504974914 06/25/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5021660

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
HELMAR B. MAYR	02/05/2018
MALTE KORTEN	04/18/2018
CHRISTINE M. ANDRES	04/16/2018
BRANT U. KOLB	05/21/2018
HOLGER HAUPTMANN	02/02/2018
GALLUS SCHECHNER	05/23/2018
MICHAEL JAHNS	06/02/2018
MELISSA A. LACKEY	02/01/2018
PAUL D. PENNINGTON	02/01/2018

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:	15574646

CORRESPONDENCE DATA

Fax Number: (651)736-7586

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: tlriley@mmm.com

3M INNOVATIVE PROPERTIES COMPANY Correspondent Name:

Address Line 1: PO BOX 33427

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

ATTORNEY DOCKET NUMBER: 75834US004 NAME OF SUBMITTER: TRACEY L. RILEY

SIGNATURE:	/Tracey L. Riley/	
DATE SIGNED:	06/25/2018	
This document serves as an Oath/Declaration (37 CFR 1.63).		

Total Attachments: 10

source=FullyExecutedAssignment-Declaration_75834US004#page1.tif source=FullyExecutedAssignment-Declaration_75834US004#page2.tif source=FullyExecutedAssignment-Declaration_75834US004#page3.tif source=FullyExecutedAssignment-Declaration_75834US004#page4.tif source=FullyExecutedAssignment-Declaration_75834US004#page5.tif source=FullyExecutedAssignment-Declaration_75834US004#page6.tif source=FullyExecutedAssignment-Declaration_75834US004#page7.tif source=FullyExecutedAssignment-Declaration_75834US004#page8.tif source=FullyExecutedAssignment-Declaration_75834US004#page9.tif source=FullyExecutedAssignment-Declaration_75834US004#page9.tif source=FullyExecutedAssignment-Declaration_75834US004#page10.tif

Case No:

75834US004

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:

SOL CONTAINING NANO ZIRCONIA PARTICLES FOR USE IN ADDITIVE

The specification	on of which:	
is attache		
877	55 5 50 CO	
was filed as United	November 16, 2017 States Application No.	15/574646
	• •	
	d as PCT International Applica May 26, 2016	on No. PCT/US2016/034273
filed on	1884 TO, 2010	
The above-ide	itified application was made or	authorized to be made by me.
	wledge that any wiliful false sta ment of not more than 5 years	ement made in this declaration is punishable under 18 U.S.C. 1001 by or both.
assigns, the er continuation (ir by me or made termination of, all Letters Pate thereto (includiown name and international continuation (ir part upon the s	tire right, title, and interest in a whole or in part) of said application jointly with others (provided a my employment with 3M COM nt, reexaminations, reissues, ong the right to apply for Letters to claim any priority rights for inventions, treaties, or otherwise whole or in part), renewal, recommendations.	he, having its principal office at Saint Paul, Minnesota, its successors and all to the said invention and application, and in and to any division or ation, and in and to any and all improvements in the said invention made y such improvement is made during, or within one year after the ANY and any of its existing or future subsidiaries), and in and to any and extensions thereof, of the United States of America and countries foreign Patent, Utility Models, or Inventors' Certificates in foreign countries in its uch foreign applications to which such applications are entitled under a), which have been or may be granted thereon or on any divisional, camination, reissue, or other or further application based in whole or in hereon, to be held and enjoyed as fully and exclusively as they would asfer not been made;
consideration a	iny further applications, assign emed necessary by said Com	executors, and administrators, to execute and deliver without further nents, and documents, and to perform such other acts as I lawfully may, any, its successors, assigns, and nominees, fully to secure its right, title, itain Letters Patent, Utility Models, or Inventors' Certificates in any and all
	ny of the said applications, to	sioner of Patents to issue any and all Letters Patent which may be aid 3M Innovative Properties Company, as the assignee of the entire right
Legal Name (f Inventor:	
Helmar B.		
Inventor's Sig	Titan managaran	Date:
***************************************		Feb 54, 2018

Case No:

75834US004

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:

