(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 3 992 106 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
04.05.2022 Bulletin 2022/18

(21) Application number: **21190493.3**

(22) Date of filing: **10.08.2021**

(51) International Patent Classification (IPC):
B65D 43/02 *(2006.01)* ***B65D 47/08*** *(2006.01)*

(52) Cooperative Patent Classification (CPC):
B65D 43/02; B65D 47/0852; B65D 2251/1008; B65D 2543/00046; B65D 2543/00092; B65D 2543/00268; B65D 2543/00296

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(30) Priority: **03.11.2020 TW 109138180**

(71) Applicant: **President Packacking Industrial Corp.**
Tainan City (TW)

(72) Inventor: **Li, Rui-Qing**
Tainan City (TW)

(74) Representative: **Schwerbrock, Florian**
Hagenauer Strasse 1
10435 Berlin (DE)

Remarks:
Amended claims in accordance with Rule 137(2) EPC.

(54) **CUP LID**

(57) The present invention provides a cup lid that utilizes fracturing lines (3011, 3021) to form a novel drinking spout, a cover piece, and a connection part. These fracturing lines include a press-down fracturing line (3011) defining a press-down part (301) and a second fracturing line (3021) defining a rising part (302). The press-down part and the rising part have an overlap area (40) due to the width difference of the press-down part and the rising part, and the press-down part and the rising part open in opposite directions.

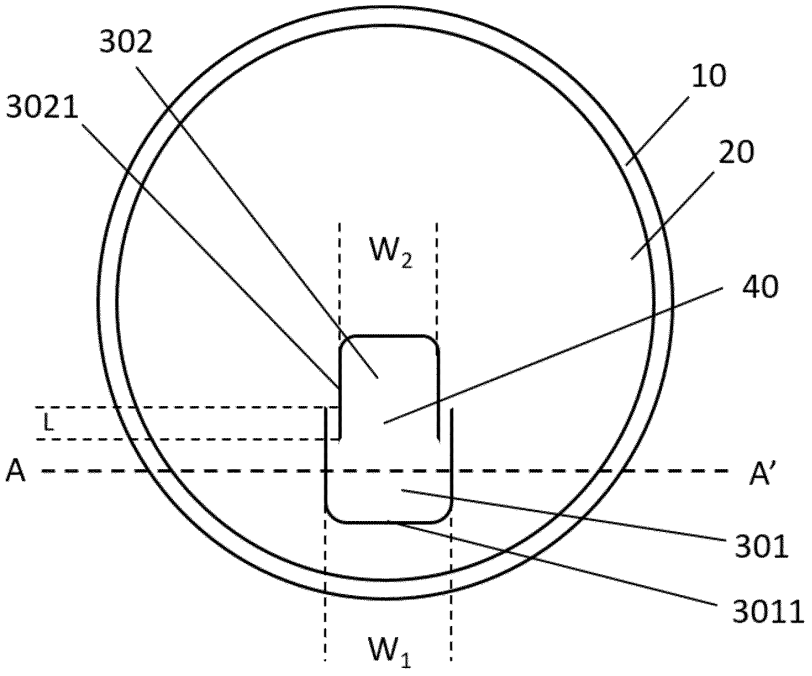

FIG. 1

EP 3 992 106 A1

Description

BACKGROUND OF THE INVENTION

1. FIELD OF THE INVENTION

[0001] The present invention relates to a cup lid and, that has a novel drinking spout structure.

2. DESCRIPTION OF THE PRIOR ART

[0002] A lid is used to cover a cup to prevent from overflowing for take-away beverages.

[0003] In general, a cup lid has a drinking spout for drinking. The drinking spout has a drinking mouth and a suitable cover piece for covering the drinking mouth. A user can push/pull the cover piece down/up to open the drinking mouth. The problem is that the cover piece cannot be fixed, and the cover piece may rebound back to obstruct drinking.

[0004] The inventor proposes a solution to the fixation problem as below.

