#### 07/15/2016 503916995

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3963648

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
GREGORY R. WHITTAKER	07/06/2016
BENJAMIN CLEVELAND	07/12/2016
JULIA HWANG	06/30/2016
DAVID B. SPENCINER	07/11/2016
WILLIAM R. PARRISH	07/06/2016
JACOB A. MARKS	07/06/2016
MEHMET Z. SENGUN	07/01/2016
STEVEN N. BITTENSON	07/06/2016
REAGAN A. THEIS	06/28/2016

## **RECEIVING PARTY DATA**

Name:	DEPUY SYNTHES PRODUCTS, INC.
Street Address:	325 PARAMOUNT DRIVE
City:	RAYNHAM
State/Country:	MASSACHUSETTS
Postal Code:	02767

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15148464

## **CORRESPONDENCE DATA**

Fax Number:

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: 617 348 3018

Email: csperry@mintz.com **CHRISTINA SPERRY Correspondent Name:** Address Line 1: ONE FINANCIAL CENTER

Address Line 4: BOSTON, MASSACHUSETTS 02111

NAME OF SUBMITTER: CHRISTINA SPERRY **SIGNATURE:** /Christina Sperry/

DATE SIGNED:	07/15/2016
	This document serves as an Oath/Declaration (37 CFR 1.63).
Total Attachments: 18	
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source=Combined_Decs_Assign_15148	3464#page9.tif
source=Combined_Decs_Assign_15148	3464#page10.tif
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COMBINED DECLARATION AND ASSIGNMENT					
Title of Invention: METHODS, DEVICES, AND SYSTEMS FOR BLOOD FLOW					
This declaration and assignment is directed to:					
The attached	or filed herewith application of (list of named inventors),				
or					
	States application or PCT international application 48,464 filed on May 6, 2016.				
Declaration					
As the below named inventor, I hereby declare that:	·				
The above-identified application ("Application") was made	le or authorized by me.				
I believe that I am the original inventor or an original inve	entor of a claimed invention or discovery in the Application.				
I have reviewed and understood the contents of the Application which is material to patentability as defined in Title this Application in the United States of America.	olication, including the claims, and I acknowledge the duty to disclose 37, the United States Code of Federal Regulations, §1.56 for filings of				
I hereby acknowledge that any willful false statement m imprisonment of not more than five (5) years, or both for filings of	ade in this declaration is punishable under 18 U.S.C. § 1001 by fine or this Application in the United States of America.				
Assignment					
325 Par	hes Products, Inc. amount Drive n, MA 02767				
a corporat	ion of Delaware				
(hereinafter design	nated as the "Assignee"),				
I hereby acknowledge that I have assigned the above-ide which is hereby conformed for recordation in the US Patent Office	entified invention by previous assignment (attached hereto) to Assignee and I confirm I have and do assign and transfer:				
or					
For good and valuable consideration, the sufficiency assigned and transferred to Assignee:	of which is acknowledged, I hereby assign and transfer and/or have				
the right to claim priority to the Application, all inventions or dis States, European Patent Office and of all other countries, which such inventions or discoveries and all rights in such Applica continuations thereof, and to all Letters Patent that may be gra- supplementary protection certificates, reexaminations, renewals, a	n, including all priority rights for other countries arising therefrom and coveries therein disclosed, and any and all Letters Patent of the United may be granted for such inventions or discoveries, or any of them, all tion including any and all provisionals, substitutions, divisions, and need for said inventions and discoveries, and in and to all extensions, and reissues thereof, to be held and enjoyed by Assignee for its own use a Letters Patent may be granted, as fully and entirely as the same would ot been made.				
Pag	ge 1 of 2				

US Application No.: 15/148,464

I shall execute all papers necessary in connection with the Application in the United States Patent and Trademark Office, European Patent Office, any other patent offices, and under the Patent Cooperation Treaty, and any continuing, divisional, or reissue applications thereof, any reexamination of any of such applications, and any patent term extensions or supplementary protection certificates of any such applications and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

I shall execute all papers necessary in connection with any litigation or any other judicial proceeding in the United States or other country, or any administrative proceeding in the United States Patent and Trademark Office, European Patent Office, any other patent office, or under the Patent Cooperation Treaty concerning the Application(s) or any continuation, divisional, or reissue applications thereof, or any reexamination of any such applications, or any Letters Patent issued therefrom or any patent term extensions or supplementary protection certificates of any such applications and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such litigation or proceeding.

