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(54)

Carton plug for retaining a straw in a drinking carton, drinking carton, and method for facilitating drinking from a drinking carton.

(57)

The invention relates to a carton plug for retaining a straw in a drinking carton. The carton plug comprises a cover part having an inner surface for at least partly covering a portion of a circular cylindrical outer surface of the straw when said straw is at least partly inserted into the plug, and the cover part being arranged for counteracting withdrawal of said at least partly inserted straw. Further the plug comprises at least one expanding element for expanding at least in a substantially radial direction of the carton plug. The invention also relates to a drinking carton, comprising a carton plug. Furthermore, the invention relates to a method.

NL C 2007236

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: Carton plug for retaining a straw in a drinking carton, drinking carton, and method for facilitating drinking from a drinking carton

The invention relates to a novel carton plug for retaining a straw in a drinking carton.

A drinking carton, or so called carton or paper carton, is a package used for storing and transporting a beverage, such as a fruit juice, soft drink,
5 milk, chocolate milk, or yoghurt drink. There are different known cartons, typically brick shaped, but cartons having other shapes are known as well, e.g. gable top cartons or substantially circular cylindrical cartons. The carton can be made of plastic coated paperboard, for instance, liquid packaging board.

Often, a person who eventually consumes the beverage from the
10 carton is a little child. Such a child may lack sufficient skills, such as good eye-hand coordination, for executing certain acts, such as drinking a beverage out of an open container without spoiling. Due to the lack of sufficient skills, opening a gable top carton by pushing open the gables at the top, drinking from an unfolded gable top carton, and/or pouring a beverage from a carton
15 into a glass may be problematic acts for a user of a drinking carton, especially for a little child. To address these issues, different devices have been proposed.

For example, cartons with fitments to assist in opening and pouring the contents, e.g. cartons with screwable caps, have been developed. However, especially for children, such fitments are not always convenient to use, and
20 may therefore still result in making a mess.

Further, drinking cartons comprising a burstable, typically piercable, surface area have been proposed. Generally, said burstable area comprises a circular hole in the plastic coated paperboard, covered with a covering foil, such as an aluminium foil, a plastic foil or a foil laminate. The
25 covering foil can be pierced with a straw, which, for this purpose, may be pointed and/or be provided with a sharp edged. Conventionally, an individually

wrapped straw, or so called drinking straw, is provided with the drinking carton, e.g. by gluing its wrap to the outside of the carton.

Although drinking through a straw counteracts spoiling of beverages to some extent, spoiling is still an issue. For example, some children tempt to
5 remove the straw from the carton. Further, children may move the straw downwardly and upwardly for fun, by which the straw can accidentally be withdrawn from the carton. The stiffness of the straw and/or its pointed distal end may decrease by multiply squeezing the straw and/or by putting the straw back into the carton. The decreased stiffness may hamper placing the straw
10 back into the carton, thereby increasing the risk of making a mess. Besides, by removing the straw from the carton, the straw may get lost, which is problematic since it is often the only straw on hand.

American patent publication US 2005/0 087 619 discloses a straw for drinking fluids that has conical rings or any extensions attached on the outside
15 of it to make it go into a hole of a vessel with ease, but make it difficult to remove. However, manufacturing of such straws is cumbersome and may involve complicated and expensive machinery. Furthermore, many consumers, especially adults, experience said straws as childish and/or awkward since they can not pull said straws upwardly easily, which may be inconvenient.
20 Another disadvantage of straws with conical rings or other extensions is that such rings or extensions may easily damage the wrap in which the straw is packed, thereby exposing the straw to dirt, which is unhygienic and highly undesired.

It is an object of the invention to alleviate or solve at least one of the
25 disadvantages mentioned above. In particular, the invention aims at providing a solution to the problem of messing beverages from an opened drinking carton.

Thereto, there is provided a carton plug for retaining a straw in a drinking carton, the carton plug comprising: a cover part having an inner
30 surface for at least partly covering a portion of a circular cylindrical outer

surface of the straw when said straw is at least partly inserted into the plug, and the cover part being arranged for counteracting withdrawal of said at least partly inserted straw; and at least one expanding element for expanding at least in a substantially radial direction of the carton plug. It is noted that the substantially radial direction of the carton plug may at least mean a direction being substantially transverse to a direction in which the plug can be inserted into the drinking carton and being directed away from a central axis of the carton plug.

