504262054 03/08/2017

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:NEW ASSIGNMENTNATURE OF CONVEYANCE:ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YUMA KAWAKAMI	02/28/2017
YOSHIJI SATO	02/28/2017
RYUSEI HAMADA	02/28/2017

RECEIVING PARTY DATA

Name: SUMITOMO ELECTRIC HARDMETAL CORP.					
Street Address:	1-1, KOYAKITA 1-CHOME				
City:	ITAMI-SHI, HYOGO				
State/Country:	JAPAN				
Postal Code:	664-0016				

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	29596415	

CORRESPONDENCE DATA

Fax Number: (202)344-8300

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.

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Email: ptomail@venable.com, kxm01@Venable.com

Correspondent Name: VENABLE LLP **Address Line 1:** P.O. BOX 34385

Address Line 4: WASHINGTON, D.C. 20043-9998

ATTORNEY DOCKET NUMBER:	092396.413879
NAME OF SUBMITTER:	KAILIE R. MACKEVERICAN
SIGNATURE:	/Kailie R. MacKeverican/
DATE SIGNED:	03/08/2017

Total Attachments: 4

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PATENT 504262054 REEL: 041504 FRAME: 0058

ATTORNEY	DOCKET	NO.

UNITED STATES PATENT RIGHTS, OR UNITED STATES PLUS ALL FOREIGN PATENT RIGHTS

ASSIGNMENT

		Application No.	Filed
Insert Name(s) of Inventor(s)	500¢	WHEREAS,	Yuma KAWAKAMI, Yoshiji SATO and Ryusei HAMADA

Insert Title of Invention	555	(hereinafter designated) DRILL HEAD	ted as the undersigned) has (have) invented certain new and useful improvements in
Insert Date of		for which an applic undersigned (except	ation for Letters Patent of the United States of America has been executed by the in the case of a provisional application).
Signing of Application	sssþ	on Februa	ry 28, 2017 ; and
Insert Name of Assignee	888	***************************************	SUMITOMO ELECTRIC HARDMETAL CORP.
vi Assignee			
Insert Address of Assignee	2000	of <u>1-1, Koy</u> a	akita l-chome, Itami-shi, Hyogo 664-0016 Japan
		<u> </u>	
	,		
CHECK BOX F APPROPRIATE	800	desirous of acquiri	rs, legal representatives and assigns (hereinafter designated as the Assignee) is ing the entire right, title and interest in and to said invention and in and to any that may be granted therefor in the United States of America and oreign countries.
		hand paid, the rece the undersigned ha and transfer unto s of America, its terri to any and all Lette	FORE, in consideration of the sum of Ten Dollars (\$10.00) to the undersigned in sipt of which is hereby acknowledged, and other good and valuable consideration, is (have) sold, assigned and transferred, and by these presents does sell, assign aid Assignee the full and exclusive right to the said invention in the United States itories, dependencies and possessions and the entire right, title and interest in and ers Patent(s) which may be granted therefor in the United States of America, its encies and possessions, and if the box above is designated, in any and all foreign
		and to any and all o term or terms for w	divisions, reissues, continuations, conversions and extensions thereof for the full

PATENT REEL: 041504 FRAME: 0059 The undersigned agree(s) to execute all papers necessary in connection with this application and any continuing, divisional, conversion or reissue applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

The undersigned agree(s) to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation, division, conversion or reissue thereof or Letters Patent(s) or reissue patent issued thereon and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference.

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

The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States of America patent(s) or a grant of a valid United States of America and any foreign patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully and entirely as the same would have been held by the undersigned if this Assignment and sale had not been made.

The undersigned hereby authorize(s) the request(s) the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patents resulting from said application or any continuing, divisional, conversion or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) the full right to convey the entire interest herein assigned, and that he has (they have) not executed, and will not execute, any agreement in conflict herewith.

The undersigned hereby grant(s) the law firm of Venable LLP the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.

The undersigned hereby covenant(s) that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

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

(1) Date	February 28,2017	Name of Inventor	Tuma Kawakami
	A,		Yuma KAWAKAMI
(2) Date	February 28, 2017		Yoshiji Sato Yoshiji SATO
200 D			**************************************
(3) Date		Name of Inventor	Ryusei HAMADA
(4) Date		Name of Inventor	
(5) Date		Name of Inventor_	
(6) Data		Name of Inventor	
(o) Date	······································	wame of inventor	
(7) Date	<u> </u>	Name of Inventor	

ATTORNEY	Comment of the second	2:0
ALL INTERVIEW	111111111111111111111111111111111111111	Tut 1
7	COUNTE	

UNITED STATES PATENT RIGHTS, OR UNITED STATES PLUS ALL FOREIGN PATENT RIGHTS

ASSIGNMENT

		Application No.	***************************************	•••••			Filed	
Insert Name(s) of Inventor(s)	***	WHEREAS.	Yuma	KAWAKAMI,	Yoshiji	SATO	and Ryusei	HAMADA

Insert Title of Invention	688	(hereinafter designated)	ted as the	undersigned) ha	s (have) inven	ted certai	in new and useful	improvements in
Insert Date of Signing of		for which an applic undersigned (except					of America has	been executed by the
Application	98 9	on Februa	ry 28	, 2017				; and
Insert Name of Assignee	988)	WHEREAS:	SUMIT	OMO ELECT				**************************************
and a community and a			· · · · · · · · · · · · · · · · · · ·	onger oper oog 200 t. The Trade of the Control				
					***************************************	***************************************	***************************************	
insert Address of Assignee	888	of <u>1-1, Koy</u>	akita	1-chome, 1	∶tami–shi	l, Hyo	go 664-001	6 Japan
	9							
CHECK BOX F APPROPRIATE	***	its heirs, successor desirous of acquiring Letters Patent(s) to in any and all for	ng the e hat may	ntire right, title be granted the	and interes	t in and	to said invention	d as the Assignee) is on and in and to any i and
		hand paid, the rece the undersigned ha and transfer unto s of America, its terri to any and all Lette	ipt of wh is (have) aid Assig tories, de ers Pater	ich is hereby a sold, assigned nee the full and ependencies an it(s) which may	icknowledged and transfer I exclusive ri I possession be granted	d, and othered, and ght to the sand the therefor	her good and va by these prese e said invention e entire right, tit in the United S	to the undersigned in duable consideration, ints does sell, assign in the United States le and interest in and tates of America, its in any and all foreign
		and to any and all of term or terms for w	divisions, hich the	reissues, conti	nuations, co cranted	nversion	s and extension	s thereof for the full

PATENT REEL: 041504 FRAME: 0061 The undersigned agree(s) to execute all papers necessary in connection with this application and any continuing, divisional, conversion or reissue applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

The undersigned agree(s) to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation, division, conversion or reissue thereof or Letters Patent(s) or reissue patent issued thereon and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference.

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

(1) Date	***************************************	Name of InventorYuma KAWAKAMI
(2) Date		Name of Inventor Yoshiji SATO
(3) Date	February 28, 2017,	Name of Inventor Ryusei Hamada Ryusei HAMADA
(4) Date		Name of Inventor
		Name of Inventor
(6) Date		Name of Inventor
(7) Date		Name of inventor