504673399 12/06/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4720121

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
YUSHI KATO		10/19/2017
TADAOMI DAIBOU		10/31/2017
YUUZO KAMIGUCHI		10/23/2017
NAOHARU SHIMOMURA		10/24/2017
JUNICHI ITO		10/31/2017
HIROAKI SUKEGAWA		10/24/2017
MOHAMED BELMOUBARIK		10/23/2017
PO-HAN CHENG		10/24/2017
SEIJI MITANI		10/20/2017
TADAKATSU OHKUBO		10/24/2017
KAZUHIRO HONO		10/24/2017

RECEIVING PARTY DATA

Name:	KABUSHIKI KAISHA TOSHIBA
Street Address:	1-1, SHIBAURA 1-CHOME, MINATO-KU
City:	ТОКҮО
State/Country:	JAPAN
Name:	NATIONAL INSTITUTE FOR MATERIALS SCIENCE
Street Address:	2-1, SENGEN 1-CHOME
City:	TSUKUBA-SHI, IBARAKI
State/Country:	JAPAN

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15699749

CORRESPONDENCE DATA

Fax Number:

(703)413-2220

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:
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 mvukovic@oblon.com

Correspondent Name:	OBLON, ET AL.
Address Line 1:	1940 DUKE STREET
Address Line 4:	ALEXANDRIA, VIRGINIA 22314
	,
ATTORNEY DOCKET NUMBER	: 507269US
NAME OF SUBMITTER:	MARA VUKOVIC
SIGNATURE:	/Mara Vukovic/
DATE SIGNED:	12/06/2017
	This document serves as an Oath/Declaration (37 CFR 1.63).
Total Attachments: 11	·
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Title of Invention	MAGNETORESISTIVE ELEMENT AND MAGNETIC MEMORY DEVICE
As the below name	d inventor, I hereby declare that:
This declaration] The attached application, or
is directed to: 🛛 🔀	United States application or PCT international application number <u>15/699,749</u> filed on <u>September 8, 2017</u> .
The above-identifie	ed application was made or authorized to be made by me.
I believe that I am t	the original inventor or an original joint inventor of a claimed invention in the application.
(hereinafter referre <u>Tokyo, Japan, (2)2</u> and interest in and	Kabushiki Kaisha Toshiba, (2)NATIONAL INSTITUTE FOR MATERIALS SCIENCE d to as "ASSIGNEE") having places of business at: (1)1-1, Shibaura 1-chome, Minato-ku, -1, Sengen 1-chome, Tsukuba-shi, Ibaraki, Japan, is desirous of acquiring the entire right, title to said invention and in and to any Letters Patent that may be granted therefore in the United brial possessions and in any and all foreign countries;
acknowledged, and said ASSIGNEE, th and in all foreign c other relevant Inter interest in and to a	FORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby I for other good and valuable consideration, I, by these presents do sell, assign and transfer unto the full and exclusive right to the said invention in the United States and its territorial possessions ountries (including the right to claim priority under the terms of the International Convention and national Treaties and Arrangements from the aforesaid application) and the entire right, title and any and all Letters Patent which may be granted therefor in the United States and its territorial any and all foreign countries and in and to any and all divisions, reissues, continuations, newals thereof.
any and all foreign assignee of my enti (his) successors an	ze and request the Patent Office Officials in the United States and its territorial possessions and a countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the ire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its d assigns, to the full end of the term for which said Letters Patent may be granted, as fully and e would have been held by me had this Assignment and sale not been made.
Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.	
by fine or imprison	rledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 ment of not more than five (5) years, or both.
LEGAL NAME OF	NVENTOR
Inventor: Yushi K	
Signature:	Yushi Kato

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P. ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

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Title of MAGNETORESISTIVE ELEMENT AND MAGNETIC MEMORY DEVICE Invention	
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is directed to: X United States application or PCT international application number 15/699,749 filed on September 8, 2017	
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I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.	
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LEGAL NAME OF INVENTOR	
Inventor: <u>Tadaomi DAIBOU</u> $i = \frac{1}{2017}$	
Signature: Kadaani Daila	

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P. ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

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LEGAL NAME OF INVENTOR	
Inventor: Yuuzo KAMIGUCHI Date: Oct. 23, 20/7	
Signature: Yungo Hamiguchi	

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P. ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

Title of MAGNETORESISTIVE ELEMENT AND MAGNETIC MEMORY DEVICE Invention Invention
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LEGAL NAME OF INVENTOR
Inventor: Naoharu SHIMOMURA Date: Oct. 24. 2017
Signature: Nachan Ihumonun i'

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P. ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

> PATENT REEL: 044312 FRAME: 0414

Title of MAGNETORESISTIVE ELEMENT AND MAGNETIC MEMORY DEVICE	
As the below named inventor, I hereby declare that:	
This declaration The attached application, or	
is directed to: Inited States application or PCT international application number 15/699,749 filed on September 8, 2017.	
The above-identified application was made or authorized to be made by me.	
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WHEREAS, (1)Kabushiki Kaisha Toshiba, (2)NATIONAL INSTITUTE FOR MATERIALS SCIENCE (hereinafter referred to as "ASSIGNEE") having places of business at: (1)1-1, Shibaura 1-chome, Minato-ku, Tokyo, Japan, (2)2-1, Sengen 1-chome, Tsukuba-shi, Ibaraki, Japan, is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;	
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LEGAL NAME OF INVENTOR	
Inventor: Junichi ITO Date: Oct. 31, 2017	
Signature: Junichi Sto	