I shall 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.

I shall do all other acts which, in the opinion of Assignee, may be necessary or desirable to secure the grant of Letters Patent to Assignee or its nominees, in the United States, by the European Patent Office and in all other countries where Assignee may desire to have such inventions or discoveries, or any of them, patented, with specifications and claims in such form as shall be approved by Assignee and to vest and confirm in Assignee or its nominees the full and complete legal and equitable title to all such Letters Patent.

I hereby (i) authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from the Application or any divisional, continuation, or reissue applications thereof, and any reexamination of any of such applications, to Assignee, and (ii) covenant that I have full right to convey the interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

LEGAL NAME OF INVENTOR

GREGORY R. WHITTAKER

Jun 1

Date

COMBINED	DECLARATION AND ASSIGNMENT
Title of Invention: METHODS, DEVICES, AN	D SYSTEMS FOR BLOOD FLOW
This declaration and assignment is directed to:	·
. $\Box$	The attached or filed herewith application of (list of named inventors),
or	
	The United States application or PCT international application number 15/148,464 filed on May 6, 2016.
Declaration	•
As the below named inventor, I hereby declar	are that:
The above-identified application ("Applicat	ion") was made or authorized by me.
I believe that I am the original inventor or a	n original inventor of a claimed invention or discovery in the Application.
	ats of the Application, including the claims, and I acknowledge the duty to disclose fined in Title 37, the United States Code of Federal Regulations, §1.56 for filings of
	statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or for filings of this Application in the United States of America.
Assignment	DePuy Synthes Products, Inc. 325 Paramount Drive Raynham, MA 02767
	a corporation of Delaware
(hero	inafter designated as the "Assignee"),
	the above-identified invention by previous assignment (attached hereto) to Assignee Patent Office and I confirm I have and do assign and transfer:
or	
For good and valuable consideration, the assigned and transferred to Assignee:	sufficiency of which is acknowledged, I hereby assign and transfer and/or have
he right to claim priority to the Application, all invistates, European Patent Office and of all other cousuch inventions or discoveries and all rights in scontinuations thereof, and to all Letters Patent that supplementary protection certificates, reexamination	the Application, including all priority rights for other countries arising therefrom and entions or discoveries therein disclosed, and any and all Letters Patent of the United ntries, which may be granted for such inventions or discoveries, or any of them, all such Application including any and all provisionals, substitutions, divisions, and may be granted for said inventions and discoveries, and in and to all extensions, s, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own use or which such Letters Patent may be granted, as fully and entirely as the same would ent and sale not been made.
	Page 1 of 2

US Application No.: 15/148,464

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I shall 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.

I shall do all other acts which, in the opinion of Assignee, may be necessary or desirable to secure the grant of Letters Patent to Assignee or its nominees, in the United States, by the European Patent Office and in all other countries where Assignee may desire to have such inventions or discoveries, or any of them, patented, with specifications and claims in such form as shall be approved by Assignee and to vest and confirm in Assignee or its nominees the full and complete legal and equitable title to all such Letters Patent.