By providing a carton plug having an expanding element withdrawal of the carton plug from a carton can be counteracted. By further providing the carton with a cover part being arranged for counteracting withdrawal of a straw being at least partly inserted into the plug, it may be counteracted that a straw inserted in a plug which is inserted in a carton can be easily withdrawn from said carton. Therefore, the carton plug provides for a device that can counteract messing beverages from an opened drinking carton.

By providing a separate (e.g. loose) carton plug a user of a drinking carton can be given the freedom to choose to use the plug or not. For example, a carton may be provided which is provided with both a straw and a separate plug. Alternatively, a straw may be provided which is already pre-inserted into the plug, but which may be removed from the plug, e.g. by pulling it all the way through the straw in the inserting direction, or by pulling it sidewardly out of the carton plug.

For example, the carton plug may be provided in a wrap together with the straw. Said wrap can, for instance, be glued to the carton. By, alternatively, providing the plug wrapped in a separate wrap, damaging a second wrap, covering the straw, may be counteracted. It is noted that the plug does not need to be provided together with a carton. For example, one or a plurality of plugs may be sold separately from one or a plurality of drinking cartons. For instance, the cover parts of plugs may have standard inner

diameters corresponding to outer diameters of standard straws and/or of straws normally provided together with drinking cartons.

By providing at least one expanding element which is or comprises at least one barb, a relatively simple and convenient expanding element is provided. The barb may be formed as a wing. Further, the barb may be attached to the plug, preferably to the cover part, more preferably near the proximal end of the drinking plug.

The barb may in a first position, prior to a partly insertion of the plug into a drinking carton, lie against the cover part, and may be arranged to expand during and/or after said partly insertion, whereby it moves into a second position in which the barb is expanded and is at least partly radially protruding from the plug. Hereto, for instance, the barb may near its topside be connected to the plug, e.g. to a rim, wherein the connection may be breakable, i.e. may be that weak that said connection will easily break, e.g. due to a force acting on the connection due to the partly inserting of the plug. However, the barb does not need to be connected to the plug near the barb's topside. Alternatively or additionally, the barb may be arranged to be pushed towards and/or against the cover part, i.e. in a radially inward direction, for instance, due to a force working on the barb due to the partly insertion of the plug into the carton. For example, because the barb may near a bottom side of the barb be resiliently connected to the cover part, the barb can expand after said barb is completely inserted into the carton.

By providing at least two expanding elements withdrawal of the plug may be counteracted relatively well.

By substantially evenly distributing the expanding elements about a peripheral direction of the plug said withdrawal may be counteracted even better.

By providing at least one retaining element for counteracting at least partially withdrawing the straw with respect to the plug when said straw is at least partly inserted into the plug, withdrawing the straw from the plug,

and thus from the carton, may be counteracted. For example, the retaining element or elements may comprise at least one bump, pricker, barb, and/or substantially rough surface area, e.g. provided at an inner surface of the cover part.

5 By shaping the cover part as a substantially tube, preferably an elongated tube, a plug may be provided which adds relatively little surface area to a straw inserted in said plug, and which therefore may be relatively easily be inserted into a carton, e.g. through a burstable area of the carton. It is noted that adding relatively little surface area to the straw means adding
10 relatively little surface area in a plane being substantially transverse to the insertion direction of the plug. It is further noted that the insertion direction of the plug means the direction in which the plug will be inserted into the drinking carton.

By chamfering the proximal end of the plug, i.e. the end at a side of
15 a plug arranged for entering the carton firstly, relatively smoothly insertion of the plug into the carton can be accommodated.

By providing a rim near the distal end, i.e. the end at the side of the plug substantially opposite to the side arranged for entering the carton firstly, it may be prevented that the plug can undesirably be pushed completely into
20 the drinking carton. Alternatively and/or additionally, the plug may near the distal end be provided with one or a plurality of substantially radially extending portions, such one or a plurality of radially protruding fingers.

By providing a crack in the cover part, which crack extends from the distal end to the proximal end of the cover part, preferably from the distal end
25 of the plug to the proximal end of said plug, sideward insertion and/or removal of the straw into or out of the cover part and/or plug may be made possible, respectively. Preferably, the crack has such a width, that it is wide enough to snap the straw substantially sidewardly into the cover part, thereby providing an easy and/or convenient way of attaching the straw into the plug.

