PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT2869115

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MARK J. PELLERITE	05/09/2014
JOHN P. BAETZOLD	05/12/2014
JOHN J. STRADINGER	05/12/2014
PINGFAN WU	05/09/2014
HYACINTH L. LECHUGA	05/09/2014
MANOJ NIRMAL	05/20/2014

RECEIVING PARTY DATA

Name:	3M INNOVATIVE PROPERTIES COMPANY
Street Address:	P.O. BOX 33427
City:	ST. PAUL
State/Country:	MINNESOTA
Postal Code:	55133-3427

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14360413

CORRESPONDENCE DATA

Fax Number: (651)736-3833

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: 651-733-1500 Email: lengel@mmm.com

Correspondent Name: 3M INNOVATIVE PROPERTIES COMPANY

Address Line 1: PO BOX 33427

Address Line 4: ST. PAUL, MINNESOTA 55133-3427

ATTORNEY DOCKET NUMBER:	68020US004	
NAME OF SUBMITTER:	LINDA ENGEL	
SIGNATURE:	/Linda Engel/	
DATE SIGNED:	05/23/2014	
	This document serves as an Oath/Declaration (37 CFR 1.63).	

Total Attachments: 6

REEL: 032956 FRAME: 0252

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l	source=executedDeclarationAssignment_68020US004#page2.tif
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l	source=executedDeclarationAssignment_68020US004#page6.tif

DECLARATION AND ASSIGNMENT, FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR§1.63)

Case No:

68020US004

As a below named inventor, I believe I am an original inventor or an original joint inventor of a claimed invention in the application and for which a patent is sought on the invention entitled:

LASER PATTER	NING OF SILVER NANOWIR CONDUCTING		TRANSPARENT ELECTRICALLY S
The specification of wh		<u> </u>	
is attached hereto	Σ,		
was filed on as United States	Application No.		
is identified as PC filed on	T International Application No. December 10, 2012		PCT/US2012/068731
The above-identified a	pplication was made or authorized to	o be made by n	ne:
fine or imprisonment of addition, for good are and do hereby assign 3M COMPANY, and a assigns, the entire righ continuation (in whole by me or made jointly termination of, my empall Letters Patent, reexthereto (including the rown name and to clair international conventional descriptions.	If not more than 5 years, or both, and valuable consideration, receipt of and transfer unto the 3M INNOVATIVE corporation of Delaware, having its part, title, and interest in and to the said or in part) of said application, and in with others (provided any such improproper with 3M COMPANY and an examinations, reissues, or extensions right to apply for Letters Patent, Utility any priority rights for such foreign approx, treaties, or otherwise), which have	which is acknowed to PROPERTI principal office of its existing thereof, of the ty Models, or Inapplications to we been or may	ewledged, I have agreed to assign and transfer IES COMPANY, a wholly-owned subsidiary of at Saint Paul, Minnesota, its successors and application, and in and to any division or d all improvements in the said invention made de during, or within one year after the g or future subsidiaries), and in and to any and United States of America and countries foreign ventors' Certificates in foreign countries in its which such applications are entitled underly be granted thereon or on any divisional, er or further application based in whole or in
part upon the said inventable have been by me had to further agree for n	ention or improvements thereon, to be this assignment and transfer not bee myself and for my heirs, executors, a	e held and enjo en made; nd administrato	oyed as fully and exclusively as they would ors, to execute and deliver without further I to perform such other acts as I lawfully may,
that may be deemed r	necessary by said Company, its succ	essors, assign	s, and nominees, fully to secure its right, title, Models, or Inventors' Certificates in any and all
	ne said applications, to said 3M Innov		any and all Letters Patent which may be es Company, as the assignee of the entire right,
Legal Name of Inven Mark J. Pellerite			
Inventor's Signature:		Date: /	
Mallo	Pallota	5/0	7/14

3M 1842729v1

DECLARATION AND ASSIGNMENT, FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR§1.63)

Case No:

68020US004

As a below named inventor, I believe I am an original inventor or an original joint inventor of a claimed invention in the application and for which a patent is sought on the invention entitled:

LASER PATTE	RNING OF SILVER NANOWIR	E - BASED TRANSPARENT ELECTRICALLY
The specification of v		3 VON:11100
is attached here		
Trees of market to the state of	***	
was filed on		
as United States	s Application No.	
is identified as F	PCT International Application No.	PCT/US2012/068731
filed on	December 10, 2012	
fine or imprisonment in addition, for good and do hereby assign 3M COMPANY, and assigns, the entire rigontinuation (in whole by me or made jointly termination of, my entitle all Letters Patent, restricted (including the own name and to clainternational convent continuation (in whole	of not more than 5 years, or both. and valuable consideration, receipt of and transfer unto the 3M INNOVATI's corporation of Delaware, having its post, title, and interest in and to the said or in part) of said application, and in with others (provided any such impropropriate with 3M COMPANY and are examinations, reissues, or extensions right to apply for Letters Patent, Utilit im any priority rights for such foreign a ions, treaties, or otherwise), which have or in part), renewal, reexamination, i	which is acknowledged, I have agreed to assign and transfer VE PROPERTIES COMPANY, a wholly-owned subsidiary of principal office at Saint Paul, Minnesota, its successors and d invention and application, and in and to any division or and to any and all improvements in the said invention made overnent is made during, or within one year after the my of its existing or future subsidiaries), and in and to any and thereof, of the United States of America and countries foreign y Models, or Inventors' Certificates in foreign countries in its applications to which such applications are entitled under we been or may be granted thereon or on any divisional, reissue, or other or further application based in whole or in the held and enjoyed as fully and exclusively as they would
i do further agree for consideration any fur that may be deemed and interest as afore countries; and I do hereby authorize granted upon any of litte, and interest the	ther applications, assignments, and dinecessary by said Company, its successid and to obtain or maintain Letters and request the Commissioner of Pathe said applications, to said 3M Innovent.	nd administrators, to execute and deliver without further ocuments, and to perform such other acts as I lawfully may, essors, assigns, and nominees, fully to secure its right, title, Patent, Utility Models, or Inventors' Certificates in any and all itents to issue any and all Letters Patent which may be vative Properties Company, as the assignee of the entire right
John P. Baetzo	ld	
Inventor's Signature	5.	Date:
U.P.R.	<u></u>	May 12,2014

3M 1842730v1

DECLARATION AND ASSIGNMENT, FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR § 1.63)

Case No:

68020US004

As a below named inventor, I believe I am an original inventor or an original joint inventor of a claimed invention in the application and for which a patent is sought on the invention entitled:

LASER PATTER	NING OF SILVER NANOWIRI		ANSPARENT ELECTRICALLY
The specification of wh	nich:		
is attached hereto	3		
was filed on as United States	Application No.		
is identified as PC filed on	T International Application No. December 10, 2012	P	CT/US2012/068731
The above-identified a	pplication was made or authorized to	be made by me.	
I hereby acknowledge fine or imprisonment o	that any wiliful false statement made f not more than 5 years, or both.	in this declaration	is punishable under 18 U.S.C. 1001 by
and do hereby assign 3M COMPANY, and a assigns, the entire right continuation (in whole by me or made jointly termination of, my empail Letters Patent, reexthereto (including the above name and to clair international convention continuation (in whole part upon the said investigation).	and transfer unto the 3M INNOVATIVe corporation of Delaware, having its part, title, and interest in and to the said or in part) of said application, and in ewith others (provided any such improviousment with 3M COMPANY and any caminations, reissues, or extensions tright to apply for Letters Patent, Utility in any priority rights for such foreign a lons, treaties, or otherwise), which have or in part), renewal, reexamination, re-	PROPERTIES rincipal office at S invention and apparent to any and all vement is made do y of its existing or hereof, of the United Models, or inventional to white been or may be elissue, or other or held and enjoyed.	dged, I have agreed to assign and transfer COMPANY, a wholly-owned subsidiary of saint Paul, Minnesota, its successors and plication, and in and to any division or improvements in the said invention made uring, or within one year after the future subsidiaries), and in and to any and ted States of America and countries foreign tors' Certificates in foreign countries in its ch such applications are entitled under granted thereon or on any divisional, if further application based in whole or in the as fully and exclusively as they would
consideration any furti that may be deemed r	ner applications, assignments, and do necessary by said Company, its succe	cuments, and to pessors, assigns, a	to execute and deliver without further perform such other acts as I lawfully may, and nominees, fully to secure its right, title, els, or Inventors' Certificates in any and all
I do hereby authorize granted upon any of the title, and interest there		ents to issue any ative Properties C	and all Letters Patent which may be ompany, as the assignee of the entire right,
Legal Name of Inven John J. Strading			
Inventor's Signature	Made	Date: 5//2/	d / 4

