

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:
OWENS-ILLINOIS, INC.
ONE MICHAEL OWENS WAY, THREE O-I PLAZA
PERRYSBURG, OH 43551-2999
USA

Owens-Illinois, Inc.

DEC 02 2016

PCT

NOTIFICATION OF TRANSMITTAL OF
INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Rule 71.1)

Date of mailing
(day/month/year)

Applicant's or agent's file reference **Environmental and Intellectual Property**

19122 WO

IMPORTANT NOTIFICATION

International application No.

International filing date (day/month/year)

Priority date (day/month/year)

PCT/US15/66309

17 December 2015 (17.12.2015)

17 December 2014 (17.12.2014)

Applicant

OWENS-BROCKWAY GLASS CONTAINER, INC.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the *PCT Applicant's Guide*.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed invention is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the IPEA/ US

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Form PCT/IPEA/416 (January 2004)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 19122 WO	FOR FURTHER ACTION		See Form PCT/IPEA/416																								
International application No. PCT/US15/66309	International filing date (<i>day/month/year</i>) 17 December 2015 (17.12.2015)	Priority date (<i>day/month/year</i>) 17 December 2014 (17.12.2014)																									
International Patent Classification (IPC) or national classification and IPC IPC: C03B 9/353(2006.01) CPC: C03B 9/353																											
Applicant OWENS-BROCKWAY GLASS CONTAINER, INC.																											
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. ☐ (<i>sent to the applicant and to the International Bureau</i>) a total of <u>0</u> sheets, as follows: ☐ sheets of the description, claims and/or drawings which have been amended and/or sheets containing rectifications authorized by this Authority, unless those sheets were superseded or cancelled, and any accompanying letters (see Rules 46.5, 66.8, 70.16, 91.2, and Section 607 of the Administrative Instructions). ☐ sheets containing rectifications, where the decision was made by this Authority not to take them into account because they were not authorized by or notified to this Authority at the time when this Authority began to draw up this report, and any accompanying letters (Rules 66.4<i>bis</i>, 70.2(e), 70.16 and 91.2). ☐ superseded sheets and any accompanying letters, where this Authority either considers that the superseding sheets contain an amendment that goes beyond the disclosure in the international application as filed, or the superseding sheets were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in item 4 of Box No.I and the Supplemental Box (see Rule 70.16(b)). b. ☐ (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____ containing a sequence listing, in the form of an Annex C/ST.25 text file, as indicated in the Supplemental Box Relating to Sequence Listing (see paragraph 3<i>ter</i> of Annex C of the Administrative Instructions).																											
4. This report contains indications relating to the following items: <table style="width: 100%; border: none;"> <tr> <td style="width: 10%; text-align: center;">☒</td> <td style="width: 20%;">Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;">☒</td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>				☒	Box No. I	Basis of the report	☐	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 Article 35(2) with regard to novelty, inventive step and 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
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Date of submission of the demand 13 October 2016 (13.10.2016)		Date of completion of this report 27 October 2016 (27.10.2016)																									
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-8300		Authorized officer QUEENIE DEGHAN Telephone No. 571-272-1700																									

Form PCT/IPEA/409 (cover sheet) (January 2015)

Box No. I Basis of the report

1. With regard to the **language**, this report is based on:

- ☒ the international application in the language in which it was filed.
- ☐ a translation of the international application into English which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b)).
 - ☐ publication of the international application (Rule 12.4(a)).
 - ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a) and (b)).

2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- ☒ the international application as originally filed/furnished
- ☒ the description:
pages 1-8 as originally filed/furnished
pages* NONE received by this Authority on _____
pages* NONE received by this Authority on _____
- ☒ the claims:
Nos. 9-11 as originally filed/furnished
Nos.* NONE as amended (together with any statement) under Article 19
Nos.* NONE received by this Authority on _____
- ☒ the drawings:
pages 1/1 as originally filed/furnished
pages* NONE received by this Authority on _____
pages* NONE received by this Authority on _____

☐ a sequence listing - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since either they are considered to go beyond the disclosure as filed, or they were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in the Supplemental Box (Rules 70.2(c) and (c-bis)):

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____

5. ☐ This report has been established:

- ☐ taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rules 66.1(d-bis) and 70.2(e)).
- ☐ without taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rules 66.4bis) and 70.2(e)).

6. ☒ With regard to top-up searches (Rules 66.1ter and 70.2(f)):

- ☐ A top-up search was carried out by this Authority on _____
 - ☐ Additional relevant documents have been discovered during the top-up search.
- ☒ No top-up search was carried out by this Authority because it would serve no useful purpose.

7. ☐ Supplementary international search report(s) from Authority(ies) _____ has/have been received and taken into account in establishing this report (Rule 45bis.8(b) and (c)).