30 Alternatively or additionally, the plug may be arranged to let the straw be put

into the plug from the distal end of the plug and/or cover part, by pushing the straw in the insertion direction of the plug.

By making the plug, the cover part, the first expanding element and/or the retaining element of a resilient material, preferably a resilient plastic material, said plug, part and/or element may be resilient. The resilient material may temporarily widen the crack for facilitating snapping in the straw. Besides, the resilient material may facilitate temporary pushing the expanding element inwardly in a radial direction of the plug and may accommodate relatively fast expanding of said element after said element has been completely inserted into the carton, thereby facilitating a fast and convenient snagging of the plug in the carton.

The invention also relates to a drinking carton and a method for facilitating drinking from a drinking carton.

By using the method of claim 11, it can be made possible to prepare a drinking straw assembly, comprising a carton plug and an at least partly therein inserted drinking straw. Such a prepared straw assembly may be handed out, e.g. to a child, together with an accompanying drinking carton. The assembly may counteract removal of the straw from the carton and thus counteracting spoiling of a beverage from said carton. Therefore, said method may counteract making a mess. For example, a professional, such as a teacher or childminder, may prepare a multiple number of straw assemblies for a multiple number of children. As a result, e.g. a day care, school, or children's home may be kept relatively clean without extensive supervision.

Advantageous embodiments according to the invention are described in the appended claims.

By way of non-limiting example only, embodiments of the present invention will now be described with reference to the accompanying figures, in which:

Fig. 1 shows a schematic perspective view of a first embodiment of a carton plug according to the invention; and

Fig. 2 shows a schematic perspective view of a second embodiment of a carton plug according to the invention.

It is noted that the figures show merely a preferred embodiment according to the invention. In the figures, the same reference numbers refer to
5 equal or corresponding parts.

Figure 1 shows a schematic perspective view of a carton plug 1 according to an example of the invention. The carton plug 1 is suitable for retaining a straw 2 in a drinking carton. The straw 2 comprises an elongated hollow tube portion 2'. For example, the straw may further comprise an
10 accordion type flexible portion which makes the flexible portion bendable and/or retractable in the longitudinal direction of the flexible portion. The flexible portion may comprise ring shaped elements with a diameter wider than the diameter of the elongated hollow tube portion 2', and may therefore counteracts that the straw 2 can be pushed all the way through the plug 1,
15 thus counteracting that the straw becomes pushed completely into the carton. On top of the flexible portion, the straw 2 may comprise a mouthpiece portion at a distal end of the straw 2, the mouthpiece portion may be a second elongated hollow tube portion. Furthermore, the straw 2 may comprise a piercing portion at a proximal end of the straw 2, for piercing a covering
20 piercable foil covering a drinking opening of the drinking carton.

Here, the plug 1 comprises a cover part 3. The cover part 3, being substantially formed as an elongated tube, has an inner surface 4 for at least partly covering a portion 5 of a circular cylindrical outer surface 6 of the straw 2 when said straw 2 is at least partly inserted into the plug 1. Further, the
25 cover part 3 is arranged for counteracting withdrawal of said at least partly inserted straw 2.

Further, the carton plug 1 comprises two expanding elements 7 for expanding at least in a substantially radial direction RD of the carton plug 1. The two expanding elements 7 are shaped as two barbs 7. Alternatively or

additionally, the expanding elements 7 may comprise other elements, e.g. conical rings.

Here, the two barbs 7 are placed at opposite flanks of the plug, i.e. the two barbs 7 are spaced substantially 180° from each other in the peripheral direction PD of the plug. Alternatively, another number of barbs 7 or other
 5 expanding elements 7 may be substantially evenly distributed about the peripheral direction PD of the plug 1. For example, three or four barbs may be located at substantially 120° or 90° from each other, respectively.

Further, the carton plug 1 comprises two retaining elements 8, i.e.
 10 two second barbs 9, which are located attached to the inner surface 4 of the cover part 3. The second barbs 9 do not or do only very little hamper moving the straw 2 in a downward direction DD relatively to the plug 1. It is noted that the downward direction DD is a direction directed in substantially the same direction as the insertion direction ID in which the plug 1 is inserted into
 15 the carton. Additionally or alternatively, the plug 1 may comprise one or a plurality of other retaining elements for counteracting at least partially withdrawal of the straw 2 with respect to the plug 1 when said straw 2 is at least partly inserted into the plug 2. It is noted that the withdrawal of the straw means moving the straw at least partly through and/or out of the plug 1,
 20 in a withdrawing direction WD being substantially opposite to the downward direction DD.