SOL CONTAINING NANO ZIRCONIA PARTICLES FOR USE IN ADDITIVE MANUFACTURING PROCESSES FOR THE PRODUCTION OF 3-DIMENSIONAL ARTICLES

		PRODUCTION OF 3-DIMENSIONAL ARTICLES
The specification is attached h		
is attached h	ereto,	
was filed on	November 16, 2017	
as United St	ates Application No.	15/574646
is identified a filed on	as PCT International Application No. May 26, 2016	PCT/US2016/034273
The above-identif	ied application was made or authorize	I to be made by me.
	edge that any willful false statement ment of not more than 5 years, or both.	ade in this declaration is punishable under 18 U.S.C. 1001 by
3M COMPANY, a assigns, the entire continuation (in w by me or made jo termination of, my all Letters Patent, thereto (including own name and to international conv continuation (in w part upon the said	nd a corporation of Delaware, having a right, title, and interest in and to the shole or in part) of said application, and intly with others (provided any such in employment with 3M COMPANY and reexaminations, reissues, or extension the right to apply for Letters Patent, U claim any priority rights for such foreigentions, treaties, or otherwise), which hole or in part), renewal, reexamination	TIVE PROPERTIES COMPANY, a wholly-owned subsidiary of its principal office at Saint Paul, Minnesota, its successors and aid invention and application, and in and to any division or in and to any and all improvements in the said invention made provement is made during, or within one year after the any of its existing or future subsidiaries), and in and to any and inside thereof, of the United States of America and countries foreign itity Models, or inventors' Certificates in foreign countries in its in applications to which such applications are entitled under have been or may be granted thereon or on any divisional, in, reissue, or other or further application based in whole or in the behald and enjoyed as fully and exclusively as they would been made;
consideration any that may be deem	further applications, assignments, an led necessary by said Company, its si	, and administrators, to execute and deliver without further if documents, and to perform such other acts as I lawfully may, accessors, assigns, and nominees, fully to secure its right, title, rs Patent, Utility Models, or Inventors' Certificates in any and all
I do hereby autho granted upon any title, and interest	of the said applications, to said 3M In	Patents to issue any and all Letters Patent which may be novative Properties Company, as the assignee of the entire righ
Legal Name of i	eventor:	
Malte Korten		
Inventor's Signa	ture:	Date: 18% Jonit 1048

Case No:

75834US004

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:

SOL CONTAINING NANO ZIRCONIA PARTICLES FOR USE IN ADDITIVE

The	specification of w	hich:			
	is attached heret	o ;			
\boxtimes	was filed on as United States	November 16, 2017	7		15/574646
	CO-CIMOO CIGIO	2. in factor of the second			
	is identified as P filed on	CT International Applic May 26, 2016	ation No.		PCT/US2016/034273
The	above-identified	application was made o	or authorized to	be made by	me.
and 3M assi conf by n tern all L ther own inter conf part	do hereby assign COMPANY, and a gns, the entire rig tinuation (in whole ne or made jointly nination of, my emetters Patent, ree to (including the name and to clair reational conventitinuation (in whole upon the said inv	and transfer unto the a a corporation of Delawa ht, title, and interest in or in part) of said appl with others (provided a aployment with 3M CON xaminations, reissues, right to apply for Letter m any priority rights for ons, treaties, or otherwas or in part), renewal, re	3M INNOVATIV are, having its p and to the said lication, and in a any such impro- MPANY and any or extensions ti rs Patent, Utility r such foreign a vise), which hav bexamination, re ts thereon, to be	E PROPER' rincipal office invention an and to any are wement is may of its existing the reof, of the Models, or I pplications to been or maissue, or other held and er	nowledged, I have agreed to assign and transfer TIES COMPANY, a wholly-owned subsidiary of e at Saint Paul, Minnesota, its successors and all application, and in and to any division or and all improvements in the said invention made ade during, or within one year after the ang or future subsidiaries), and in and to any and a United States of America and countries foreign inventors' Certificates in foreign countries in its owhich such applications are entitled under any be granted thereon or on any divisional, her or further application based in whole or in anjoyed as fully and exclusively as they would
I do con that and	further agree for sideration any fur may be deemed	myself and for my heirs ther applications, assig necessary by said Con	s, executors, an inments, and do npany, its succe	id administra ocuments, an essors, assig	stors, to execute and deliver without further nd to perform such other acts as I lawfully may, ins, and nominees, fully to secure its right, title, Models, or Inventors' Certificates in any and a
grai	hereby authorize nted upon any of t , and interest ther	he said applications, to	missioner of Pat o said 3M Innov	ents to issue ative Proper	e any and all Letters Patent which may be ties Company, as the assignee of the entire rig
Le	gal Name of Inve	ntor:	000000000000000000000000000000000000000		
8	hristine M. An				
In	ventor's Signature	,		Date:	
	(C),	es /L		Ч	/16/16