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P. ATTORNEYS AT LAW **1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314**

Signature:

Title of MAGNETORESISTIVE ELEMENT AND MAGNETIC MEM	ORY DEVICE
As the below named inventor, I hereby declare that:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
This declaration 🔲 The attached application, or	
is directed to: United States application or PCT international application number <u>15/6</u> filed on <u>September 8, 2017</u> .	99,749
The above-identified application was made or authorized to be made by me.	
I believe that I am the original inventor or an original joint inventor of a claimed invention in	the application.
WHEREAS, (1)Kabushiki Kaisha Toshiba, (2)NATIONAL INSTITUTE FOR MATERIAI (hereinafter referred to as "ASSIGNEE") having places of business at: (1)1-1, Shibaun Tokyo, Japan, (2)2-1, Sengen 1-chome, Tsukuba-shi, Ibaraki, Japan, is desirous of acquirin and interest in and to said invention and in and to any Letters Patent that may be granted States and its territorial possessions and in any and all foreign countries;	a 1-chome. Minato-ku. ng the entire right, title
NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the rec acknowledged, and for other good and valuable consideration, I, by these presents do sell, a said ASSIGNEE, the full and exclusive right to the said invention in the United States and it and in all foreign countries (including the right to claim priority under the terms of the Intern other relevant International Treaties and Arrangements from the aforesaid application) and the interest in and to any and all Letters Patent which may be granted therefor in the United States possessions and in any and all foreign countries and in and to any and all divisions, is substitutions and renewals thereof.	assign and transfer unto ts territorial possessions national Convention and he entire right, title and States and its territorial
I hereby authorize and request the Patent Office Officials in the United States and its ten any and all foreign countries to issue any and all of said Letters Patent, when granted, to a assignee of my entire right, title and interest in and to the same, for the sole use and behoof (his) successors and assigns, to the full end of the term for which said Letters Patent may be entirely as the same would have been held by me had this Assignment and sale not been made	said ASSIGNEE as the of said ASSIGNEE, its be granted, as fully and
Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives a respecting said invention, and testify in any legal proceeding, sign all lawful papers, continuation, substitute, renewal and reissue applications, execute all necessary assignment p all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, g possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce pro invention in the United States and its territorial possessions and in any and all foreign countries	execute all divisional, papers to cause any and generally do everything oper protection for said
I hereby acknowledge that any willful false statement made in this declaration is punishable by fine or imprisonment of not more than five (5) years, or both.	e under 18 U.S.C. 1001
LEGAL NAME OF INVENTOR	
Inventor: Hirozki SUKEGAWA Date: October	24,2017
Signature: <u>Hlovabl Babagana</u>	
AFTE ANT NO. OT THE ARTS NO. STEND OF MERCY A FUT Y T TO	

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P. ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

> PATENT REEL: 044312 FRAME: 0416

Title of Invention MAGNETORESISTIVE ELEMENT AND MAGNETIC MEMORY DEVICE	
As the below named inventor, I hereby declare that:	
This declaration [] The attached application, or	
is directed to: United States application or PCT international application number <u>15/699,749</u> filed on <u>September 8, 2017</u> .	
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LEGAL NAME OF INVENTOR	
Inventor: Mohamed BELMOUBARIK Date: 23 40 2017	
Signature:	
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OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P. ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

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LEGAL NAME OF INVENTOR

Signature:

Inventor: Po-Han CHENG

Date: 2017.10.24

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NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I, by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.
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Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.
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.
LEGAL NAME OF INVENTOR
Inventor: Seiji MITANI Date: October 20, 2017
Signature:

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P. ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

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Title of Invention MAGNETORESISTIVE ELEMENT AND MAGNETIC MEMORY DEVICE
As the below named inventor, I hereby declare that:
This declaration The attached application, or
is directed to: United States application or PCT international application number <u>15/699,749</u> filed on <u>September 8, 2017</u> .
The above-identified application was made or authorized to be made by me.
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.
WHEREAS, (1)Kabushiki Kaisha Toshiba, (2)NATIONAL INSTITUTE FOR MATERIALS SCIENCE (hereinafter referred to as "ASSIGNEE") having places of business at: (1)1-1, Shibaura I-chome, Minato-ku, <u>Tokyo, Japan, (2)2-1, Sengen 1-chome, Tsukuba-shi, Ibaraki, Japan</u> , is desirous of acquiring the entire right, title and intercst in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;
NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I, by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.
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LEGAL NAME OF INVENTOR
Inventor: Tadakatsu OHKUBO Date: October 24, 2017
Signature: Tapplatse Oklaubo
OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P. ATTORNEYS AT LAW

ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

Title of MAGNETORESISTIVE ELEMENT AND MAGNETIC MEMORY DEVICE Invention
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The above-identified application was made or authorized to be made by me.
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.
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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.
LEGAL NAME OF INVENTOR
Inventor: Kazuhiro HONO Date: Detcober 24, 2017
Signature: /danlin (Verno-
OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.

ILON, MCCLELLAND, MAIER & NEUSTADT, L.L ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

RECORDED: 12/06/2017