SUMMARY OF THE INVENTION

[0005] For solving the above problem, the present invention provides a cup lid which has a novel cover piece designed on the cup plate, configured to form a drinking mouth. The cover piece can be fixed on the plate by pushing, pulling, or pressing the cover piece.

[0006] A cup lid, comprising a lid plate and a lid body around the lid plate to adapt to a cup, wherein the lid plate comprises a press-down part defined by a press-down fracturing line, and a raised part defined by a raise-up fracturing line, wherein the press-down part and the raised part are overlapping has an overlap area. The overlap area is integrally connected with the lid plate to form a connection part, and the open direction of the press-down part and the raised part are in opposite direction.

[0007] When pressing the press-down part, the raised part is raised at the same time, so the press-down part and the raised part forms a cover piece and connected to the cup lid through the connection part, and a drinking mouth is also formed.

[0008] In general, the width of the press-down part reduces gradually from the open end to the connecting end, and the cover piece can be fixed at the drinking mouth by pulling the raised part without additional elements.

[0009] In another embodiment, a concave shape is designed at the closed end of the raise-up fracturing line, so the concave shape is transformed to be a tenon on the lid plate when pressing the press-down part. Correspondingly, a split is disposed in the raised part and the split can be used to clamp the tenon. The tenon will be formed by concave U-shape and the tenon can be clamped into the line split to fix the cover piece.

[0010] In another embodiment, a split is disposed on the lid plate in rear of the closed end of the raise-up fracturing line, When pressing the press-down part, the raised part of the cover piece can be clamped into the split.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011]

FIG. 1 is a top view of a cup lid according to an embodiment of the present invention.

Fig. 2 is a A-A' sectional diagram of Fig. 1 to show the press-down part and the raised part at the open state.

FIG. 3 is a top view of a cup lid according to another embodiment of the present invention.

FIG. 4 is a top view of FIG. 3 to show press-down part and the raised part at the open state.

FIG. 5 is a top view of a cup lid according to another embodiment of the present invention.

FIG. 6 is a top view of a cup lid according to another embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0012] Hereinafter, various embodiments of the present invention are described with the drawings. However, the present invention can also be widely implemented in other embodiments including any substitutions, modifications, and equivalent changes according to the embodiments. The scope of the patent application is defined by the claims. Many specific details of the embodiments are provided in the specification for better understanding, however part or all of the details in some embodiments could be omitted for brief. The specific steps or elements should not be limitations of the present invention. In the drawings, the same or similar elements are represented by the same or similar symbols. The drawings are only used for illustration not drawn in actual size, and part of the details can be omitted to keep the drawings concise.

[0013] A lid is used to cover a cup to prevent from overflowing for take-away beverages. In general, the cup lid made by paper or plastic material.

[0014] FIG. 1 is a top view of a cup lid of an embodiment. A cup lid includes a lid plate 20 and a lid body 10 around the lid plate 20. The lid body 10 and the lid plate 20 are formed in one-piece. The lid plate 20 contains a press-down part 301 defined by a press-down fracturing line 3011 and a raised part 302 defined by a raised fracturing line 3021. The press-down part 301 and the raised part 302 are designed to have an overlap area 40, integrally connected with the lid plate 20. The press-down part 301 can be opened downward and the raised part 302 are opened upward.

[0015] In this embodiment, the press-down fracturing line 3011 and the raised fracturing line 3021 are made

in a U shape, but it could be arc-shaped, or the like. The open ends of the press-down part and the raised part are in opposite directions.

[0016] In this embodiment, the width W1 of the press-down part is wider than the width W2 of the raised part, so the overlap area 40 is within the the press-down part but outside the raised part, near their open ends. In this embodiment, the difference between the width W1 and the width W2 is 4-12mm, and the overlapped length is 4-8mm, i.e., the width and length L of the overlap area 40 are 4-12mm and 4-8mm respectively.

