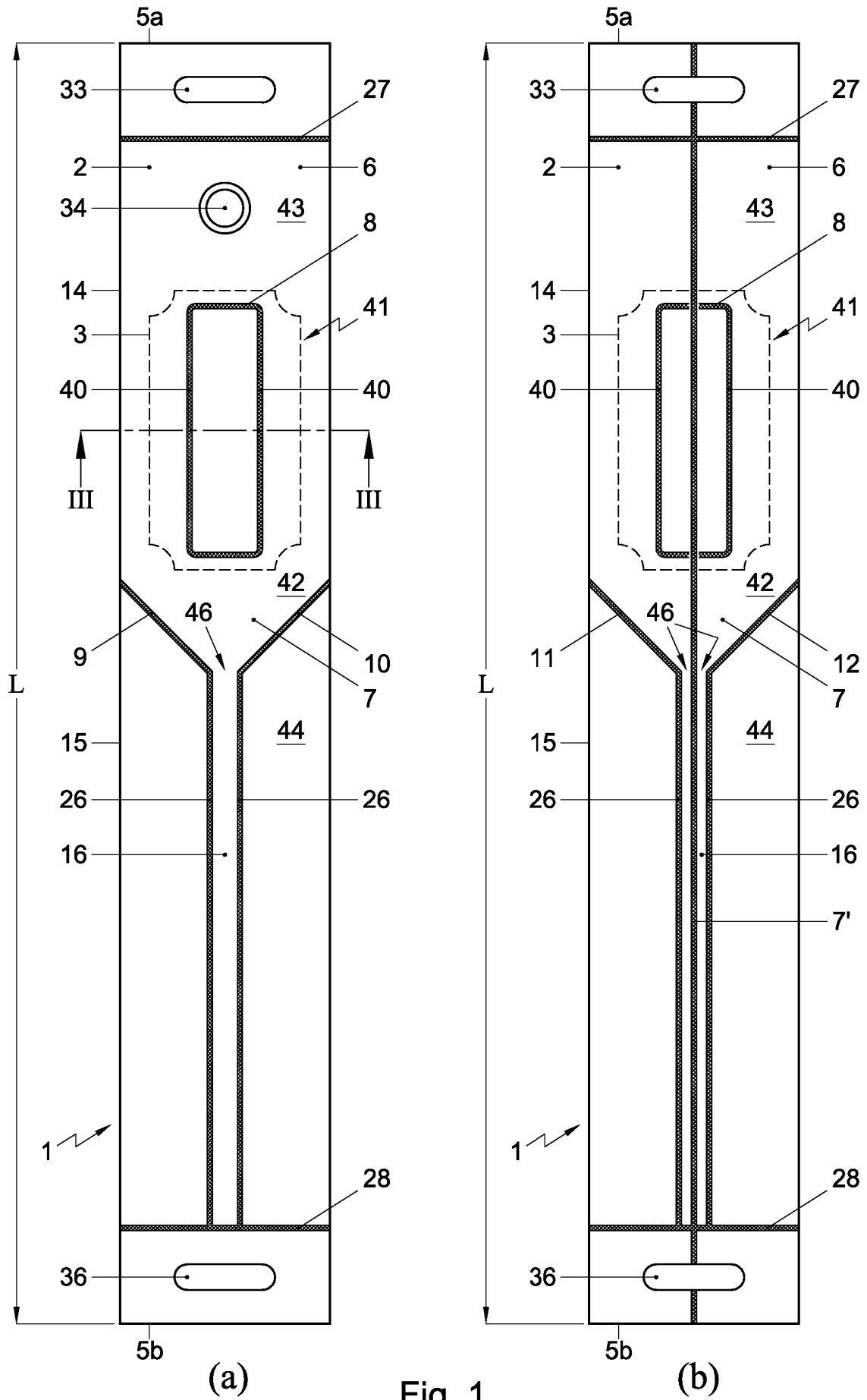


Fig. 1

3/4

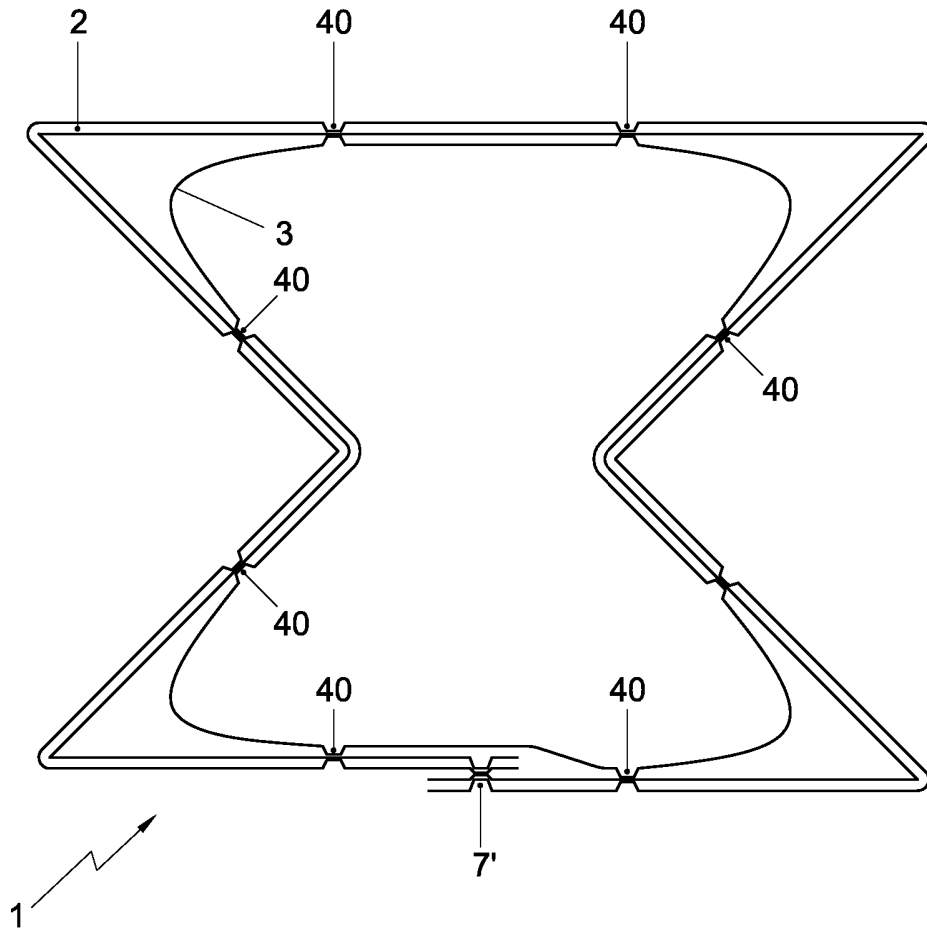


Fig. 3

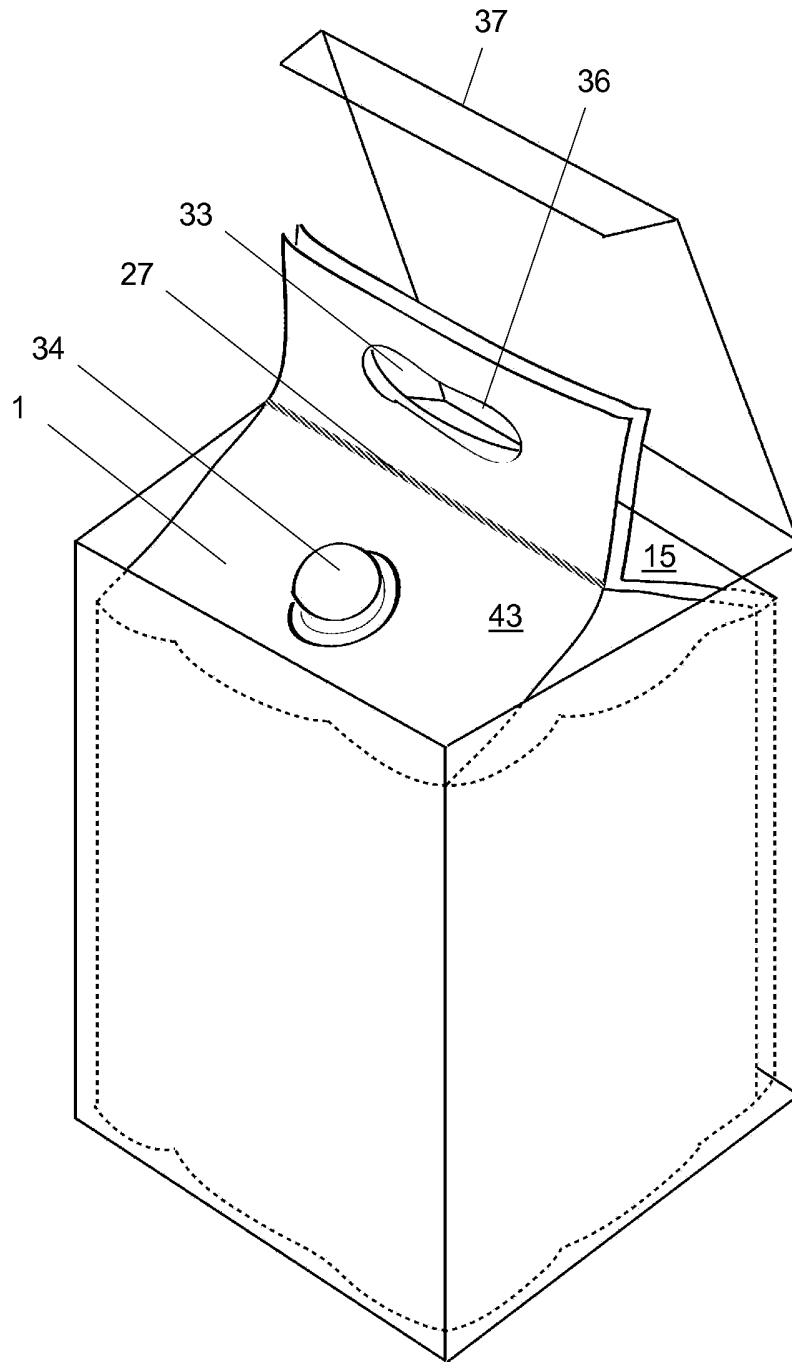


Fig. 4

SAMENWERKINGSVERDRAG (PCT)

RAPPORT BETREFFENDE NIEUWHEIDSONDERZOEK VAN INTERNATIONAAL TYPE

IDENTIFICATIE VAN DE NATIONALE AANVRAGE	KENMERK VAN DE AANVRAGER OF VAN DE GEMACHTIGDE P90412NL00
Nederlands aanvraag nr. 2005355	Indieningsdatum 15-09-2010
	Ingeroepen voorrangdatum
Aanvrager (Naam) Gambo Material Handling B.V.	
Datum van het verzoek voor een onderzoek van internationaal type 19-02-2011	Door de Instantie voor Internationaal Onderzoek aan het verzoek voor een onderzoek van internationaal type toegekend nr. SN 55685
I. CLASSIFICATIE VAN HET ONDERWERP (bij toepassing van verschillende classificaties, alle classificatiesymbolen opgeven)	
Volgens de internationale classificatie (IPC) B65D77/04 B65D77/06	
II. ONDERZOCHE GEBIEDEN VAN DE TECHNIEK	
Onderzochte minimumdocumentatie	
Classificatiesysteem	Classificatiesymbolen
IPC	B65D
Onderzochte andere documentatie dan de minimum documentatie, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen	
III. <input type="checkbox"/>	GEEN ONDERZOEK MOGELIJK VOOR BEPAALDE CONCLUSIES (opmerkingen op aanvullingsblad)
IV. <input type="checkbox"/>	GEBREK AAN EENHEID VAN UITVINDING (opmerkingen op aanvullingsblad)

