PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT2932639

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
REBEI BEL FDHILA	06/12/2014
JAN-ERIK ERIKSSON	05/23/2014
OLOF HJORTSTAM	05/23/2014
MOHAMED ALI RAHMANI	06/18/2014
SHIVA SANDER-TAVALLAEY	06/13/2014
OLA WIDLUND	05/27/2014
HONGLIANG YANG	05/22/2014
XIAOJING ZHANG	06/11/2014

RECEIVING PARTY DATA

Name:	ABB RESEARCH LTD.		
Street Address:	AFFOLTERNSTRASSE 44		
City:	CH-8050 ZURICH		
State/Country:	SWITZERLAND		

PROPERTY NUMBERS Total: 1

Property Type	Number				
Application Number:	14323671				

CORRESPONDENCE DATA

Fax Number: (203)327-1096

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 203-324-6155
Email: abryce@ssjr.com

Correspondent Name: WESLEY W. WHITMYER JR. Address Line 1: 986 BEDFORD STREET

Address Line 4: STAMFORD, CONNECTICUT 06905

ATTORNEY DOCKET NUMBER:	04189-P0179A
NAME OF SUBMITTER:	WESLEY W. WHITMYER JR.
SIGNATURE:	/Wesley W. Whitmyer Jr/
DATE SIGNED:	07/10/2014

Total Attachments: 10

Assignment

WHEREAS, We, the undersigned inventors, have made certain inventions or discoveries (or both) as set forth in an application for Letters Patent of the United States of America, entitled **Method For Melting Steel**, bearing U.S. Patent Application No. 14/323,671 and filed on July 3, 2014;

WHEREAS, ABB Research Ltd., a company organized and existing under the laws of Switzerland, and having an office and place of business at Affolternstrasse 44; CH-8050 Zurich, Switzerland, and, together with its successors and assigns is hereinafter called "Assignee", and is desirous of acquiring the title, rights, benefits and privileges hereinafter recited;

NOW THEREFORE, for valuable consideration furnished by Assignee to us, receipt and sufficiency of which we hereby acknowledge, we hereby, without reservation:

- 1. Assign, transfer and convey to Assignee the entire right, title and interest in and to said inventions and discoveries, said application for Letters Patent of the United States of America, any and all other applications for Letters Patent on said inventions and discoveries in any and all countries, including all divisional, renewal, substitute, continuation and convention applications based in whole or in part upon said inventions or discoveries, or upon said applications, and any and all Letters Patent, reissues and extensions of Letters Patent granted for said inventions and discoveries or upon said applications, and every priority right that is or may be predicated upon or arise from said inventions, said discoveries, said applications and said Letters Patent;
- 2. Authorize Assignee to file patent applications in any or all countries on any or all of said inventions and discoveries in our names or in the name of Assignee or otherwise as Assignee may deem advisable, under the International Convention or otherwise;
- 3. Authorize and request the Commissioner of Patents of the United States of America and the empowered officials of all other governments to issue or transfer all said Letters Patents to Assignee, as assignee of the entire right, title and interest therein or otherwise as Assignee may direct;
- 4. Warrant that we have not knowingly conveyed to others any right in said inventions, discoveries, applications or patents or any license to use the same or to make, use or sell anything embodying or utilizing any of said inventions or discoveries; and that we have good right to assign the same to Assignee without encumbrance;
- 5. Bind our heirs, legal representatives and assigns, as well as ourselves, to do, upon Assignee's request and at Assignee's expense, but without additional consideration to us or them, all acts reasonably serving to assure that said inventions and discoveries, said patent applications and said Letters Patent shall be held and enjoyed by Assignee as fully and entirely as the same could have been held and enjoyed by us, our heirs, legal representatives and assigns if this assignment had not been made; and particularly to execute and deliver to Assignee all lawful application

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documents, including petitions, specifications, and oaths, and all assignments, disclaimers, and lawful affidavits in form and substance as may be requested by Assignee; to communicate to Assignee all facts known to us relating to said inventions and discoveries or the history thereof; and to furnish Assignee with any and all documents, photographs, models, samples and other physical exhibits in our control or in the control of our heirs, legal representatives or assigns, which may be useful for establishing the facts of our conceptions, disclosures, and reduction to practice of said inventions and discoveries.

IN WITNESS WHEREOF, we, Rebei Bel Fdhila, Jan-Erik Eriksson, Olof Hjortstam, Mohamed Ali Rahmani, Shiva Sander-Tavallaey, Ola Widlund, Hongliang Yang, and Xiaojing Zhang, have hereunto set our hands and signed our names.

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<u>2014 - 06- 12</u> Date

Rebei Bel Fdhita

Synalsvagen 5

S-724 76 Vasteras, Sweden

Declaration of Witness

I declare that I was personally present and did see Rebei Bel Fdhila, who is personally known to me to be the person named in this assignment, duly sign and execute the same.

Declared at Vasteras on 2014-06-12

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Jan-Esik-Effksson

Egilsvagen 60

S-723 55 Vasteras, Sweden

Declaration of Witness

I declare that I was personally present and did see Jan-Erik Eriksson, who is personally known to me to be the person named in this assignment, duly sign and Declared at Vasteras on 2014-05-23

Signature of Witness execute the same.

Beng + Rydho/m Name of Witness

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May 23 - 2014

Date

Olof Hjortstam Tortuna Kolsta 10

S-725 93 Vasteras, Sweden

Declaration of Witness

I declare that I was personally present and did see Olof Hjortstam, who is personally known to me to be the person named in this assignment, duly sign and execute the same.

June Granberg Christerson
Name of Witness Declared at Västeras

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<u>8014 - 06 - 49</u>
Date

Mohamed Ali Rahmani Bomansgatan 26D 722 20 Vasteras, Sweden

Declaration of Witness

I declare that I was personally present and did see Mohamed Ali Rahmani, who is personally known to me to be the person named in this assignment, duly sign and execute the same.

Declared at Vaste's

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Signature of Witness

Name of Witness

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13/6-20F1 Date

Shiva Sander-Tavakeey Sandbrovagen 40

SE-183 30 Taby, Sweden

Declaration of Witness

I declare that I was personally present and did see Shiva Sander-Tavallaey, who is personally known to me to be the person named in this assignment, duly sign and execute the same.

Declared at Vasteras, on 2014-08

Signature of Witness

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<u>2014-05-27</u>

Ola Widlund Klubbacken 36 129 39 Hagersten, Sweden

Declaration of Witness

I declare that I was personally present and did see Ola Widlund, who is personally known to me to be the person named in this assignment, duly sign and execute the same.

Declared at Stockholm on 2014-05-27.

Signature of Witness

Name of Witness

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2019	-05	 2	2		
Date		 			

Hongliang Yang Logportsvägen 10 S-72482 Västerås, Sweden

Declaration of Witness

I declare that I was personally present and did see Hongliang Yang, who is personally known to me to be the person named in this assignment, duly sign and execute the same.

Declared at	Västeräs	on <u>2014-05-2</u> , 3
		Hoiming 410
		Signature of Witness
		Haiming He
		Name of Witness

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Declared at Västras

Fyrbaksvagen 8, lgh 27 S-722 10 Vasteras, Sweden

Declaration of Witness

I declare that I was personally present and did see Xiaojing Zhang, who is personally known to me to be the person named in this assignment, duly sign and execute the same.

signature/of Witness
Hassan Hassain Nia

PATENT REEL: 033284 FRAME: 0819

RECORDED: 07/10/2014