

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5587696

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
HAJIME MOMOI	09/09/2015
SATORU MORIOKA	09/10/2015
TOSHIYUKI ONO	09/16/2015
HIDETA ARAI	09/11/2015
RYO FUKUCHI	09/11/2015
ATSUSHI MIKI	09/11/2015
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	JX NIPPON MINING & METALS CORPORATION
<b>Street Address:</b>	1-2, OTEMACHI 1-CHOME, CHIYODA-KU
<b>City:</b>	TOKYO
<b>State/Country:</b>	JAPAN
<b>Postal Code:</b>	1008164
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15634853
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(215)988-2757
<i>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.</i>	
<b>Phone:</b>	215.988.3303
<b>Email:</b>	laura.mcneely@dbr.com
<b>Correspondent Name:</b>	DRINKER BIDDLE & REATH LLP
<b>Address Line 1:</b>	ONE LOGAN SQUARE, SUITE 2000
<b>Address Line 4:</b>	PHILADELPHIA, PENNSYLVANIA 19103-6996
<b>ATTORNEY DOCKET NUMBER:</b>	035706-0354-01-US-564598
<b>NAME OF SUBMITTER:</b>	ROBERT E. CANNUSCIO
<b>SIGNATURE:</b>	/Robert E. Cannuscio/
<b>DATE SIGNED:</b>	06/24/2019
<b>Total Attachments: 3</b>	

source=Assignment#page1.tif  
source=Assignment#page2.tif  
source=Assignment#page3.tif

## ASSIGNMENT

Application No.: 14/919,357

Filed: 10/21/2015

Title: COPPER HEAT DISSIPATION MATERIAL, CARRIER-ATTACHED COPPER FOIL, CONNECTOR, TERMINAL, LAMINATE, SHIELD MATERIAL, PRINTED-WIRING BOARD, METAL PROCESSED MEMBER, ELECTRONIC DEVICE AND METHOD FOR MANUFACTURING THE PRINTED WIRING BOARD

For good and valuable consideration, the receipt and sufficiency of which are hereby agreed, the undersigned hereby assigns to *JX Nippon Mining & Metals Corporation*, 1-2, Otemachi 1-chome, Chiyoda-ku, Tokyo 1008164 Japan and its successors and assigns ("Assignee") the entire right, title and interest in and to the inventions of such undersigned disclosed in the application listed above, and in any and all other applications anywhere in the world which the undersigned may file and/or be named as an inventor of, solely or jointly, on said inventions, in any and all patents which may be obtained on any of said applications and in any and all reissues, reexaminations, supplemental examinations, inter partes reviews, oppositions, post-grant reviews, supplementary protection certificates and/or extensions thereof, including without limitation, the right to bring suit and to claim and retain all damages and/or seek other remedies for the past, present and future infringement of any of the foregoing, the right of priority, including without limitation to claim priority benefit of or to said patent applications, and request the Commissioner for Patents in the United States and similar authorities outside the United States to issue said patents to and in the name of the Assignee.

The undersigned authorizes the attorneys of record in the application listed above to insert in this assignment the filing date and application number of the application listed above when officially known.

The undersigned states that the application listed above is or was made or authorized to be made by himself. The undersigned believes himself to be the original inventor of a claimed invention in the application listed above. The undersigned acknowledges that any willful false statement made by him in this paragraph is punishable under 18 U.S.C. §1001 by fine or imprisonment of not more than five years, or both.

Except in favor of Assignee, the undersigned warrants that: (i) he is the owner of all its rights, title and interests herein assigned and has the right to make this unconditional and irrevocable assignment to Assignee without obtaining any approval or permission of a third party; and (ii) there are no outstanding encumbrances, liens, prior assignments, licenses, or other obligations or restrictions on the rights, title and interests herein assigned.

Upon the request of Assignee and at no expense to the undersigned, the undersigned hereby agrees to execute any and all applications on said inventions, including without limitation for the reissue, reexamination, supplementary protection certificate or extension thereof and any oath, declaration or affidavit relating thereto that said Assignee may deem necessary or expedient, and to cooperate to the best of the ability of the undersigned with and perform any and all affirmative acts requested by Assignee to prepare, file, prosecute, maintain, defend, enforce and vest in Assignee the rights, title and interests assigned herein, including without limitation, preparing and executing statements and giving and producing evidence in support thereof, whereby said rights, title and interests will be held and enjoyed by said Assignee to the full end of the term for which said patents may be granted as fully and entirely as the same would have been held and enjoyed by the undersigned if this assignment had not been made.

On behalf of Assignee,  
JX Nippon Mining &  
Metals Corporation


Shigeru OI

Name

President, JX Nippon Mining & Metals Corporation

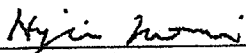
Title

hereby confirms Assignee's acceptance of all rights, privileges, title and interests conveyed by this assignment.

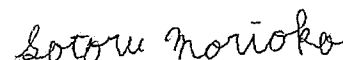
  
Signature

Sep 18, 2015  
Date


Date: 2015/9/9

  
Hajime MOMOI

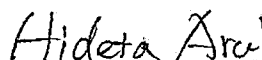
Date: 2015/9/10

  
Satoru MORIOKA

Date: 2016/9/16

  
Toshiyuki ONO

Date: Sep. 11. 2015

  
Hideta ARAI

Date: Sep. 11. 2015

Ryo Fukuchi  
Ryo FUKUCHI

Date: Sep. 11. 2015

Atsushi Miki  
Atsushi MIKI