



## (51) International Patent Classification:

*B65B 43/08* (2006.01)      *B65D 75/28* (2006.01)  
*B29C 65/02* (2006.01)      *B65D 75/56* (2006.01)  
*B65B 61/00* (2006.01)      *B65D 75/58* (2006.01)  
*B65B 61/18* (2006.01)      *B65B 3/04* (2006.01)  
*B65D 75/00* (2006.01)

## (21) International Application Number:

PCT/US2015/040578

## (22) International Filing Date:

15 July 2015 (15.07.2015)

## (25) Filing Language:

English

## (26) Publication Language:

English

## (30) Priority Data:

62/025,273      16 July 2014 (16.07.2014)      US

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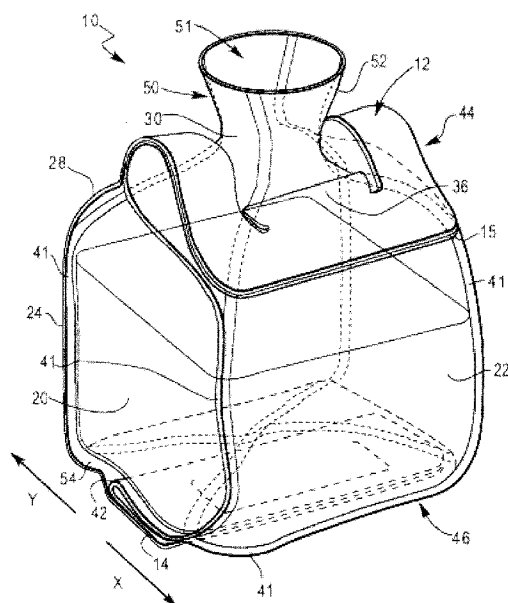
(81) Designated States (*unless otherwise indicated, for every  
kind of national protection available*): AE, AG, AL, AM,  
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,  
BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM,  
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,  
HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR,  
KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG,  
MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM,  
PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC,  
SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN,  
TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every  
kind of regional protection available*): ARIPO (BW, GH,  
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ,  
TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU,  
TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE,  
DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU,  
LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,  
SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, KM, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: FLEXIBLE CONTAINER WITH FITMENT AND PROCESS FOR PRODUCING SAME

Fig. 3



(57) Abstract: A flexible container (10) is provided. The flexible container (10) includes four panels (18, 20, 22 and 24). The four panels form (i) a body portion; (ii) a neck portion (30), and a flare portion (50) that extends from the neck portion (30); (iii) a tapered transition portion between the body portion and the neck portion (30); and (iv) the neck portion (30) has a reduced width. The flare portion (50) has an expanded end. The width of the flare portion (50) gradually increases from the neck portion (30) to the expanded end.

**Published:****(88) Date of publication of the international search report:**

10 March 2016

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

# INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2015/040578

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                  |                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>A. CLASSIFICATION OF SUBJECT MATTER</b><br>INV.    B65B43/08            B29C65/02            B65B61/00            B65B61/18            B65D75/00<br>B65D75/28            B65D75/56            B65D75/58            B65B3/04<br>ADD.<br>According to International Patent Classification (IPC) or to both national classification and IPC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                  |                                                                                                                               |
| <b>B. FIELDS SEARCHED</b><br>Minimum documentation searched (classification system followed by classification symbols)<br>B65B   B29C   B65D   B31B<br>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched<br>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)<br>EPO-Internal, WPI Data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                  |                                                                                                                               |
| <b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                  |                                                                                                                               |
| Category*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                               | Relevant to claim No.                                                                                                         |
| X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | WO 01/85560 A1 (DANISCO [DK]; SCHULZ<br>WERNER [DK]) 15 November 2001 (2001-11-15)<br>page 1, line 3 - page 8, line 26<br>figures 1-5<br>-----                                                                                   | 1-4,<br>14-19                                                                                                                 |
| X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | US 3 003 681 A (RENE ORSINI)<br>10 October 1961 (1961-10-10)<br>column 3, line 55 - column 10, line 29<br>figures 1-32<br>-----                                                                                                  | 1-4,<br>14-19                                                                                                                 |
| Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EP 0 893 358 A1 (HOSOKAWA YOKO KK [JP];<br>MITSUBISHI SHOJI PACKAGING KAB [JP])<br>27 January 1999 (1999-01-27)<br>column 4, line 36 - column 12, line 53<br>figures 1-15<br>-----<br><div style="text-align: center;">-/-</div> | 1-4,<br>14-19                                                                                                                 |
| <div style="display: flex; justify-content: space-between;"> <span><input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.</span> <span><input checked="" type="checkbox"/> See patent family annex.</span> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                  |                                                                                                                               |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>* Special categories of cited documents :</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&amp;" document member of the same patent family</p> </div> </div> |                                                                                                                                                                                                                                  |                                                                                                                               |
| Date of the actual completion of the international search<br><br><div style="text-align: center; font-size: 1.2em;">23 October 2015</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                  | Date of mailing of the international search report<br><br><div style="text-align: center; font-size: 1.2em;">21/01/2016</div> |
| Name and mailing address of the ISA/<br>European Patent Office, P.B. 5818 Patentlaan 2<br>NL - 2280 HV Rijswijk<br>Tel. (+31-70) 340-2040,<br>Fax: (+31-70) 340-3016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                  | Authorized officer<br><br><div style="text-align: center; font-size: 1.2em;">Rodriguez Gombau, F</div>                        |