[0017] Figure 2 illustrates the opened state of the cup lid. If the press-down part 301 is forced downward, the press-down fracturing line 3011 and the raised fracturing line 3021 are broken, the press-down part is pushed down and the raised part 302 is raised up. The pressed part 301 and the raised part 302 form a cover piece to form a drinking mouth, and the overlap area 40 is formed as a connection part to adhere the cover piece on the lid plate. The user can make the cover piece perpendicular to the lid plate 20 and pull the raised part 302 up to fix the pressed part 301 on the lid plate 20 without using additional fixing structure. In another embodiment, the width of the press-down part is gradually reduced from the broken end to the connection end of the press-down part (from W1 to W3), wherein the width difference is 0.3~1mm, as shown in FIG. 6, so the press-down part 301 can be easily fixed on the lid plate 20.

[0018] In one embodiment, a split 50 is set on the lid plate 20 in rear of the closed end of the raised fracturing line 3021 (i.e. near the center of the lid plate). When pressing the press-down part 301 down, the raised part 302 is raised up at the same time, the press-down part 301 and the raised part 302 form a cover piece and a drinking mouth. The cover piece can be pushed back along the lid plate 20 and then clamped into the split 50 and a drinking sip 70 is formed rounded by the press-down fracturing line 3011, as shown in FIGS. 3 and 4. In some embodiments, both ends of the split 50 can be extended toward the raised part 302 to form an elastic area to enhance the fixation strength.

[0019] In one embodiment, the raised fracturing line 3021 is designed to have a concave shape 3022 near its closed end. When pressing the press-down part, the concave shape 3022 is transformed to a tenon 303 on the lid plate 20. Correspondingly, a split 60 is disposed within the raised part 302. The tenon 303 can be inserted into the split 60. When pressing the press-down part 301 down, the raised part 302 is raised upward at the same time. The user can fix the cover piece by clamping the tenon 303 into the split 60, as shown as Fig. 5. In one embodiment, both ends of the split 60 can be extended toward the tenon 303 to form an elastic area to enhance the fixation strength.

[0020] The present invention provides a cup lid to have a wider press-down fracturing line and a narrower raise-up fracturing line. When pressing the area rounded by the press-down fracturing line 3011, these two fracturing lines are broken to form a cover piece, a corresponding drinking spout and a connection part. The width difference between the press-down fracturing line and the raise-up fracturing line is designed to have the functions of connection and fixation. The user can pull or push the cover piece to fix the cover piece on the lid plate.

Claims

1. A cup lid, comprising a lid plate and a lid body configured around the lid plate, wherein the lid plate comprises

   a press-down part defined by a press-down fracturing line with a closed end toward the edge of the lid plate and an open end toward the center of the lid plate; and
   a raised part defined by a raise-up fracturing line with a closed end toward the center of the lid plate and an open end toward the press-down part, wherein the open ends of the press-down part and the raised part have a width difference to form an overlap area, and the press-down part and the raised part are transformed as a cover piece and the overlap area as a connection part when pressing the when pressing the press-down part.

2. The cup lid according to claim 1, wherein
   a concave shape is designed at the raise-up fracturing line near the closed end and a split is disposed within the raised part, and the concave shape is transformed as a tenon when pressing the press-down part, wherein the tenon can be inserted into the split to fix the cover piece.

3. The cup lid according to claim 1, wherein the lid plate further comprises a split configured to clamp the raised part and the split is between the center of the lid plate and the closed end of raised part.

4. The cup lid according to claim 1, wherein the width of the open end of the press-down part is wider than that of the raised part, and the overlap area is inside the press-down part but outside the raised part.

5. The cup lid according to claim 4, wherein a width of the overlap area is 4-12 mm.

6. The cup lid according to claim 4, wherein a length of the overlap area is 4~8mm.

7. The cup lid according to claim 1, wherein a open width of the press-down part is gradually reduced from the closed end to the open end.

8. The cup lid according to claim 7, wherein the open

width is different in the range of 0.3~1mm.