** If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US15/66309**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims <u>5-6</u>	YES
	Claims <u>1-4, 7-14</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-4, 7-14</u>	NO
Industrial Applicability (IA)	Claims <u>1-14</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and Explanations (Rule 70.7)
Please See Continuation Sheet

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

1. Claims 1-4 and 9-14 lack an inventive step under PCT Article 33(3) as being obvious over Jones (4,519,827) in view of Nebelung et al. (3,666,433). Regarding claim 1, Jones discloses a glassware forming apparatus comprising a glassware mold body including an exterior surface, a mold cavity having an interior mold surface (col. 2 lines 54-65), and a blind hole having a closed end, wherein the hole extends outwardly toward the exterior surface (col. 2 lines 67-68, col. 3 lines 1-7). Jones further discloses the closed end has a surface adjacent to and spaced outwardly from the interior mold surface (figures 1 and 2). Jones further teaches a hook portion that is carried by a moving means, i.e. a mold hanger, wherein the hook makes the mold body removable (col. 2 lines 58-61). Jones also teaches a light collector (lens 26 and optical guide 23) that is capable of collecting infrared light emitted within the blind hole (col. 3 lines 8-37). Furthermore, Jones discloses an infrared detecting device 22 capable of receiving infrared radiation for indicating the temperature of the mold (col. 3 lines 21-22, 31-37), which essentially is a pyrometer.

2. However, Jones does not disclose the light collector is carried by the mold hanger. Nebelung teaches a similar mold body comprising an exterior surface, a mold cavity having an interior mold surface and blind hole with a closed end. Like Jones, Nebelung teaches an apparatus for sensing temperature in the mold. Nebelung teaches one end of the

Supplemental Box

temperature sensor is inserted at the closed end of the hole and the other end of the sensor is coupled to the mold body by plug part 60. Nebelung also teaches a complimentary plug part 80 carried by the mold holder for receiving the mold mounted plug part 60 to provide an electrical connection for the sensor (col. 4 lines 60-75), wherein the mold holder is a hanger on which the mold body is removably carried (col. 6 lines 15-29) and is disposed at the outboard side of the mold body. Thus, the sensor continues from the mold body through the mold hanger in order to send the signal downstream to operate a control device 50 for maintaining a temperature of the mold (col. 6 lines 2-12). Accordingly, it would have been obvious to one of ordinary skill in the art to have modified the apparatus of Jones to have the light collector carried by the mold hanger to provide for a communication link between the light collector and infrared light signal, thereby providing feedback for controlling the mold temperature.

3. Regarding claim 2 and in further regards to claim 13, Jones further shows the mold body includes a longitudinally extending inboard axis, an inboard side, an outboard side, a lower end, and an upper end, and a hanger recess at the outboard side (see figures 1-3).

4. Regarding claims 3 and 14, Jones shows the blind hole extends radially with respect to the axis (figures 1 and 2).

5. Regarding claim 4, Jones shows the blind hole includes an open end in the outboard side of the mold body with the hanger recess (figures 1 and 2).

6. ones would be coupled to the hanger at an outboard end of the hanger through hole.

7. Regarding claim 9, Jones teaches the transmitter/emitter 20 is located within the mold body, wherein the light collector (optical fiber) is located on the outboard side of the mold body (col. 3 lines 26-31). Thus the light collector has a free end and is carried in such a manner that the free end does not extend into the blind hole of the mold body.

8. Regarding claim 10, Jones teaches the free end is substantially flushed with the and immediately adjacent the outboard side of the mold body (col. 3 lines 26-29). In applying the mold hanger with the hanger hole of Nebelung, the free end of the light collector would naturally be immediately adjacent the inboard surface of the inboard side of the hanger.

9. Regarding claims 11-12, Jones teaches the closed end surface of the blind hole is very close to the interior mold surface. Nebelung specifies the distance from the closed end to the interior mold surface is $\frac{3}{32}$ " of an inch (col. 4 lines 10-13), which is about 2.4mm. According to figure 3, the diameter of the blind hole appears be approximately 2mm and the ratio of the depth of the hole (the thickness of mold body 10 minus the spacing of $\frac{3}{32}$ " to the diameter of the blind hole appears to be greater than 4:1 (figure 3).

10. Claims 7-8 lack an inventive step under PCT Article 33(3) as being obvious over Jones (4,519,827) in view of Nebelung et al. (3,666,433) as applied to claim 1 above, and further in view of Chubb et al. (6,746,149). Jones teaches an emitter 20 and light collector, optical fiber 23, but does not disclose a light sapphire light pipe. Chubb teaches an emitter that emits infrared radiation coupled to a light pipe, wherein the light pipe can be an optical fiber. Chubb also teaches the light pipe can compose of sapphire or quartz (col. 2 lines 10-25). Accordingly, it would have been obvious to one of ordinary skill in the art to have employed a sapphire light pipe as the light collector in the apparatus of Jones and Nebelung, as Chubb teaches an optical fiber comprising sapphire serves as a successful light collector for infrared radiation.

Supplemental Box

----- NEW CITATIONS -----

US 4,519,827 (Jones) 28 May 1985

US 3,666,433 (Nebelung et al.) 8 July 1970

US 6,746,149 (Chubb et al.) 8 June 2004