## INTERNATIONAL SEARCH REPORT

International application No

PCT/US2015/040578

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                           | Relevant to claim No. |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Y         | DE 39 25 871 A1 (HOECHST AG [DE])<br>7 February 1991 (1991-02-07)<br>column 1, line 3 - column 2, line 46<br>figures 1-5<br>-----            | 1-4,<br>14-19         |
| Y         | US 3 112 047 A (WEINREICH CHARLES F ET AL)<br>26 November 1963 (1963-11-26)<br>column 2, line 24 - column 4, line 73<br>figures 1-5<br>----- | 1-4,<br>14-19         |
| Y         | GB 1 463 579 A (AMERICAN CAN CO)<br>2 February 1977 (1977-02-02)<br>page 3, line 112 - page 10, line 20<br>figures 1-20<br>-----             | 1-4,<br>14-19         |

# INTERNATIONAL SEARCH REPORT

International application No.  
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## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-4, 14-19

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-4, 14-19

Container having a flare portion

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2. claims: 5-13

Container having a fitment

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3. claim: 20

Container having a seal comprising a microcapillary strip

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2015/040578

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s)  | Publication<br>date     |
|-------------------------------------------|---------------------|-----------------------------|-------------------------|
| WO 0185560                                | A1                  | 15-11-2001                  | AT 343529 T 15-11-2006  |
|                                           |                     | AU 6206001 A 20-11-2001     |                         |
|                                           |                     | CA 2407904 A1 15-11-2001    |                         |
|                                           |                     | DE 60124105 T2 22-02-2007   |                         |
|                                           |                     | EP 1305224 A1 02-05-2003    |                         |
|                                           |                     | US 2003077010 A1 24-04-2003 |                         |
|                                           |                     | WO 0185560 A1 15-11-2001    |                         |
| US 3003681                                | A                   | 10-10-1961                  | BE 570955 A 11-01-2016  |
|                                           |                     | CH 352275 A 15-02-1961      |                         |
|                                           |                     | FR 77953 E 18-05-1962       |                         |
|                                           |                     | FR 1187408 A 10-09-1959     |                         |
|                                           |                     | US 3003681 A 10-10-1961     |                         |
|                                           |                     | US 3096888 A 09-07-1963     |                         |
| EP 0893358                                | A1                  | 27-01-1999                  | AU 731023 B2 22-03-2001 |
|                                           |                     | AU 7747398 A 04-02-1999     |                         |
|                                           |                     | CN 1205964 A 27-01-1999     |                         |
|                                           |                     | EP 0893358 A1 27-01-1999    |                         |
|                                           |                     | JP H1143155 A 16-02-1999    |                         |
|                                           |                     | US 6126315 A 03-10-2000     |                         |
| DE 3925871                                | A1                  | 07-02-1991                  | NONE                    |
| US 3112047                                | A                   | 26-11-1963                  | NONE                    |
| GB 1463579                                | A                   | 02-02-1977                  | NONE                    |