Case No:

75834US004

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:

SOL CONTAINING NANO ZIRCONIA PARTICLES FOR USE IN ADDITIVE MANUFACTURING PROCESSES FOR THE PRODUCTION OF 3-DIMENSIONAL ARTICLES The specification of which: is attached hereto: W was filed on November 16, 2017 as United States Application No. 15/574646 PCT/US2016/034273 is identified as PCT International Application No. May 26, 2016 filed on The above-identified application was made or authorized to be made by me. 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 5 years, or both. In addition, for good and valuable consideration, receipt of which is acknowledged, I have agreed to assign and transfer and do hereby assign and transfer unto the 3M INNOVATIVE PROPERTIES COMPANY, a wholly-owned subsidiary of 3M COMPANY, and a corporation of Delaware, having its principal office at Saint Paul, Minnesota, its successors and assigns, the entire right, title, and interest in and to the said invention and application, and in and to any division or continuation (in whole or in part) of said application, and in and to any and all improvements in the said invention made by me or made jointly with others (provided any such improvement is made during, or within one year after the termination of, my employment with 3M COMPANY and any of its existing or future subsidiaries), and in and to any and all Letters Patent, reexaminations, reissues, or extensions thereof, of the United States of America and countries foreign thereto (including the right to apply for Letters Patent, Utility Models, or Inventors' Certificates in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), which have been or may be granted thereon or on any divisional, continuation (in whole or in part), renewal, reexamination, reissue, or other or further application based in whole or in part upon the said invention or improvements thereon, to be held and enjoyed as fully and exclusively as they would have been by me had this assignment and transfer not been made; I do further agree for myself and for my heirs, executors, and administrators, to execute and deliver without further consideration any further applications, assignments, and documents, and to perform such other acts as I lawfully may, that may be deemed necessary by said Company, its successors, assigns, and nominees, fully to secure its right, title, and interest as aforesaid and to obtain or maintain Letters Patent, Utility Models, or Inventors' Certificates in any and all countries: and I do hereby authorize and request the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of the said applications, to said 3M innovative Properties Company, as the assignee of the entire right, title, and interest therein. Legal Name of Inventor: Brant U. Kolb Inventor's Signature: 5/21/18

Case No:

75834US004

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:

SOL CONTAINING NANO ZIRCONIA PARTICLES FOR USE IN ADDITIVE MANUFACTURING PROCESSES FOR THE PRODUCTION OF 3-DIMENSIONAL ARTICLES. The specification of which: is attached hereto: was filed on November 16, 2017 as United States Application No. 15/574646 is identified as PCT International Application No. PCT/US2016/034273 filed on May 26, 2016 The above-identified application was made or authorized to be made by me. 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 5 years, or both. In addition, for good and valuable consideration, receipt of which is acknowledged, I have agreed to assign and transfer and do hereby assign and transfer unto the 3M INNOVATIVE PROPERTIES COMPANY, a wholly-owned subsidiary of 3M COMPANY, and a corporation of Delaware, having its principal office at Saint Paul, Minnesota, its successors and assigns, the entire right, title, and interest in and to the said invention and application, and in and to any division or continuation (in whole or in part) of said application, and in and to any and all improvements in the said invention made by me or made jointly with others (provided any such improvement is made during, or within one year after the termination of, my employment with 3M COMPANY and any of its existing or future subsidiaries), and in and to any and all Letters Patent, reexaminations, reissues, or extensions thereof, of the United States of America and countries foreign thereto (including the right to apply for Letters Patent, Utility Models, or Inventors' Certificates in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), which have been or may be granted thereon or on any divisional, continuation (in whole or in part), renewal, reexamination, reissue, or other or further application based in whole or in part upon the said invention or improvements thereon, to be held and enjoyed as fully and exclusively as they would have been by me had this assignment and transfer not been made; I do further agree for myself and for my heirs, executors, and administrators, to execute and deliver without further consideration any further applications, assignments, and documents, and to perform such other acts as I lawfully may, that may be deemed necessary by said Company, its successors, assigns, and nominees, fully to secure its right, title, and interest as aforesaid and to obtain or maintain Letters Patent, Utility Models, or Inventors' Certificates in any and all countries; and I do hereby authorize and request the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of the said applications, to said 3M Innovative Properties Company, as the assignee of the entire right, title, and interest therein. Legal Name of Inventor: Holger Hauptmann Inventor's Signature: February 2nd, 2018

is identified as PCT International Application No.

May 26, 2016

filed on

Case No:

PCT/US2015/034273

75834US004

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:

SOL CONTAINING NANO ZIRCONIA PARTICLES FOR USE IN ADDITIVE

The above-identified application was made or authorized to be made by me.

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 5 years, or both.

In addition, for good and valuable consideration, receipt of which is acknowledged. I have agreed to assign and transfer and do hereby assign and transfer unto the 3M INNOVATIVE PROPERTIES COMPANY, a wholly-owned subsidiary of 3M COMPANY, and a corporation of Delaware, having its principal office at Saint Paul, Minnesota, its successors and assigns, the entire right, title, and interest in and to the said invention and application, and in and to any division or continuation (in whole or in part) of said application, and in and to any and all improvements in the said invention made by me or made jointly with others (provided any such improvement is made during, or within one year after the termination of, my employment with 3M COMPANY and any of its existing or future subsidiaries), and in and to any and all Letters Patent, reexaminations, reissues, or extensions thereof, of the United States of America and countries foreign thereto (including the right to apply for Letters Patent, Utility Models, or inventors' Certificates in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), which have been or may be granted thereon or on any divisional, continuation (in whole or in part), renewal, reexamination, reissue, or other or further application based in whole or in part upon the said invention or improvements thereon, to be held and enjoyed as fully and exclusively as they would have been by me had this assignment and transfer not been made:

I do further agree for myself and for my heirs, executors, and administrators, to execute and deliver without further consideration any further applications, assignments, and documents, and to perform such other acts as I lawfully may, that may be deemed necessary by said Company, its successors, assigns, and nominees, fully to secure its right, title, and interest as aforesaid and to obtain or maintain Letters Patent, Utility Models, or Inventors' Certificates in any and all countries; and

I do hereby authorize and request the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of the said applications, to said 3M Innovative Properties Company, as the assignee of the entire right, title, and interest therein.

Legal Name of Inventor:				
Gallus Schechner				
Inventor's Signature:		Date:		
1 July	Mulho	Hy	2374	2018

is identified as PCT International Application No.

May 26, 2016

filed on

Case No:

PCT/US2016/034273

75834US004

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:

SOL CONTAINING NANO ZIRCONIA PARTICLES FOR USE IN ADDITIVE MANUFACTURING PROCESSES FOR THE PRODUCTION OF 3-DIMENSIONAL ARTICLES The specification of which: is attached hereto; was filed on November 16, 2017 as United States Application No. 15/574646

The above-identified application was made or authorized to be made by me.

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 5 years, or both.