Here, the carton plug 1 comprises a radial extending portion 10, formed as a rim 11. The radial extending portion 10 is located near a distal end 12 of the plug 1 and the radial extending portion 10 extends substantially in a
 25 radial direction RD of the plug 1.

The proximal end 13 of the plug 1, i.e. the end 13 at a side of a plug arranged for entering the carton firstly, is chamfered to some extent. The chamfer 14 may provide for a relatively smoothly insertion of the plug 1 into the carton.

Figure 2 shows a schematic perspective view of a second embodiment of a carton plug 1 according to the invention. The carton plug 1 comprises a cover part 3 substantially formed as an elongated tube. Here, an inner surface 4 of the cover part 3 does not entirely surround a circular cylindrical portion 5 of a circular cylindrical outer surface 6 of a straw 2. This is, the cover part 3, made of a resilient plastic material, comprises a crack 15, extending from the distal end 12 to the proximal end 13 of the cover part 3. Here, the crack 15 has a width W, which is wide enough to snap the straw 2 substantially sidewardly into the cover part 3. For example, the width W is substantially 2%, 3%, 5%, 7%, 10%, 12%, 15%, 20% or 25% smaller than the outer diameter of the straw 2 and/or of the elongated hollow tube portion 2' of the straw.

Here, the carton plug 1 comprises a retaining element 8 implemented as a pricker 16 located at the inner surface 4 of the cover part 3. Here, the pricker 16 comprises a sharp point 16'. When the straw 2 is sidewardly inserted into the plug through the crack 15, the pricker pricks a small hole into the straw, which hole substantially gets filled up by said pricker 16. Therefore, the pricker may affix to the straw, and thus retain the straw 2 and substantially close off the hole it created. By substantially closing off the hole, the pricker 16 may counteract leaking of fluids, both gasses and liquids. Therefore, the pricker 16 may avoid difficulties which may be caused by creating the hole, such as streaming out of the straw of a beverage sucked out of the carton and/or hampering proper sucking up of the beverage due to sucking in false air through said hole. Although in this embodiment one pricker 16 is provided, a plug according to the invention may comprise a plurality of prickers 16, for instance two, three, four, five, or six prickers, e.g. substantially provided above each other in the longitudinal direction LD of the plug 1. However, other, e.g. non linear, pricker placements are possible as well.

The invention is not restricted to the embodiments described herein. It will be understood that many variants are possible.

For example, in the second shown embodiments the straw 2 is sidewardly inserted in the plug and attached to the pricker 16. However, the pricker 16, or a multiple number of provided prickers, may be flexible in the downward direction DD. Therefore, the straw 2 may be inserted into the plug 1
5 from the distal end 12 of the plug, without getting pierced by pricker(s). When the straw subsequently is moved in an upward direction WD, e.g. is being pulled upwardly, the pricker(s) may bend back to some extent and/or pierce the straw, creating a hole and retaining the straw, preventing the straw being withdrawn from the carton.

10 Other such variants will be apparent for the person skilled in the art and are considered to lie within the scope of the invention as formulated in the following claims.

Conclusies

1. Drinkpakjesplug voor het in een drinkpakje houden van een rietje, omvattende:
een afdekdeel met een binnenvlak voor het ten minste gedeeltelijk bedekken van een deel van een cirkelcilindrisch buitenvlak
5 van het rietje wanneer het genoemde rietje ten minste gedeeltelijk in de plug is opgenomen, waarbij het afdekdeel is ingericht om het terugtrekken van het genoemde ten minste gedeeltelijk opgenomen rietje tegen te gaan; en
ten minste één expansie-element voor expansie in ten minste
10 een in hoofdzaak radiale richting van de drinkpakjesplug.
2. Drinkpakjesplug volgens conclusie 1, waarbij het ten minste ene expansie-element of het meervoudig aantal expansie-elementen ten minste één weerhaak omvat.
3. Drinkpakjesplug volgens conclusie 1 of 2, omvattende ten minste
15 twee expansie-elementen, bij voorkeur in hoofdzaak gelijkmatig verdeeld rondom een omtreksrichting van de plug.
4. Drinkpakjesplug volgens één van de voorgaande conclusies, verder omvattende ten minste één tegenhoudelement voor het tegengaan van ten minste gedeeltelijk terugtrekken van het rietje ten opzichte van
20 de plug wanneer het genoemde rietje ten minste gedeeltelijk in de plug is opgenomen.
5. Drinkpakjesplug volgens conclusie 4, waarbij het ten minste ene tegenhoudelement of het meervoudig aantal tegenhoudelementen ten minste één tweede expansie-element omvat, bij voorkeur een weerhaak.
- 25 6. Drinkpakjesplug volgens conclusie 4, waarbij het ten minste ene tegenhoudelement of het meervoudig aantal tegenhoudelementen ten minste één prikker omvat.

7. Drinkpakjesplug volgens één van de voorgaande conclusies, waarbij het afdekdeel in hoofdzaak een buis is, bij voorkeur een langgerekte buis.
8. Drinkpakjesplug volgens één van de voorgaande conclusies,
5 verder omvattende ten minste één zich radiaal uitstrekkend gedeelte, bij voorkeur een rand, nabij een distaal eind van de plug, waarbij het zich radiaal uitstrekkende gedeelte zich in hoofdzaak radiaal uitstrekt in een radiale richting van de plug.
9. Drinkpakjesplug volgens één van de voorgaande conclusies,
10 waarbij het afdekdeel een spleet omvat, die zich uitstrekt van het distale eind naar het proximale eind van het afdekdeel, waarbij de spleet bij voorkeur een breedte heeft die wijd genoeg is om het rietje in hoofdzaak zijwaarts in het afdekdeel te klikken.
10. Drinkpakjesplug volgens één van de voorgaande conclusies,
15 waarbij de plug, het afdekdeel, het eerste expansie-element en/of het tegenhoudelement is gemaakt van een veerkrachtig materiaal of het veerkrachtig materiaal omvat, bij voorkeur een veerkrachtig kunststofmateriaal.
11. Drinkpakje, omvattende een drinkpakjesplug, waarbij de plug
20 volgens één van de voorgaande conclusies is en/of waarbij de plug is ingericht om ten minste gedeeltelijk te worden opgenomen en vast te raken in het drinkpakje.
12. Werkwijze voor het faciliteren om uit een drinkpakje te drinken, omvattende de stappen van:
25 het verschaffen van een drinkpakjesplug, welke volgens één van de conclusies 1-10 is en/of welke is ingericht om ten minste gedeeltelijk te worden opgenomen in en vast te raken in het drinkpakje; en
het opnemen van een rietje in de drinkpakjesplug.
13. Werkwijze volgens conclusie 12, verder omvattende de stap van
30 het opnemen van de drinkpakjesplug in het drinkpakje.

14. Werkwijze volgens conclusie 13, waarbij de stap van het opnemen van het rietje in de drinkpakjesplug ten minste gedeeltelijk wordt uitgevoerd voorafgaand aan of gelijktijdig met de stap van het opnemen van de drinkpakjesplug in het drinkpakje.