3M 1842732v1

DECLARATION AND ASSIGNMENT, FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR § 1.83)

Case No:

68020US004

As a below named inventor, I believe I am an original inventor or an original joint inventor of a claimed invention in the application and for which a patent is sought on the invention entitled:

LASER PATTERNING OF SILVER NANOWIRE - CONDUCTING (
Fhe specification of which:	
is attached hereto;	
was filed on as United States Application No.	
is identified as PCT International Application No. filed on December 10, 2012	PCT/US2012/068731
The above-identified application was made or authorized to be	e made by me.
hereby acknowledge that any willful false statement made in fine or imprisonment of not more than 5 years, or both.	this declaration is punishable under 18 U.S.C. 1001 by
and do hereby assign and transfer unto the 3M INNOVATIVE 3M COMPANY, and a corporation of Delaware, having its prinassigns, the entire right, title, and interest in and to the said in continuation (in whole or in part) of said application, and in an by me or made jointly with others (provided any such improve termination of, my employment with 3M COMPANY and any call Letters Patent, reexaminations, reissues, or extensions the thereto (including the right to apply for Letters Patent, Utility Nown name and to claim any priority rights for such foreign appinternational conventions, treaties, or otherwise), which have continuation (in whole or in part), renewal, reexamination, reispart upon the said invention or improvements thereon, to be have been by me had this assignment and transfer not been to	ncipal office at Saint Paul, Minnesota, its successors and vention and application, and in and to any division or ad to any and all improvements in the said invention made ment is made during, or within one year after the of its existing or future subsidiaries), and in and to any and ereof, of the United States of America and countries foreign Models, or Inventors' Certificates in foreign countries in its oblications to which such applications are entitled under been or may be granted thereon or on any divisional, assue, or other or further application based in whole or in held and enjoyed as fully and exclusively as they would
I do further agree for myself and for my heirs, executors, and consideration any further applications, assignments, and doct that may be deemed necessary by said Company, its successand interest as aforesaid and to obtain or maintain Letters Pacountries; and	uments, and to perform such other acts as I lawfully may, sors, assigns, and nominees, fully to secure its right, title,
I do hereby authorize and request the Commissioner of Pater granted upon any of the said applications, to said 3M Innovat title, and interest therein.	nts to issue any and all Letters Patent which may be ive Properties Company, as the assignee of the entire right
Legal Name of Inventor: Pingfan Wu	
Inventor's Signature:	Date: 5/9/14

3M 1842733v1

DECLARATION AND ASSIGNMENT, FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR § 1.63)

Case No:

68020US004

As a below named inventor, I believe I am an original inventor or an original joint inventor of a claimed invention in the application and for which a patent is sought on the invention entitled:

LASER PATTERNING OF SILVER NANOWIRI CONDUCTING	사이 그 맛있어 되는 항상에 가고 그 회사 점에 가는 가장 하는 것이 가장 그 것이다. 그는 그 생각이 되었다. 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그
The specification of which:	
is attached hereto;	
was filed on as United States Application No.	
is identified as PCT international Application No. filed on December 10, 2012	PCT/US2012/068731
The above-identified application was made or authorized to	be made by me.
hereby acknowledge that any willful false statement made fine or imprisonment of not more than 5 years, or both.	in this declaration is punishable under 18 U.S.C. 1001 by
and do hereby assign and transfer unto the 3M INNOVATIV 3M COMPANY, and a corporation of Delaware, having its passigns, the entire right, title, and interest in and to the said continuation (in whole or in part) of said application, and in by me or made jointly with others (provided any such improtermination of, my employment with 3M COMPANY and any all Letters Patent, reexaminations, reissues, or extensions to	and to any and all improvements in the said invention made vement is made during, or within one year after the y of its existing or future subsidiaries), and in and to any and thereof, of the United States of America and countries foreign Models, or Inventors' Certificates in foreign countries in its applications to which such applications are entitled under been or may be granted thereon or on any divisional, eissue, or other or further application based in whole or in the held and enjoyed as fully and exclusively as they would
that may be deemed necessary by said Company, its succe	nd administrators, to execute and deliver without further ocuments, and to perform such other acts as I lawfully may, assors, assigns, and nominees, fully to secure its right, title, Patent, Utility Models, or Inventors' Certificates in any and all
I do hereby authorize and request the Commissioner of Pat granted upon any of the said applications, to said 3M Innov title, and interest therein.	ents to issue any and all Letters Patent which may be ative Properties Company, as the assignee of the entire right,
Legal Name of Inventor: Hyacinth L. Lechuga	
Inventor's Signature:	Date:
Hainth L. Leelinge	May 9, 2014

3M 1842734v1

DECLARATION AND ASSIGNMENT, FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR § 1.63)

Case No:

68020US004

As a below named inventor, I believe I am an original inventor or an original joint inventor of a claimed invention in the application and for which a patent is sought on the invention entitled:

LASER PATTERNING OF SI	LVER NANOWIRE - BASE CONDUCTING COATIN	D TRANSPARENT ELECTRICALLY IGS
The specification of which:		
is attached hereto;		
was filed on as United States Application No.		
is identified as PCT International filed on December 18		PCT/US2012/068731
The above-identified application was r	made or authorized to be made by	y me.
ine or imprisonment of not more than in addition, for good and valuable contend do hereby assign and transfer untage (and comporation of lassigns, the entire right, title, and interpolation (in whole or in part) of sample or made jointly with others (protermination of, my employment with all Letters Patent, reexaminations, relations of the right to apply for own name and to claim any priority righternational conventions, treaties, or international conventions, treaties, and	5 years, or both. sideration, receipt of which is ack to the 3M INNOVATIVE PROPER Delaware, having its principal officerest in and to the said invention a did application, and in and to any avided any such improvement is mean COMPANY and any of its exist assues, or extensions thereof, of the Letters Patent, Utility Models, or otherwise), which have been or means the control of	nowledged, I have agreed to assign and transfer RTIES COMPANY, a wholly-owned subsidiary of ce at Saint Paul, Minnesota, its successors and application, and in and to any division or and all improvements in the said invention made hade during, or within one year after the ing or future subsidiaries), and in and to any and he United States of America and countries foreign Inventors' Certificates in foreign countries in its to which such applications are entitled under hay be granted thereon or on any divisional, ther or further application based in whole or in
	rements thereon, to be held and e	njoyed as fully and exclusively as they would
consideration any further applications, that may be deemed necessary by sa	, assignments, and documents, a id Company, its successors, assign	ators, to execute and deliver without further nd to perform such other acts as I lawfully may, gns, and nominees, fully to secure its right, title, y Models, or Inventors' Certificates in any and all
		e any and all Letters Patent which may be rties Company, as the assignee of the entire right,
Legal Name of Inventor: Manoj Nirmal		
Inventor's Signature:	Date	
Marcialian.		5/20/14

3M 1842735v1

PATENT REEL: 032956 FRAME: 0259

RECORDED: 05/23/2014