

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43*bis*.1)

To: RIDOUT & MAYBEE LLP 250 University Avenue 5TH Floor TORONTO, Ontario Canada, M5H 3E5

Date of mailing (day/month/year)	19 November 2015 (19-11-2015)
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Applicant's or agent's file reference 32342-3086	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/CA2015/050923	International filing date (day/month/year) 21 September 2015 (21-09-2015)	Priority date (day/month/year) 21 September 2014 (21-09-2014)
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International Patent Classification (IPC) or both national classification and IPC IPC: B01J 2/04 (2006.01)
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Applicant HATCH 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 43<i>bis</i>.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 66.1<i>bis</i>(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.
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Name and mailing address of the ISA/CA Canadian Intellectual Property Office Place du Portage I, C114 - 1st Floor, Box PCT 50 Victoria Street Gatineau, Quebec K1A 0C9 Facsimile No.: 001-819-953-2476	Date of completion of this opinion 18 November 2015 (18-11-2015)	Authorized officer Nancy McMartin (819) 934-3598
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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/CA2015/050923

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 in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

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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																								
1. Statement	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; vertical-align: top;">Novelty (N)</td> <td style="width: 40%; vertical-align: top;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Claims</td> <td style="width: 20%;">1-31</td> <td style="width: 70%; text-align: right;">YES</td> </tr> <tr> <td>Claims</td> <td>none</td> <td style="text-align: right;">NO</td> </tr> </table> </td> </tr> <tr> <td style="vertical-align: top;">Inventive step (IS)</td> <td style="vertical-align: top;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Claims</td> <td style="width: 20%;">1-31</td> <td style="width: 70%; text-align: right;">YES</td> </tr> <tr> <td>Claims</td> <td>none</td> <td style="text-align: right;">NO</td> </tr> </table> </td> </tr> <tr> <td style="vertical-align: top;">Industrial applicability (IA)</td> <td style="vertical-align: top;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Claims</td> <td style="width: 20%;">1-31</td> <td style="width: 70%; text-align: right;">YES</td> </tr> <tr> <td>Claims</td> <td>none</td> <td style="text-align: right;">NO</td> </tr> </table> </td> </tr> </table>	Novelty (N)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Claims</td> <td style="width: 20%;">1-31</td> <td style="width: 70%; text-align: right;">YES</td> </tr> <tr> <td>Claims</td> <td>none</td> <td style="text-align: right;">NO</td> </tr> </table>	Claims	1-31	YES	Claims	none	NO	Inventive step (IS)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Claims</td> <td style="width: 20%;">1-31</td> <td style="width: 70%; text-align: right;">YES</td> </tr> <tr> <td>Claims</td> <td>none</td> <td style="text-align: right;">NO</td> </tr> </table>	Claims	1-31	YES	Claims	none	NO	Industrial applicability (IA)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Claims</td> <td style="width: 20%;">1-31</td> <td style="width: 70%; text-align: right;">YES</td> </tr> <tr> <td>Claims</td> <td>none</td> <td style="text-align: right;">NO</td> </tr> </table>	Claims	1-31	YES	Claims	none	NO
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2. Citations and explanations:	Reference is made to the following document: D1: US 4,385,878 Claims 1-31 are novel and therefore comply with PCT Article 33(2). Claims 1-31 involve an inventive step and therefore comply with PCT Article 33(3). Document D1 is considered to represent the closest prior art. Document D1 discloses an apparatus for manufacturing a metal powder by granulation of a metal melt. Molten metal passes through one or more tap holes down into a granulating (dispersion) section in a housing to form a tap stream. A gas jet from a nozzle intersects the tap stream (gas contacts the molten metal) such that droplets and powder are formed (whereby the molten material is dispersed and solidified by contact with the gas to form a granular product) (abstract; col. 2, lines 44-59). The apparatus can be used for granulation of all types of metallic material (col. 1, lines 19-21). The powder (product formed) should have a low oxygen content when a pure gas with a low oxygen content or a low content of other detrimental substances is used for granulation (col. 1, lines 40-52). The subject matter of claims 1-31 is novel and inventive due to the use of off-gas for atomization. D1 discloses the use of pure nitrogen or pure inert gas for atomization (col. 1, lines 50-51). The subject matter of claims 1-31 is considered to be industrially applicable and thus complies with the requirements of PCT Article 33(4).																								

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 7 does not comply with PCT Article 6. This claim is unclear. The following expression lacks a proper antecedent basis: “the furnace cooling system”.

Claim 18 does not comply with PCT Article 6. This claim is unclear. The following expression lacks a proper antecedent basis: “the gaseous organic species”.