1/2

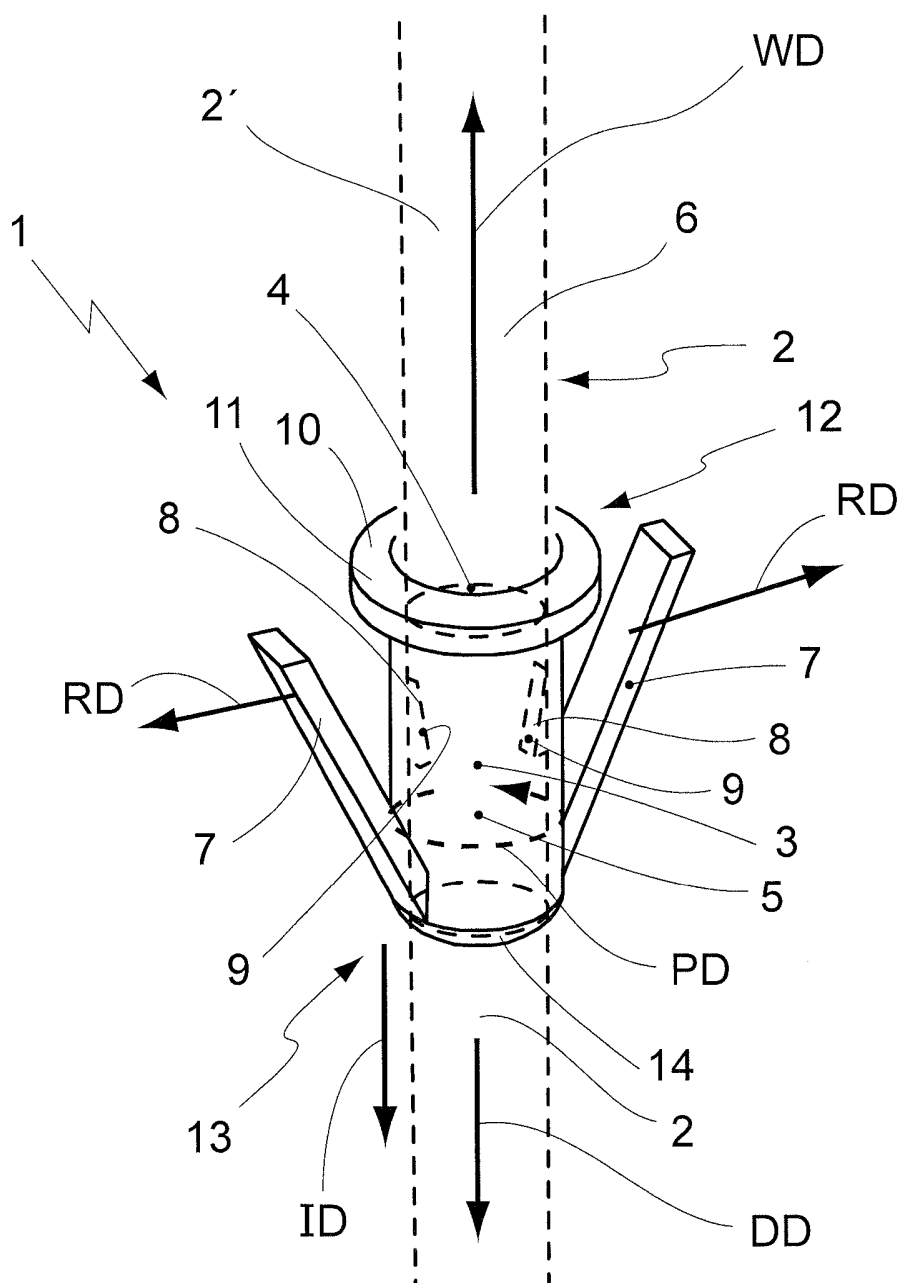


Fig. 1

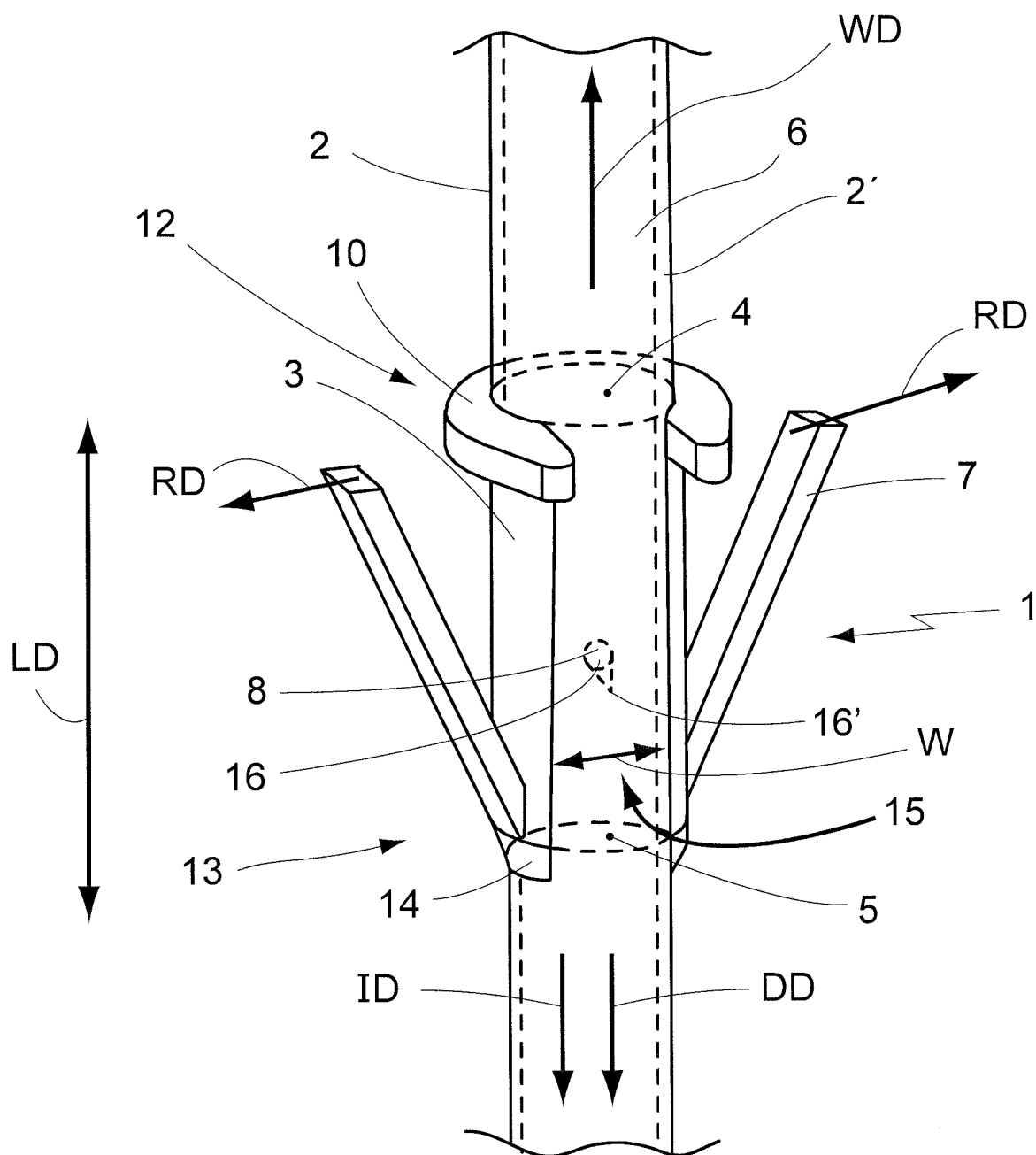


Fig. 2

SAMENWERKINGSVERDRAG (PCT)

RAPPORT BETREFFENDE NIEUWHEIDSONDERZOEK VAN INTERNATIONAAL TYPE

IDENTIFICATIE VAN DE NATIONALE AANVRAGE	KENMERK VAN DE AANVRAGER OF VAN DE GEMACHTIGDE P95669NL00
Nederlands aanvraag nr. 2007236	Indieningsdatum 09-08-2011
	Ingeroepen voorrangsdatum
Aanvrager (Naam) BIN Innovations B.V.	
Datum van het verzoek voor een onderzoek van internationaal type 14-01-2012	Door de Instantie voor Internationaal Onderzoek aan het verzoek voor een onderzoek van internationaal type toegekend nr. SN 57478
I. CLASSIFICATIE VAN HET ONDERWERP (bij toepassing van verschillende classificaties, alle classificatiesymbolen opgeven)	
Volgens de internationale classificatie (IPC) A47G21/18 B65D77/28	
II. ONDERZOCHE GEBIEDEN VAN DE TECHNIEK	
Onderzochte minimumdocumentatie	
Classificatiesysteem	Classificatiesymbolen
IPC	A47G B65D
Onderzochte andere documentatie dan de minimum documentatie, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen	
III. ☐	GEEN ONDERZOEK MOGELIJK VOOR BEPAALDE CONCLUSIES (opmerkingen op aanvullingsblad)
IV. ☐	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 2007236

A. CLASSIFICATIE VAN HET ONDERWERP
INV. A47G21/18 B65D77/28
ADD.

Volgens de Internationale Classificatie van octrooien (IPC) of zowel volgens de nationale classificatie als volgens de IPC.

B. ONDERZOCHE GEBIEDEN VAN DE TECHNIEK

Onderzochte minimum documentatie (classificatie gevolgd door classificatiesymbolen)
A47G B65D

Onderzochte andere documentatie dan de minimum documentatie, voor dergelijke documenten, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen

Tijdens het onderzoek geraadpleegde elektronische gegevensbestanden (naam van de gegevensbestanden en, waar uitvoerbaar, gebruikte trefwoorden)
EP0-Internal

C. VAN BELANG GEACHTE DOCUMENTEN

Categorie °	Geciteerde documenten, eventueel met aanduiding van speciaal van belang zijnde passages	Van belang voor conclusie nr.
X	EP 0 953 514 A2 (SISI WERKE GMBH [DE]) 3 november 1999 (1999-11-03) * alinea [0032] - alinea [0055]; figuren *	1-3,7,8, 10-14
X	US 2009/256000 A1 (WALLACE JAMIE M [US]) 15 oktober 2009 (2009-10-15) * alinea [0023] - alinea [0038]; figuren *	1-7, 10-14
X	JP 2002 125831 A (YOSHIDA FUSHIMI) 8 mei 2002 (2002-05-08) * het gehele document *	1-4,7,8, 10-14

☐ Verdere documenten worden vermeld in het vervolg van vak C.