In addition, for good and valuable consideration, receipt of which is acknowledged, I have agreed to assign and transfer and do hereby assign and transfer unto the 3M INNOVATIVE PROPERTIES COMPANY, a wholly-owned subsidiary of 3M COMPANY, and a corporation of Delaware, having its principal office at Saint Paul, Minnesota, its successors and assigns, the entire right, title, and interest in and to the said invention and application, and in and to any division or continuation (in whole or in part) of said application, and in and to any and all improvements in the said invention made by me or made jointly with others (provided any such improvement is made during, or within one year after the termination of, my employment with 3M COMPANY and any of its existing or future subsidiaries), and in and to any and all Letters Patent, reexaminations, reissues, or extensions thereof, of the United States of America and countries foreign thereto (including the right to apply for Letters Patent, Utility Models, or Inventors' Certificates in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), which have been or may be granted thereon or on any divisional, continuation (in whole or in part), renewal, reexamination, reissue, or other or further application based in whole or in part upon the said invention or improvements thereon, to be held and enjoyed as fully and exclusively as they would have been by me had this assignment and transfer not been made;

I do further agree for myself and for my heirs, executors, and administrators, to execute and deliver without further consideration any further applications, assignments, and documents, and to perform such other acts as I lawfully may, that may be deemed necessary by said Company, its successors, assigns, and nominees, fully to secure its right, title, and interest as aforesaid and to obtain or maintain Letters Patent, Utility Models, or Inventors' Certificates in any and all countries: and

I do hereby authorize and request the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of the said applications, to said 3M Innovative Properties Company, as the assignee of the entire right, title, and interest therein.

Legal Name of Inventor:	
Michael Jahns	
Inventor's Signature:	Date:
M. Jalin	06.02,2018

Case No:

75834US004

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:

SOL CONTAINING NANO ZIRCONIA PARTICLES FOR USE IN ADDITIVE

MANUFACTURING PROCESSES FOR THE PRODUCTION OF 3-DIMENSIONAL ARTICLES The specification of which: I I is attached hereto: was filed on November 16, 2017 as United States Application No. 15/574646 PCT/US2016/034273 is identified as PCT International Application No. filed on May 26, 2016 The above-identified application was made or authorized to be made by me. 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 5 years, or both. In addition, for good and valuable consideration, receipt of which is acknowledged, I have agreed to assign and transfer and do hereby assign and transfer unto the 3M INNOVATIVE PROPERTIES COMPANY, a wholly-owned subsidiary of 3M COMPANY, and a corporation of Delaware, having its principal office at Saint Paul, Minnesota, its successors and assigns, the entire right, title, and interest in and to the said invention and application, and in and to any division or continuation (in whole or in part) of said application, and in and to any and all improvements in the said invention made by me or made jointly with others (provided any such improvement is made during, or within one year after the termination of, my employment with 3M COMPANY and any of its existing or future subsidiaries), and in and to any and all Letters Patent, reexaminations, reissues, or extensions thereof, of the United States of America and countries foreign thereto (including the right to apply for Letters Patent, Utility Models, or Inventors' Certificates in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), which have been or may be granted thereon or on any divisional, continuation (in whole or in part), renewal, reexamination, reissue, or other or further application based in whole or in part upon the said invention or improvements thereon, to be held and enjoyed as fully and exclusively as they would have been by me had this assignment and transfer not been made; I do further agree for myself and for my heirs, executors, and administrators, to execute and deliver without further consideration any further applications, assignments, and documents, and to perform such other acts as I lawfully may, that may be deemed necessary by said Company, its successors, assigns, and nominees, fully to secure its right, title, and interest as aforesaid and to obtain or maintain Letters Patent, Utility Models, or Inventors' Certificates in any and all countries; and I do hereby authorize and request the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of the said applications, to said 3M Innovative Properties Company, as the assignee of the entire right, title, and interest therein. Legal Name of Inventor: Kathleen M. Humpal Inventor's Signature: Date: Huthleen M. Dal 3/20/18

Case No:

75834US004

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:

SOL CONTAINING NANO ZIRCONIA PARTICLES FOR USE IN ADDITIVE

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Case No:

75834US004

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:

SOL CONTAINING NANO ZIRCONIA PARTICLES FOR USE IN ADDITIVE

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Date:

2/1/2018

PATENT REEL: 046189 FRAME: 0180

RECORDED: 06/25/2018

Inventor's Signature: