PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6104265

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Haruhiko TAN	04/06/2020
Shota TOMINAGA	04/13/2020

RECEIVING PARTY DATA

Name: Kawasaki Jukogyo Kabushiki Kaisha	
Street Address: 1-1, Higashikawasaki-cho 3-chome, Chuo-ku	
City:	Kobe-shi, Hyogo
State/Country:	Japan
Postal Code:	650-8670

PROPERTY NUMBERS Total: 1

Property Type	Number			
Application Number:	16763693			

CORRESPONDENCE DATA

Fax Number: (703)836-2787

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: 703-836-6400 Email: email@oliff.com **Correspondent Name:** JAMES A. OLIFF Address Line 1: **OLIFF PLC**

Address Line 2: P.O. BOX 320850

Address Line 4: ALEXANDRIA, VIRGINIA 22320-4850

ATTORNEY DOCKET NUMBER:	191563
NAME OF SUBMITTER:	VARSHA RAVICHANDRAN
SIGNATURE:	/Varsha Ravichandran/
DATE SIGNED:	05/13/2020

Total Attachments: 4

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> **PATENT** REEL: 052649 FRAME: 0145

506057551

ASSIGNMENT (BEING FILED FOR DUAL PURPOSE UNDER 37 CFR 1.63(e)) For Application with Filing Date on or after September 16, 2012

ASSIGNMENT

	Insert	(1)	Haruhiko TAN		(2)	Shota TOMINAGA	
(1-8)	Legal Name(s)	(3)			(4)		
	of Inventor(s)	(5)			(6)		
		(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)	KAWASAKI JU	KOGYO KABUSH	IKI KAISHA	Α	
(10)	Insert Address of Assignee	(10)	1-1, Higashikawasaki-cho 3-chome, Chuo-ku, Kobe-shi, Hyogo 650-8670, JAPAN				
		(hereinafter designated as the Assignce) 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	(11)	HOUSING				
	Number, or Foreign Application Number	(Attor	ney Docket No.	191563), :	filed on even date herewith or as	
(12)	Alternative	(12)	U.S. Application	Number			
	Identification for			·			
	filed applications	filed					

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 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.

(13) Declaration

As an above named inventor, I hereby declare that:

I believe I am the original inventor or an original joint inventor of a claimed invention (or claimed design) in the above-identified application for which this declaration is being submitted.

The application was made or authorized to be made by me.

I have reviewed and understand the contents of the above-identified application, including the claims, and am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR §1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

PATENT REEL: 052649 FRAME: 0146

In witness whereof.	executed by the	e undersigned or	the date(s)	opposite the	undersigned name(s).
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Date	April 6, 2020	Inventor Signature	Haruhiko law Haruhiko TAN	(SEAL)
Date		Inventor Signature	Shota TOMINAGA	(SEAL)
Date		Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)
		I-voutos Signatura		(SEAL)

ASSIGNMENT (BEING FILED FOR DUAL PURPOSE UNDER 37 CFR 1.63(e)) For Application with Filing Date on or after September 16, 2012

ASSIGNMENT

	Insert	(1)	Haruhiko TAN	(2)	Shota TOMINAGA
(1-8)	Legal Name(s)	(3)		(4)	
	of Inventor(s)	(5)		(6)	
		(7)		(8)	
		the un	sideration of the sum of one doll dersigned, the receipt and suffici , and hereby does assign, transfe	ency of which are I	r good and valuable consideration paid to each of hereby acknowledged, each undersigned agrees to
(9)	Insert Name of Assignee	(9)	KAWASAKI JUKOGYO KA	BUSHIKI KAISH.	Α
(10)	Insert Address of Assignee	(10)	1-1, Higashikawasaki-cho 3-	chome, Chuo-ku, I	Kobe-shi, Hyogo 650-8670, JAPAN
		the en invent	tire right, title and interest for the	: United States of / itent including any ind reissue applicat	eirs, successors, assigns and legal representatives, America as defined in 35 U.S.C. §100, in the and all provisional, non-provisional, divisional, iion(s), and all Letters Patent, extensions, reissues invention known as
(11)	Insert Identification such as Title, Case	(11)	HOUSING		
	Number, or Foreign Application Number	(Atto	mey Docket No. 191563),	filed on even date herewith or as
(12)	Alternative	(12)	U.S. Application Number		
	Identification for filed applications	filed	·		
	1) Each undersigned agre	es to exce	ute all papers necessary in con-	nection with any a	pplication 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 Assignce.
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 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 Assignce, 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 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.

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As an above named inventor, I hereby declare that:

I believe I am the original inventor or an original joint inventor of a claimed invention (or claimed design) in the above-identified application for which this declaration is being submitted.

The application was made or authorized to be made by me.

I have reviewed and understand the contents of the above-identified application, including the claims, and am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR §1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

> PATENT REEL: 052649 FRAME: 0148

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

Date _		Inventor Signature	Haruhiko TAN	(SEAL)
Date _	April 13, 2020	Inventor Signature	Shota Tominaga Shota TOMINAGA	(SEAL)
Date _		Inventor Signature		(SEAL)
Date _		Inventor Signature		(SEAL)
Date _		Inventor Signature		(SEAL)
Date .		Inventor Signature		(SEAL)
Date .		Inventor Signature		(SEAL)
5.4		Inventor Signature		(SEAL)