505410530 04/04/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT5457320

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YUTAKA KOUZUMA	03/15/2019
MICHIAKI KOBAYASHI	03/15/2019
KAZUYUKI HIROZANE	03/15/2019
NOBUYA MIYOSHI	03/16/2019
KOHEI KAWAMURA	03/15/2019
HIROYUKI KOBAYASHI	03/15/2019

RECEIVING PARTY DATA

Name:	me: HITACHI HIGH-TECHNOLOGIES CORPORATION	
Street Address: 24-14, NISHI-SHIMBASHI 1-CHOME		
City:	MINATO-KU, TOKYO	
State/Country:	JAPAN	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	29677764

CORRESPONDENCE DATA

Fax Number: (202)628-8844

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: 2026242500

Email: ehorne@crowell.com, edocket@crowell.com

Correspondent Name: CROWELL & MORING LLP

P.O. BOX 14300 Address Line 1:

Address Line 4: WASHINGTON, D.C. 20011-4300

ATTORNEY DOCKET NUMBER:	100929.DA356US
NAME OF SUBMITTER:	LISA A. ADELSON
SIGNATURE:	/Lisa A. Adelson/
DATE SIGNED:	04/04/2019

Total Attachments: 4

source=DA356US_Assignment#page1.tif

PATENT REEL: 048789 FRAME: 0607

505410530

source=DA356US_Assignment#page2.tif source=DA356US_Assignment#page3.tif source=DA356US_Assignment#page4.tif

> PATENT REEL: 048789 FRAME: 0608

231860022

ASSIGNMENT

(譲渡証)

As a below named inventor, I hereby declare that:

IN CONSIDERATION of the sum of One Dollar (\$1.00) or the equivalent thereof, and other good and valuable consideration paid to me, by **Hitachi High-Technologies Corporation**, a corporation organized under the laws of **Japan**, located at **24-14**, **Nishi-Shimbashi 1-chome**, **Minato-ku**, **Tokyo**, **Japan**, receipt of which is hereby acknowledged, I do hereby sell and assign to said **Hitachi High-Technologies Corporation**, its successors and assigns, all my right, title and interest, in and for the United States of America, in and to

INTEGRATED TYPE ION SHIELD FOR SEMICONDUCTOR MANUFACTURING APPARATUS

invented by me (if only one is named below) or us (if plural inventors are named below) and described in the application for United States Letters Patent therefor, Serial No. 29/677,764, filed on January 23, 2019, executed on even date herewith, and all United States Letters Patent which may be granted therefor, and all divisions, continuations and extensions thereof, the said interest being the entire ownership of the said Letters Patent when granted, to be held and enjoyed by said Hitachi High-Technologies Corporation, its successors, assigns or other legal representatives, to the full end of term for which said Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me or us if this assignment and sale had not been made;

And I hereby agree to sign and execute any further documents or instruments which may be necessary, lawful, and proper in the prosecution of the above-named application or in the preparation and prosecution of any continuing, continuation-in-part, substitute, divisional, renewal, reviewed or reissue applications or in any amendment, extension, or interference proceedings, or otherwise to secure the title thereto in said assignee;

And I do hereby authorize and request the Commissioner of Patents to issue said Letters Patent to said **Hitachi High-Technologies Corporation**.

Signed on the date(s) indicated aside signatures:

INVENTOR(S) (発明者フルネームサイン)		Date Signed (署名日)	
1)	Yutaka Kouzuma Yutaka KOUZUMA	3/15/2019	
2)	Michiaki KORAYASHI		

ASSIGNMENT (譲渡証)

As a below named inventor, I hereby declare that:

IN CONSIDERATION of the sum of One Dollar (\$1.00) or the equivalent thereof, and other good and valuable consideration paid to me, by Hitachi High-Technologies Corporation, a corporation organized under the laws of Japan, located at 24-14, Nishi-Shimbashi 1-chome, Minato-ku, Tokyo, Japan, receipt of which is hereby acknowledged, I do hereby sell and assign to said Hitachi High-Technologies Corporation, its successors and assigns, all my right, title and interest, in and for the United States of America, in and to

INTEGRATED TYPE ION SHIELD FOR SEMICONDUCTOR MANUFACTURING APPARATUS

invented by me (if only one is named below) or us (if plural inventors are named below) and described in the application for United States Letters Patent therefor, Serial No. 29/677,764, filed on January 23, 2019, executed on even date herewith, and all United States Letters Patent which may be granted therefor, and all divisions, continuations and extensions thereof, the said interest being the entire ownership of the said Letters Patent when granted, to be held and enjoyed by said Hitachi High-Technologies Corporation, its successors, assigns or other legal representatives, to the full end of term for which said Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me or us if this assignment and sale had not been made;

And I hereby agree to sign and execute any further documents or instruments which may be necessary, lawful, and proper in the prosecution of the above-named application or in the preparation and prosecution of any continuing, continuation-in-part, substitute, divisional, renewal, reviewed or reissue applications or in any amendment, extension, or interference proceedings, or otherwise to secure the title thereto in said assignee;

And I do hereby authorize and request the Commissioner of Patents to issue said Letters Patent to said **Hitachi High-Technologies Corporation**.

Signed on the date(s) indicated aside signatures:

INVENTOR(S) (発明者フルネームサイン)	Date Signed (署名日)
1)Yutaka KOUZUMA	
2) Michiahi Zrobayashi Michiaki KOBAYASHI	03/15/2019

INVENTOR(S) (発明者フルネームサイン)

Date Signed (署名日)

3)	Kazuyuki Hirozane Kazuyuki HIROZANE	3/15/2019
	Kazúyuki HIROZANE	
4)		
	Nobuya MIYOSHI	
5)	Hohei Lawanura	3/15/2019
	Kohei KAWAMURA	
6)	Idisayuki Kobuyushi	3/15/2019
	Hiroyuki KOBAYASHI	

INVENTOR(S) (発明者フルネームサイン)

Date Signed (署名日)

3)		
	Kazuyuki HIROZANE	
4)	Nobuyo Miyoshi	3/16/2019
	Nobuya MIYOSHI	
5)	Kohei KAWAMURA	
6)	Hiroyuki KOBAYASHI	