

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

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

To:

see form PCT/ISA/220

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference see form PCT/ISA/220	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/UA2010/000089	International filing date (day/month/year) 25.11.2010	Priority date (day/month/year) 04.11.2010
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International Patent Classification (IPC) or both national classification and IPC
INV. C21C5/48 F27D3/16 B22D1/00

Applicant
SHEMIGON, Mikhail Vladimirovich

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*bis*.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 usually 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*bis*(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.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:  European Patent Office P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Fax: +31 70 340 - 3016	Date of completion of this opinion see form PCT/ISA/210	Authorized Officer Ceulemans, Judy Telephone No. +31 70 340-3157
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Box No. I Basis of the 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 filed or furnished:
 - a. (means)
 - on paper
 - in electronic form
 - b. (time)
 - in the international application as filed
 - together with the international application in electronic form
 - subsequently to this Authority for the purposes of search
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:

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)	Yes: Claims	<u>1-7</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	<u>1-7</u>
	No: Claims	
Industrial applicability (IA)	Yes: Claims	<u>1-7</u>
	No: Claims	

2. Citations and explanations

see separate sheet

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:

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents :

- D1 UA 35 356 U 10 September 2008 (2008-09-10), cited in the application
- D2 US 2002/153645 A1 (ABRINO DONALD E [US] ET AL) 24 October 2002 (2002-10-24)
- D3 JP 2000 282129 A (NIPPON KOKAN KK) 10 October 2000 (2000-10-10)
- D4 JP 60 002615 A (NISSHIN STEEL CO LTD; ASAHI GLASS CO LTD) 8 January 1985 (1985-01-08)

D1 is regarded as being the prior art closest to the subject-matter of claim 1, and discloses a section for processing liquid metal with gases, produced from individual elements, contracted with a wire, between which capillary opening for gas outlet (6) are situated, the capillary openings for gas outlet are formed by protrusions (5) on at least one side of the elements. The elements are embedded as one set into the bottom of a furnace for treating molten metal, surrounded by a (ceramic) filler.

The subject-matter of claim 1 therefore differs from this known section in that through holes are foreseen at a distance from the top of the section and the coupler is designed as a mounting rod which is located in this hole. Therefore the subject matter is new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as how to improve the reliability of the mounting of the section while at the same time safeguarding the gas permeability.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons : D2 (paragraph [0044]; figures 2-3,8) as well as D3 (abstract) show alternative solutions to D1 wherein either by means of a metal strip or by an interlocking geometry and a clamping device the set of stones is mounted. The strip would have the same problems as the wire of D1 whereas the solution of D3 only provides for a temporary fixation of the set of bricks. Hence, the solution of claim 1 is neither suggested nor made obvious by any of the prior art documents. Therefore, the subject matter of claim 1 is considered inventive (Art.33(3) PCT).

Claims 2-7 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

Re Item VII

Certain defects in the international application

It seems that the Ukrainian Patent referred to on page 1, lines 25-26, is a utility model which should be referenced as UA 35356 U.

Re Item VIII

Certain observations on the international application

- Independent claim 1 is not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art D1 being placed in the preamble (Rule 6.3(b)(i) PCT) and the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
- The dependent claims should be redrafted by referring to any of previous claims, not "p.", and by stating the further technical features, not by "is different because" but rather by "having ...", "wherein ...", etc.
- The indication "AHF" in claim 3 has no general meaning and has not been described further in the application. Therefore it has to be removed.