9. The cup lid according to claim 1, wherein the lid body and the lid plate are made in one-piece.

10. The cup lid according to claim 1, wherein the cup lid is made by paper or plastic material.

Amended claims in accordance with Rule 137(2) EPC.

1. A cup lid, comprising:

a lid plate (20); and
a lid body (10) configured around the lid plate (20);
wherein the lid plate (20) comprises:

a press-down part (301) defined by a press-down fracturing line (3011) with a closed end toward the edge of the lid plate (20) and an open end toward the center of the lid plate (20); and
a raised part (302) defined by a raise-up fracturing line (3021) with a closed end toward the center of the lid plate (20) and an open end toward the press-down part (301), wherein the press-down part (301) and the raised part (302) have a width difference to form an overlap area (40), and when pressing the press-down part (301), the press-down part (301) and the raised part (302) are transformed as a cover piece and the overlap area (40) is transformed as a connection part to stay the cover piece and the lid plate (20) connected.

2. The cup lid according to claim 1, wherein
a concave shape is designed at the raise-up fracturing line near the closed end and a split is disposed within the raised part, and the concave shape is transformed as a tenon when pressing the press-down part, wherein the tenon can be inserted into the split to fix the cover piece.

3. The cup lid according to claim 1, wherein the lid plate further comprises a split configured to clamp the raised part and the split is between the center of the lid plate and the closed end of raised part.

4. The cup lid according to claim 1, wherein the width of the open end of the press-down part is wider than that of the raised part, and the overlap area is inside the press-down part but outside the raised part.

5. The cup lid according to claim 4, wherein a width of the overlap area is 4-12 mm.

6. The cup lid according to claim 4, wherein a length of the overlap area is 4~8mm.

7. The cup lid according to claim 1, wherein a open width of the press-down part is gradually reduced from the closed end to the open end.