**ONDERZOEKSRAPPORT BETREFFENDE HET
RESULTAAT VAN HET ONDERZOEK NAAR DE STAND
VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Nummer van het verzoek om een onderzoek naar
de stand van de techniek
NL 2005355

<p>A. CLASSIFICATIE VAN HET ONDERWERP INV. B65D77/04 B65D77/06 ADD.</p>		
<p>Volgens de Internationale Classificatie van octrooien (IPC) of zowel volgens de nationale classificatie als volgens de IPC.</p>		
<p>B. ONDERZOCHE GEBIEDEN VAN DE TECHNIEK</p>		
<p>Onderzochte minimum documentatie (classificatie gevolgd door classificatiesymbolen) B65D</p>		
<p>Onderzochte andere documentatie dan de minimum documentatie, voor dergelijke documenten, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen</p>		
<p>Tijdens het onderzoek geraadpleegde elektronische gegevensbestanden (naam van de gegevensbestanden en, waar uitvoerbaar, gebruikte trefwoorden) EPO-Internal</p>		
<p>C. VAN BELANG GEACHTE DOCUMENTEN</p>		
<p>Categorie °</p>	<p>Geciteerde documenten, eventueel met aanduiding van speciaal van belang zijnde passages</p>	<p>Van belang voor conclusie nr.</p>
X	<p>GB 2 113 180 A (OWENS ILLINOIS INC) 3 augustus 1983 (1983-08-03)</p>	1-3,5-13
Y	<p>* bladzijde 2, regel 26 - regel 39; figuur 2.7 *</p>	4
X	<p>US 4 172 152 A (CARLISLE RICHARD S [US]) 23 oktober 1979 (1979-10-23)</p>	1-3,6-13
Y	<p>* kolom 2, regel 3 - regel 40; figuur 3 *</p>	
	<p>US 5 281 027 A (THRALL RONALD G [US]) 25 januari 1994 (1994-01-25)</p>	4
	<p>* figuren 8,9 *</p>	
<p><input type="checkbox"/> Verdere documenten worden vermeld in het vervolg van vak C. <input checked="" type="checkbox"/> Leden van dezelfde octroofamilie zijn vermeld in een bijlage</p>		
<p>° Speciale categorieën van aangehaalde documenten</p>		
<p>*A* niet tot de categorie X of Y behorende literatuur die de stand van de techniek beschrijft</p>		<p>*T* na de indieningsdatum of de voorrangdatum gepubliceerde literatuur die niet bezwarend is voor de octrooiaanvraag, maar wordt vermeld ter verheldering van de theorie of het principe dat ten grondslag ligt aan de uitvinding</p>
<p>*D* in de octrooiaanvraag vermeld</p>		<p>*X* de conclusie wordt als niet nieuw of niet inventief beschouwd ten opzichte van deze literatuur</p>
<p>*E* eerdere octrooi(aanvraag), gepubliceerd op of na de indieningsdatum, waarin dezelfde uitvinding wordt beschreven</p>		<p>*Y* de conclusie wordt als niet inventief beschouwd ten opzichte van de combinatie van deze literatuur met andere geciteerde literatuur van dezelfde categorie, waarbij de combinatie voor de vakman voor de hand liggend wordt geacht</p>
<p>*L* om andere redenen vermelde literatuur</p>		<p>*Z* lid van dezelfde octroofamilie of overeenkomstige octrooipublicatie</p>
<p>*O* niet-schriftelijke stand van de techniek</p>		
<p>*P* tussen de voorrangdatum en de indieningsdatum gepubliceerde literatuur</p>		
<p>Datum waarop het onderzoek naar de stand van de techniek van internationaal type werd voltooid 1 april 2011</p>		<p>Verzenddatum van het rapport van het onderzoek naar de stand van de techniek van internationaal type</p>
<p>Naam en adres van de instantie European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016</p>		<p>De bevoegde ambtenaar Vesterholm, Mika</p>

**ONDERZOEKSRAPPORT BETREFFENDE HET
 RESULTAAT VAN HET ONDERZOEK NAAR DE STAND
 VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Informatie over leden van dezelfde octrooifamilie

Nummer van het verzoek om een onderzoek naar
 de stand van de techniek

NL 2005355

In het rapport genoemd octrooigeeschrift	Datum van publicatie	Overeenkomend(e) geschrift(en)	Datum van publicatie
GB 2113180	A	03-08-1983	AU 536671 B2 17-05-1984
			AU 9106782 A 14-07-1983
			DE 3246888 A1 14-07-1983

US 4172152	A	23-10-1979	GEEN

US 5281027	A	25-01-1994	GEEN



OCTROOICENTRUM NEDERLAND

WRITTEN OPINION

File No. SN55685	Filing date (<i>day/month/year</i>) 15.09.2010	Priority date (<i>day/month/year</i>)	Application No. NL2005355
International Patent Classification (IPC) INV. B65D77/04 B65D77/06			
Applicant Gambo Material Handling B.V.			

This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the application
- Box No. VIII Certain observations on the application

	Examiner
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WRITTEN OPINION

Application number

NL2005355

Box No. I Basis of this opinion

1. This opinion has been established on the basis of the latest set of claims filed before the start of the search.
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - a sequence listing
 - table(s) related to the sequence listing
 - b. format of material:
 - on paper
 - in electronic form
 - c. time of filing/furnishing:
 - contained in the application as filed.
 - filed together with the application in electronic form.
 - furnished subsequently for the purposes of search.
3. in addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty	Yes: Claims	4, 10, 11
	No: Claims	1-3, 5-9, 12, 13
Inventive step	Yes: Claims	
	No: Claims	1-13
Industrial applicability	Yes: Claims	1-13
	No: Claims	

2. Citations and explanations

see separate sheet

WRITTEN OPINION

Application number
NL2005355

Box No. VII Certain defects in the application

see separate sheet

Re Item V

1.

Reference is made to the following documents:

D1: GB 2 113 180 A (OWENS ILLINOIS INC) 3 August 1983

D2: US 4 172 152 A (CARLISLE RICHARD S [US]) 23 October 1979

D3: US 5 281 027 A (THRALL RONALD G [US]) 25 January 1994

2.

The present application does not meet the criteria of patentability, because the subject-matters of independent claims 1 and 13 are not new.

2.1

D1 discloses all features of independent claim 1 (page 2, lines 26 - 39; figures 2 and 7):

A liquid tight, flexible bag for a bag-in-box packaging, comprising, a flexible, liquid tight outer sleeve (2), and a flexible inner sleeve (1) extending longitudinally within the outer sleeve (2);

wherein the inner sleeve (1) is along at least a part of the length of the outer sleeve (2) connected to the outer sleeve (2) at a number of locations (4) that are spaced apart along the circumference of the inner sleeve (1) so as to form a bracing for the outer sleeve (2).

All these features are equally known from D2 (see col. 2, lines 3 - 40; figure 3).

2.2

Independent claim 13 defines merely the method steps which are needed to form the bag of claim 1. The same steps are implicitly known from D1 and D2. Therefore, the reasoning for claim 13 is the same as given above for claim 1.

3.

The additional features of dependent claims 2 - 12 cannot be used as a basis for an allowable claim because of the following reasons:

3.1

The additional features of dependent claims 2, 3, 5 - 9 and 12 are known from D1 (see page 2, lines 26 - 39; figure 2 and 7).

3.2

The additional features of dependent claim 4 are known from D3 (see figures 8 and 9).

3.3

The additional feature of dependent claim 11 is considered to be merely an obvious design alternative for the skilled person which he would immediately consider without taking an inventive step.

Further, the duct structure as defined in claim 10 does not have any function and thus, it is as well considered to be a design alternative.

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4.

Independent claims 1 and 13 are not in the two-part form, which in the present case would be appropriate, with those features known in combination from the prior art being placed in the preamble and the remaining features being included in the characterising part.

5.

The relevant background art disclosed in D1 and D2 is not mentioned in the description, nor are these documents identified therein.