

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference PCT180102	FOR FURTHER ACTION		See item 4 below
International application No. PCT/KR2018/001433	International filing date (<i>day/month/year</i>) 02 February 2018 (02.02.2018)	Priority date (<i>day/month/year</i>) 21 September 2017 (21.09.2017)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant IPACK CO., LTD.			

<p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).</p> <p>2. This REPORT consists of a total of 8 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																								
<p>3. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> <p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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	Date of issuance of this report 24 March 2020 (24.03.2020)
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PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year)	18.06.2018
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Applicant's or agent's file reference
PCT180102

FOR FURTHER ACTION
See paragraph 2 below

International application No. PCT/KR2018/001433	International filing date (day/month/year) 02.02.2018	Priority date (day/month/year) 21.09.2017
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International Patent Classification (IPC) or both national classification and IPC
B65D1/08 (2006.01) i, B65D47/18 (2006.01) i, B65D1/32 (2006.01) i

Applicant
IPACK CO., LTD.

1. 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 under Rule 43bis.1(a)(i) 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 international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/KR	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

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Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - the international application in the language in which it was filed
 - a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

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International application No. PCT/KR2018/001433
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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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1. Statement			
Novelty (N)	Claims	1-5	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-5	NO
Industrial applicability (IA)	Claims	1-5	YES
	Claims	None	NO

2. Citations and explanations:	
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Reference is made to the following documents:

D1: JP 2005-145465 A (FANCL CORP.) 09 June 2005

D2: KR 10-1554189 B1 (YONWOO CO., LTD.) 21 September 2015

1. Novelty and Inventive Step

1.1. Independent Claim: Claim 1

D1, which is most relevant to the invention as set forth in claim 1, discloses an extrusion tube container for discharging a liquid content in a droplet shape, comprising: a tube body (2) made of a synthetic resin tube capable of extruding a liquid content by means of the pressurization; a mouth-to-neck part (3) including an integrated large barrel part (34) formed on a shoulder of one end of the tube body (2), wherein the large barrel part (34) includes an assembly space formed in the inside thereof, a medium barrel part (33) having a wide diameter is formed at a part connected with the assembly space at an upper end thereof, and a small barrel part (32) is

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

formed at a part connected with the outside; and a discharge relaxation valve (4) coupled with the inside of the large barrel part (34) of the mouth-to-neck part (3) so as to be opened when the tube body (2) is pressed and the inner pressure is increased, and to be closed when the pressurization is released (see paragraphs [0015], [0016], [0024] and [0025], and figures 1-6).

Claim 1 only differs from D1 in that an adjustment body has an adjustment hole having a diameter, which is gradually widened from a lower part to a discharging path so as to adjust a discharging amount of a liquid content within the tube body in an assembly space, thereby discharging same through the discharging path, and a valve body is sequentially assembled at a lower part of the adjustment body. However, the differences could be readily conceived of by a person skilled in the art from the features, disclosed in D2, of: a discharging amount adjustment part (300) which includes an inner side coupled with a tube neck (200) and has a discharging amount adjustment tube (310) which is gradually widened from a lower part to an upper part so as to adjust a discharging amount of a content when the content moves to the upper part (see claim 1 and figures 1 and 2); and the discharge relaxation valve (4), disclosed in D1, which is assembled at the lower side of the large barrel part (34) of the mouth-to-neck part (3) (see paragraph [0016] and figure 1).

Therefore, since the invention as set forth in claim 1 would be obvious from D1 and D2, the invention as set forth in claim 1 lacks an inventive step (PCT Article 33(3)).

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1.2. Dependent Claims: Claims 2-5

1.2.1. Claim 2

The additional feature set forth in claim 2 could be readily conceived of by a person skilled in the art from the features disclosed in D2 wherein a body has the width corresponding to the width of the inner side of the tube neck (200), a bottom surface is opened in the inside of the body such that a space part is formed, and the discharging amount adjustment tube (310), which has the small diameter from a lower part thereof and has the diameter gradually widened toward an upper part thereof, is formed in the spacer part (see figures 1 and 2). Therefore, since the invention as set forth in claim 2 would be obvious from D1 and D2, the invention as set forth in claim 2 lacks an inventive step (PCT Article 33(3)).

1.2.2. Claim 3

The additional feature set forth in claim 3 amounts to a design change which could be readily made, by a person skilled in the art, to the feature disclosed in D1 wherein the discharge relaxation valve (4) includes: a valve seat member (6) having a through-hole (61) formed at a small diameter part (62) protruding to an upper part thereof; and a valve member (5) which is arranged at an upper part of the valve seat member (6) so as to press the through-hole (61), thereby opening or closing same (see paragraphs [0017] and [0023], and figure 2).

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Therefore, since the invention as set forth in claim 3 would be obvious from D1 and D2, the invention as set forth in claim 3 lacks an inventive step (PCT Article 33(3)).

1.2.3. Claim 4

The additional feature set forth in claim 4 amounts to a design change which could be readily made, by a person skilled in the art, to the feature disclosed in D1 wherein the valve member (5) includes: an annular base part (53) inserted into an outer side of the small diameter part (62) of the valve seat member (6); and a valve plate (51) for opening or closing the through-hole (61) by means of the pressurization of the inner side of the annular base part (63), the annular base part (53) and the valve plate (51) being connected to each other by means of a plurality of vortex-shaped elastic pieces (521), and a plurality of discharging gaps (57) being formed among each vortex-shaped elastic piece (521), the valve plate (51) and the annular base part (53) (see paragraphs [0019] and [0025], and figures 2 and 3). Therefore, since the invention as set forth in claim 4 would be obvious from D1 and D2, the invention as set forth in claim 4 lacks an inventive step (PCT Article 33(3)).

1.2.4. Claim 5

The additional feature set forth in claim 5 is substantially the same as the feature disclosed in D1 wherein the valve seat member (6) is inserted into the

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

inside of the large barrel part (34) of the mouth-to-neck part (3) and is fixed by a protrusion part formed at an inner side of the large barrel part (34) (see figure 5). Therefore, since the invention as set forth in claim 5 would be obvious from D1 and D2, the invention as set forth in claim 5 lacks an inventive step (PCT Article 33(3)).

2. Industrial Applicability

The invention as set forth in claims 1-5 is industrially applicable (PCT Article 33(4)).