8. The cup lid according to claim 7, wherein the open width is different in the range of 0.3~1mm.

9. The cup lid according to claim 1, wherein the lid body and the lid plate are made in one-piece.

10. The cup lid according to claim 1, wherein the cup lid is made by paper or plastic material.

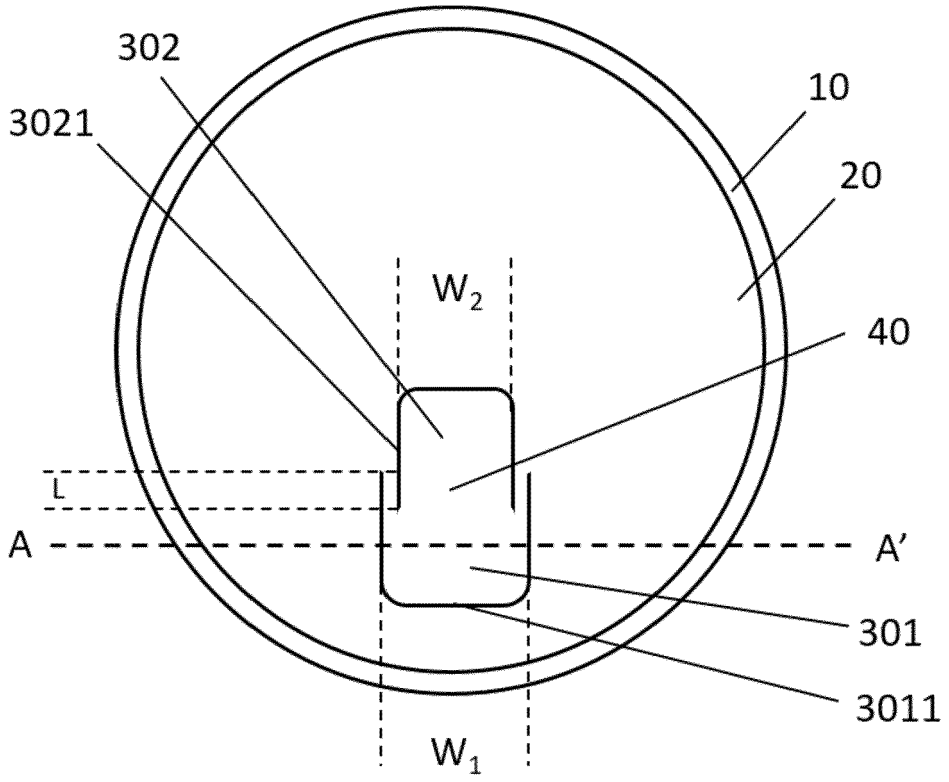

FIG. 1

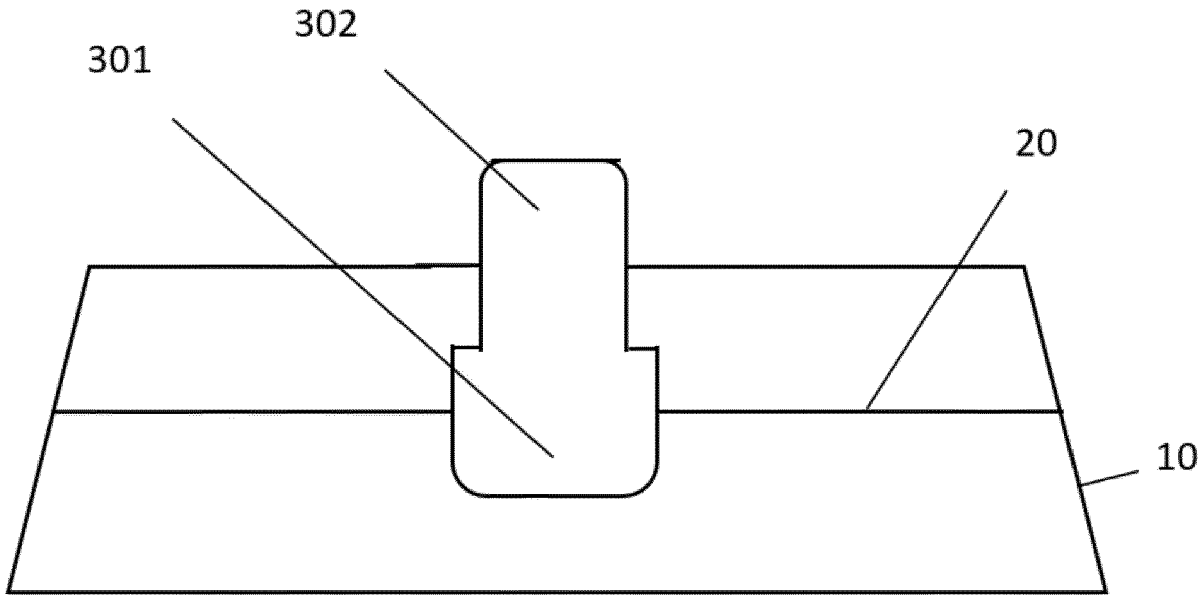

FIG. 2

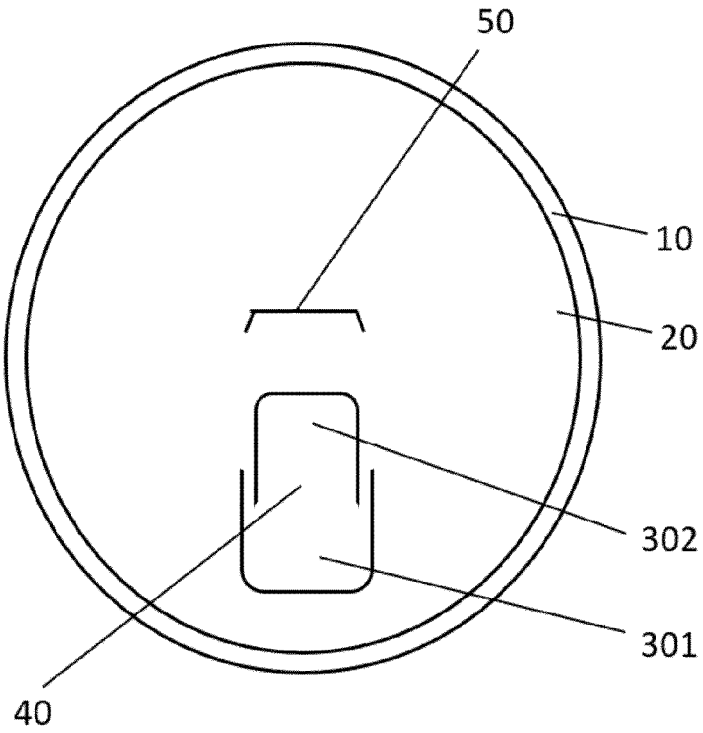

FIG. 3

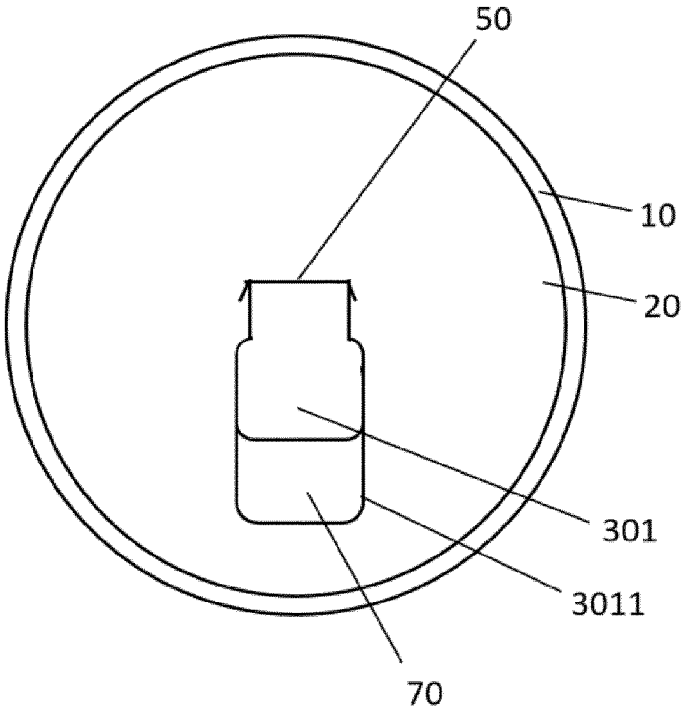

FIG. 4

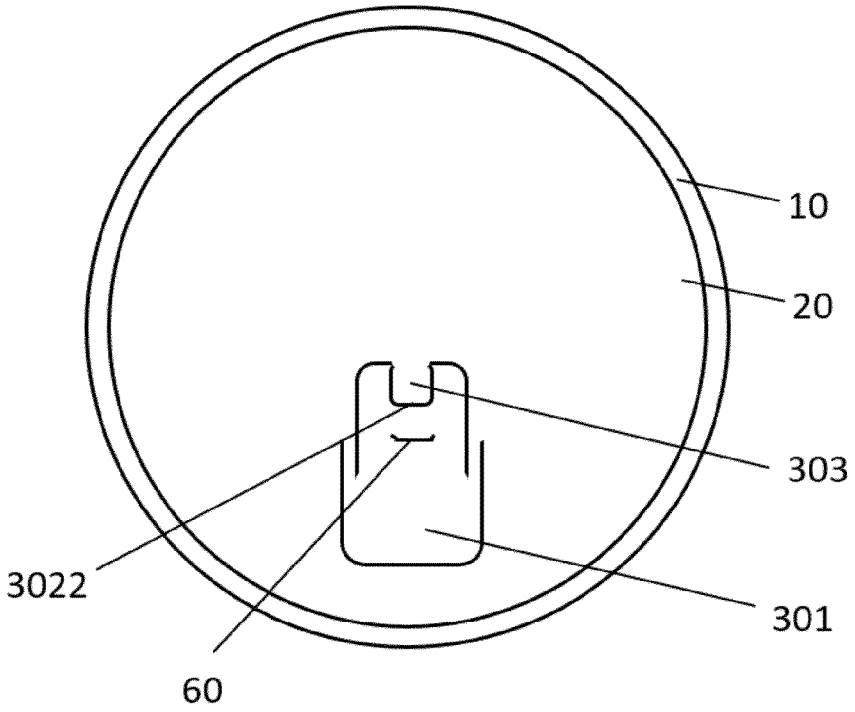

FIG. 5

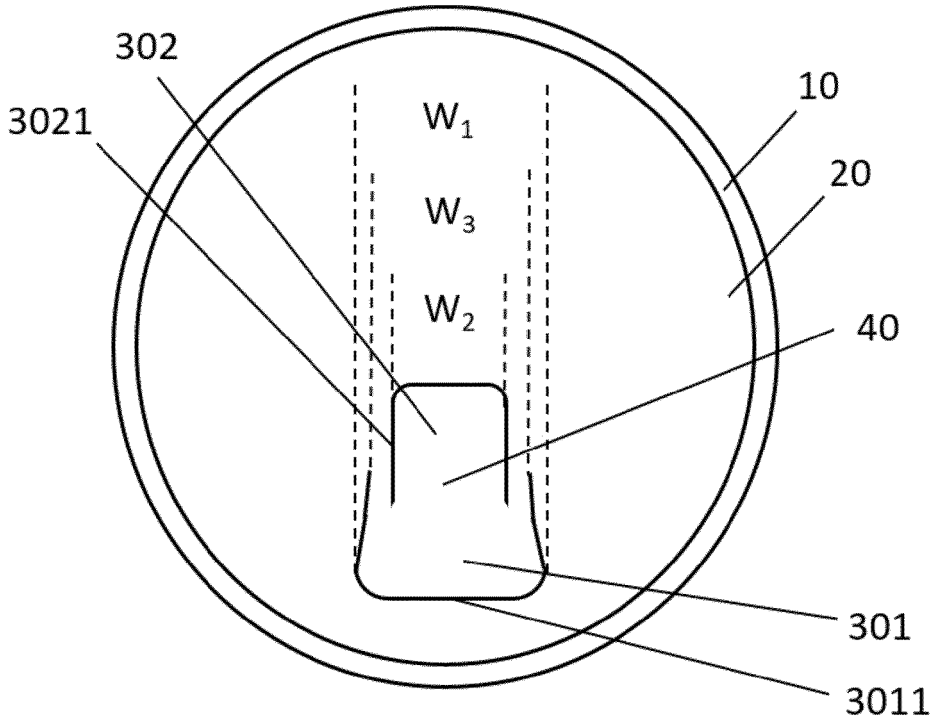

FIG. 6

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 21 19 0493

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 4 113 135 A (YAMAZAKI TAKAMITSU) 12 September 1978 (1978-09-12) * figure 8 * -----	1-10	INV. B65D43/02 B65D47/08
A	US 2019/337687 A1 (KLEINER ANDREAS [DE]) 7 November 2019 (2019-11-07) * figure 15 * -----	1-10	
A	US 3 927 794 A (ERDMAN FRANK H) 23 December 1975 (1975-12-23) * figures 2-4,8-10 * -----	1-10	
			TECHNICAL FIELDS SEARCHED (IPC)
			B65D

1 The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	20 January 2022	Sundell, Olli

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 21 19 0493

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

20-01-2022

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4113135 A	12-09-1978	NONE	
US 2019337687 A1	07-11-2019	DE 102015110773 A1	08-12-2016
		EP 3303162 A1	11-04-2018
		US 2018127167 A1	10-05-2018
		US 2019337687 A1	07-11-2019
		WO 2016193466 A1	08-12-2016
US 3927794 A	23-12-1975	CA 1017690 A	20-09-1977
		US 3927794 A	23-12-1975

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82