

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: MATTHEW J MASON
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INTELLECTUAL PROPERTY DEPARTMENT
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CORNING, NY 14831

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year)

31 AUG 2018

Applicant's or agent's file reference
SP17-150

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/US 18/35693

International filing date (day/month/year)

01 June 2018 (01.06.2018)

Priority date (day/month/year)

06 June 2017 (06.06.2017)

International Patent Classification (IPC) or both national classification and IPC

IPC(8) - B65D 25/34 (2018.01)

CPC - A61J 1/065, A61J 1/1468, B32B 17/06

Applicant CORNING INCORPORATED

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 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

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/US
Mail Stop PCT, Attn: ISA/US
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Date of completion of this opinion

07 August 2018

Authorized officer

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US 18/35693

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 43*bis*.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 13*ter*.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 13*ter*.1(a)).
 - on paper or in the form of an image file (Rule 13*ter*.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:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US 18/35693

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. Statement

Novelty (N)	Claims	<u>1-20</u>	YES
	Claims	<u>none</u>	NO
Inventive step (IS)	Claims	<u>1-20</u>	YES
	Claims	<u>none</u>	NO
Industrial applicability (IA)	Claims	<u>1-20</u>	YES
	Claims	<u>none</u>	NO

2. Citations and explanations:

Claims 1-20 meet the criteria set out in PCT Article 33(2)-(3) because the prior art does not teach or fairly suggest the subject matter claimed.

Regarding claim 1, US 5,573,564 A (Richards) discloses a method for reconditioning a glass manufacturing system (abstract - a glass melting method is disclosed; col 10, ln 31-35 - vessel may be emptied via a drain for servicing [broadly interpreted as reconditioning]) comprising: establishing a reducing atmosphere in a glass melting vessel (col 3, ln 19-32 - a reducing atmosphere in the vessel prevents oxidation of the [metal] impeller), and draining a glass melt composition from the glass melting vessel (col 10, ln 31-35 - vessel may be emptied via a drain for servicing). operating at least one combustion burner in the glass melting vessel (abstract - gas burner may be used to heat the glass melt). Richards fails to disclose draining a glass melt composition from the glass melting vessel while the reducing atmosphere is in the glass melting vessel; wherein a pressure of the reducing atmosphere in the glass melting vessel is greater than a pressure of an atmosphere surrounding the glass melting vessel; and wherein the establishing the reducing atmosphere in the glass melting vessel comprises operating at least one combustion burner in the glass melting vessel in a fuel-rich condition.

US 2,455,907 A (Slayter) discloses a glass melter operates under positive [greater than atmospheric] pressure in order to discharge the molten glass (col 2, ln 4-12); combustion burners are used in the melter (col 4, ln 57-61). Slayter fails to disclose draining a glass melt composition from the glass melting vessel while the reducing atmosphere is in the glass melting vessel; wherein the establishing the reducing atmosphere in the glass melting vessel comprises operating at least one combustion burner in the glass melting vessel in a fuel-rich condition.

US 2010/0313604 A1 to Watson et al. (hereinafter 'Watson') discloses a glass-making furnace (para [0049]) wherein an oxy-fuel burner may be operated to form either an oxidizing or reducing atmosphere (abstract) including a fuel rich-mode (para [0067]). Watson fails to disclose draining a glass melt composition from the glass melting vessel while the reducing atmosphere is in the glass melting vessel. Therefore the prior art of record does not teach or fairly suggest the subject matter claimed. Specifically, none of the prior art, alone or in combination, teaches or fairly suggests draining a glass melt composition from the glass melting vessel while the reducing atmosphere is in the glass melting vessel.

Regarding claims 2-20, these are dependent claims depending from claim 1 and therefore, meet the criteria set out in PCT Article 33(2)-(3).

Claims 1-20 have industrial applicability as defined by PCT Article 33(4), because the subject matter can be made or used in industry.