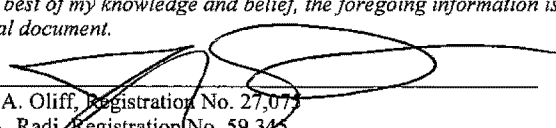


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Please record the attached document.					
Total number of pages including cover sheet, attachments, and document: <u>3</u>					
1. A. Name of conveying parties: <div style="margin-left: 40px;"> [1] Satoshi KINOSHIRO [2] Toshiyuki ITO [3] Ryo KAWABATA [4] Toshiro ISHIGE [5] Kyoko FUJIMOTO [6] Masao INOSE </div> B. Additional name(s) of conveying party(ies) attached? <div style="text-align: right;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </div>			2. A. Name and address of receiving party: <div style="margin-left: 40px;"> JFE STEEL CORPORATION 2-3, UCHISAIWAI-CHO 2-CHOME, CHIYODA-KU, TOKYO 100-0011 JAPAN </div> B. Additional name(s) & address(es) attached? <div style="text-align: right;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </div>		
3. A. Nature of conveyance: <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Security Agreement <input type="checkbox"/> Other _____ </div> <div> <input type="checkbox"/> Merger <input type="checkbox"/> Change of Name </div> </div> B. Execution Date: <u>[1 & 6] 11/07/2013;</u> <u>[2-4] 11/11/2013; [5] 11/14/2013</u>					
4. A. Patent Application No. <u>14/123,688</u>					
B. Patent No. _____					
Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
C. Title of Application: <u>MOLTEN STEEL DESULFURIZATION METHOD, MOLTEN STEEL</u> <u>SECONDARY REFINING METHOD, AND MOLTEN STEEL MANUFACTURING</u> <u>METHOD</u>					
5. Name and address of party to whom correspondence concerning document should be mailed: Name: <u>James A. Oliff</u> Address: OLIFF & BERRIDGE, PLC P.O. Box 320850 Alexandria, VA 22320-4850 Phone Number: 703-836-6400 Fax Number: 703-836-2787 Email: email@oliff.com			6. Total number of applications and patents involved: <u>1</u>		
			7. Please charge Deposit Account No. 15-0461 the total fee (37 CFR 3.41) in the amount of <u>\$40.00</u> .		
			8. Credit any overpayment or charge any underpayment to deposit account number 15-0461.		
9. Statement and signature. <i>To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.</i>					
 _____ James A. Oliff, Registration No. 27,077 John A. Radi, Registration No. 59,345				Date: <u>December 3, 2013</u>	

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ASSIGNMENT

	Insert	(1)	Satoshi KINOSHIRO	(2)	Toshiyuki ITO
(1-8)	Legal Name(s)	(3)	Ryo KAWABATA	(4)	Toshiro ISHIGE
	of Inventor(s)	(5)	Kyoko FUJIMOTO	(6)	Masao INOSE
		(7)		(8)	

In consideration of the sum of one dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, the receipt and sufficiency of which are hereby acknowledged, each undersigned agrees to assign, and hereby does assign, transfer and set over to

(9)	Insert Name of Assignee	(9)	JFE STEEL CORPORATION
(10)	Insert Address of Assignee	(10)	2-3, Uchisaiwai-cho 2-chome, Chiyoda-ku, Tokyo 100-0011 Japan

(hereinafter designated as the Assignee) and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest for the United States of America as defined in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all provisional, non-provisional, divisional, continuation, international, substitute and reissue application(s), and all Letters Patent, extensions, reissues and reexamination certificates that may be granted on the invention known as

(11)	Insert Identification such as Title, Case Number, or Foreign Application Number	(11)	MOLTEN STEEL DESULFURIZATION METHOD, MOLTEN STEEL SECONDARY REFINING METHOD, AND MOLTEN STEEL MANUFACTURING METHOD
			(Attorney Docket No. 159256), filed on even date herewith or as

(12)	Alternative Identification for filed applications	(12)	U.S. Application Number <u>14/123,688</u>
			filed <u>December 3, 2013</u>

1) Each undersigned agrees to execute all papers necessary in connection with any application and/or patent for the invention and also to execute separate assignments in connection with such applications and patents as the Assignee may deem necessary.

2) Each undersigned agrees to execute all papers necessary in connection with any interference or post-grant proceeding which may be declared concerning any application or patent for the invention and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference or post-grant proceeding.

3) Each undersigned agrees to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

4) Each undersigned agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to the Assignee.

5) Each undersigned authorizes and requests the Commissioner of the U.S. Patent and Trademark Office to issue any and all patents resulting from said application(s) to the said Assignee, as Assignee of the entire interest, and covenants that he or she has full right to convey the entire interest herein assigned, and that he or she has not executed, and will not execute, any agreement(s) in conflict herewith, and agrees that this assignment is binding on Assignor and Assignor's heirs, successors, assigns and legal representatives.

6) Each undersigned hereby grants the firm of **OLIFF & BERRIDGE, PLC** the power to insert on this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date	<u>November 7, 2013</u>	Inventor Signature	<u>Satoshi Kinoshiro</u>	(SEAL)
Date	<u>November 11, 2013</u>	Inventor Signature	<u>Toshiyuki Ito</u>	(SEAL)
Date	<u>November 11, 2013</u>	Inventor Signature	<u>Ryo Kawabata</u>	(SEAL)
Date	<u>November 11, 2013</u>	Inventor Signature	<u>Toshino Ishige</u>	(SEAL)
Date	<u>November 14, 2013</u>	Inventor Signature	<u>Kyoko Fujimoto</u>	(SEAL)
Date	<u>November 7, 2013</u>	Inventor Signature	<u>Masao Inose</u>	(SEAL)
Date		Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

Date	<u>November 15, 2013</u>	Witness	<u>Keiji Sugawara</u>
			<u>Keiji SUGAWARA</u>

PATENT

REEL: 031864 FRAME: 0738

Date November 18, 2013

Witness Kazuhiko Mori
Kazuhiko MORI