☒ Leden van dezelfde octrooifamilie zijn vermeld in een bijlage

° Speciale categorieën van aangehaalde documenten

A niet tot de categorie X of Y behorende literatuur die de stand van de techniek beschrijft

D in de octrooiaanvraag vermeld

E eerdere octrooi(aanvraag), gepubliceerd op of na de indieningsdatum, waarin dezelfde uitvinding wordt beschreven

L om andere redenen vermelde literatuur

O niet-schriftelijke stand van de techniek

P tussen de voorrangsdatum en de indieningsdatum gepubliceerde literatuur

T na de indieningsdatum of de voorrangsdatum 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

X de conclusie wordt als niet nieuw of niet inventief beschouwd ten opzichte van deze literatuur

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

Z lid van dezelfde octrooifamilie of overeenkomstige octrooipublicatie

Datum waarop het onderzoek naar de stand van de techniek van internationaal type werd voltooid

16 februari 2012

Verzenddatum van het rapport van het onderzoek naar de stand van de techniek van internationaal type

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

De bevoegde ambtenaar

Vistisen, Lars

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

Informatie over leden van dezelfde octrooifamilie

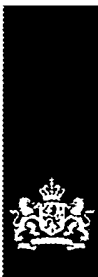
Nummer van het verzoek om een onderzoek naar
de stand van de techniek

NL 2007236

In het rapport genoemd octrooigeschrift	Datum van publicatie	Overeenkomend(e) geschrift(en)	Datum van publicatie
EP 0953514	A2	03-11-1999	AT 305421 T 15-10-2005
			DE 19819574 A1 04-11-1999
			EP 0953514 A2 03-11-1999
			ES 2249739 T3 01-04-2006
			US 6202716 B1 20-03-2001

US 2009256000	A1	15-10-2009	JP 2011516240 A 26-05-2011
			US 2009256000 A1 15-10-2009
			WO 2009129322 A2 22-10-2009

JP 2002125831	A	08-05-2002	GEEN



Agentschap NL
Ministerie van Economische Zaken,
Landbouw en Innovatie

WRITTEN OPINION

File No. SN57478	Filing date (day/month/year) 09.08.2011	Priority date (day/month/year)	Application No. NL2007236
International Patent Classification (IPC) INV. A47G21/18 B65D77/28			
Applicant BIN Innovations 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 Vistisen, Lars
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WRITTEN OPINION

Application number

NL2007236

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	5, 6, 9
	No: Claims	1-4, 7, 8, 10-14
Inventive step	Yes: Claims	9
	No: Claims	1-8, 10-14
Industrial applicability	Yes: Claims	1-14
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following documents:

D1	EP 0 953 514 A2
D2	US 2009/256000 A1
D3	JP 2002 125831 A

2 The present application does not meet the criteria of patentability, because the subject-matter of claim 1 is not new.

D1 discloses

a carton plug (16,22) for retaining a straw in a drinking carton, comprising:

a cover part (22) having an inner surface for at least partly covering a portion of a circular cylindrical outer surface of the straw (2) when said straw (2) is at least partly inserted into the plug (16,22); and the cover part (22) being arranged for counteracting withdrawal of said at least partly inserted straw (2); and

at least one expanding element (24) for expanding at least in a substantially radial direction of the carton plug (16,22).

2.1 The subject-matter of claim 1 is also disclosed in the documents D2-D3.

3 The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claims 11 and 12, which therefore are also considered not new.

4 The present application does not meet the criteria of patentability, because the subject-matter of claims 2-8,10 and 13,14 is also not new (2-4,7,8,13,14) or does not involve an inventive step (5,6).

5 The combination of the features of dependent claims 9 is neither known from, nor appears to be rendered obvious by, the available prior art.