505916214 02/13/2020

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PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
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 SUBMISSION TYPE:
 NEW ASSIGNMENT

 NATURE OF CONVEYANCE:
 ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TAKAHARU HIROE	10/02/2019
KAZUNARI IDE	10/02/2019
YOSHIKATSU IKAWA	10/02/2019
RYO SASE	10/02/2019

RECEIVING PARTY DATA

Name:	MITSUBISHI HEAVY INDUSTRIES, LTD.
Street Address:	2-3, MARUNOUCHI 3-CHOME, CHIYODA-KU,
City:	TOKYO
State/Country:	JAPAN
Postal Code:	100-8332

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16790271

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	SHP-239
NAME OF SUBMITTER:	MANABU KANESAKA
SIGNATURE:	/Manabu Kanesaka/
DATE SIGNED:	02/13/2020

Total Attachments: 2

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PATENT 505916214 REEL: 051814 FRAME: 0868

A P2018014000>01

Docket No.:

ASSIGNMENT

In consideration of the premises and other	good and valuable	consideration in I	hand paid,	the receipt and	l sufficiency of
which is hereby acknowledged, the undersigned,					

Takaharu HIROE
 Kazunari IDE
 Yoshikatsu IKAWA
 Ryo SASE

who has made a certain new and useful invention, hereby sells, assigns and transfers unto MITSUBISHI HEAVY INDUSTRIES, LTD. having a place of business at 2-3, Marunouchi 3-Chome, Chiyoda-ku, Tokyo 100-8332 Japan, its successors and assigns (hereinafter designated "ASSIGNEE") the entire right, title and interest for the United States of America as defined in 35 U.S.C. 100 in the invention entitled:

ABNORMALITY DETECTING APPARATUS, ROTATING MACHINE, ABNORMALITY DETECTION METHOD, AND NON-TRANSITORY COMPUTER READABLE MEDIUM

(a) for which an application for United States Letters Patent was filed on _______, and identified by United States Patent Application No. ________, or

(b) for which an application for United States Letters Patent was executed on _______,

and the undersigned hereby authorizes and requests the United States Commissioner of Patents and Trademarks to issue any and all United States Letters Patent which may be granted therefore and any and all extensions, divisions, reissues, continuations, or continuations-in-part thereof, and the right to all benefits under the International Convention for the Protection of Industrial

AND the undersigned hereby agrees to transfer a like interest, and to render all necessary assistance in making application for and obtaining original, divisional, reissued or extended Letters Patent of the United States, upon request of the said ASSIGNEE, its successors, assigns and legal representatives, and without further remuneration, in and to any improvements, and applications for patent based thereon, growing out of or related to the said invention; and to execute any papers by the said ASSIGNEE, its successors, assigns and legal representatives, deemed essential to ASSIGNEE's full protection and title in and to the invention hereby transferred.

Property to the said ASSIGNEE, for its interest as ASSIGNEE, its successors, assigns and legal representatives; the undersigned

agrees that the attorneys of record in said application shall hereafter act on behalf of said ASSIGNEE;

SIGNED on the date indicated aside my signature:

1) Takaharu Hime	October 2, 2019
Name: Takaharu HIROE	Date
2) <u>Kapunari Idle</u> Namo: Kazunari IDE	October 2, 2019
Name: Kazunari IDE	Date
3) Name: Yoshikatsu IKAWA	Date
4)	
Name: Ryo SASE	Date

PATENT REEL: 051814 FRAME: 0869

ASSIGNMENT

In consideration of the premises and other good and valuable consideration in hand paid, the receipt and sufficiency of which is hereby acknowledged, the undersigned,

1) Takaharu HIROE

2) Kazunari IDE

3) Yoshikatsu IKAWA

4) Ryo SASE

who has made a certain new and useful invention, hereby sells, assigns and transfers unto MITSUBISHI HEAVY INDUSTRIES, LTD. having a place of business at 2-3, Marunouchi 3-Chome, Chiyoda-ku, Tokyo 100-8332 Japan, its successors and assigns (hereinafter designated "ASSIGNEE") the entire right, title and interest for the United States of America as defined in 35 U.S.C. 100 in the invention entitled:

ABNORMALITY DETECTING APPARATUS, ROTATING MACHINE, ABNORMALITY DETECTION METHOD, AND NON-

TRANSITORY COMPUTER READABLE MEDIUM for which an application for United States Let	tters Patent was filed on	, and identified by
		·
for which an application for United States Letter	rs Patent was executed on,	
Inited States Letters Patent which may be granted the inuations-in-part thereof, and the right to all benefully to the said ASSIGNEB, for its interest as ASSI	nerefore and any and all extensions, divis fits under the International Convention GNEE, its successors, assigns and legal i	sions, reissues, continuations, or for the Protection of Industrial representatives; the undersigned
lication for and obtaining original, divisional, reissued NGNEE, its successors, assigns and legal representat lications for patent based thereon, growing out of c NGNEE, its successors, assigns and legal representat	I or extended Letters Patent of the United ives, and without further remuneration, in or related to the said invention; and to	States, upon request of the said a and to any improvements, and execute any papers by the said
NED on the date indicated aside my signature:		
ame: Takaharu HIROE	Date	
ame: Kazunari IDE	Date	
11 10 1		
		9
ame: Yoshikatsu IKAWA	Date	
40	Ontohon 9 201	0
	for which an application for United States Let United States Patent Application No. for which an application for United States Letter the undersigned hereby authorizes and requests the United States Letters Patent which may be granted the timuations-in-part thereof, and the right to all beneficient to the said ASSIGNEE, for its interest as ASSI sees that the attorneys of record in said application shall application for and obtaining original, divisional, reissues SIGNEE, its successors, assigns and legal representatications for patent based thereon, growing out of the states of the said application of the successors and legal representations for patent based thereon, growing out of the said states are successors.	for which an application for United States Letters Patent was filed on United States Patent Application No

Date

PATENT REEL: 051814 FRAME: 0870

Name: Ryo SASE