I hereby (i) authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from the Application or any divisional, continuation, or reissue applications thereof, and any reexamination of any of such applications, to Assignee, and (ii) covenant that I have full right to convey the interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

LEGAL NAME OF INVENTOR

BENJAMIN CLEVELAND

Signature

Date

LJUL 2016

50090557v.1

Page 2 of 2

COMB	INED	DECLARATION AND ASSIGNMENT
Title of Invention: METHODS, DEVIC	CES, AN	ID SYSTEMS FOR BLOOD FLOW
This declaration and assignment is directed (	o:	
		The attached or filed herewith application of (list of named inventors),
	or	
	$\boxtimes$	The United States application or PCT international application number 15/148,464 filed on May 6, 2016.
Declaration		
As the below named inventor, I her	eby decl	are that:
The above-identified application ("	Applicat	ion") was made or authorized by me.
I believe that I am the original inve	ntor or a	n original inventor of a claimed invention or discovery in the Application.
I have reviewed and understood the information which is material to patentabilithis Application in the United States of American	ty as def	nts of the Application, including the claims, and I acknowledge the duty to disclose fined in Title 37, the United States Code of Federal Regulations, §1.56 for filings of
I hereby acknowledge that any wil imprisonment of not more than five (5) year	lful false s, or both	e statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or filings of this Application in the United States of America.
Assignment		DePuy Synthes Products, Inc. 325 Paramount Drive Raynham, MA 02767
		a corporation of Delaware
	(her	einafter designated as the "Assignee"),
I hereby acknowledge that I have a which is hereby conformed for recordation i	assigned n the US	the above-identified invention by previous assignment (attached hereto) to Assignee Patent Office and I confirm I have and do assign and transfer:
or		
For good and valuable consideral assigned and transferred to Assignee:	tion, the	sufficiency of which is acknowledged, I hereby assign and transfer and/or have
the right to claim priority to the Application States, European Patent Office and of all casuch inventions or discoveries and all right continuations thereof, and to all Letters Pasupplementary protection certificates, reexa	n, all invother coughts in tent that mination terms f	the Application, including all priority rights for other countries arising therefrom and ventions or discoveries therein disclosed, and any and all Letters Patent of the United antries, which may be granted for such inventions or discoveries, or any of them, all such Application including any and all provisionals, substitutions, divisions, and t may be granted for said inventions and discoveries, and in and to all extensions, as, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own use for which such Letters Patent may be granted, as fully and entirely as the same would cent and sale not been made.
•		Page 1 of 2

US Application No.: 15/148,464

I shall execute all papers necessary in connection with the Application in the United States Patent and Trademark Office, Buropean Patent Office, any other patent offices, and under the Patent Cooperation Treaty, and any continuing, divisional, or reissue applications thereof, any reexamination of any of such applications, and any patent term extensions or supplementary protection certificates of any such applications and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

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I shall do all other acts which, in the opinion of Assignee, may be necessary or desirable to secure the grant of Letters Patent to Assignee or its nominees, in the United States, by the Buropean Patent Office and in all other countries where Assignee may desire to have such inventions or discoveries, or any of them, patented, with specifications and claims in such form as shall be approved by Assignee and to yest and confirm in Assignee or its nominees the full and complete legal and equitable title to all such Letters Patent.

I hereby (i) authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from the Application or any divisional, continuation, or reissue applications thereof, and any reexamination of any of such applications, to Assignee, and (ii) covenant that I have full right to convey the interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

LEGAL NAME OF INVENTOR

JULIA HWANG

Signature

6/30/11

COMB	INED	DECLARATION AND ASSIGNMENT
Title of Invention: METHODS, DEVIC	CES, AI	ND SYSTEMS FOR BLOOD FLOW
This declaration and assignment is directed t	:0;	
•	□ .	The attached or filed herewith application of (list of named inventors),
	or	
	$\boxtimes$	The United States application or PCT international application number 15/148.464 filed on May 6, 2016.
Declaration		
As the below named inventor, I here	eby dec	clare that:
The above-identified application (".	Applica	ation") was made or authorized by me.
I believe that I am the original inver	ntor or a	an original inventor of a claimed invention or discovery in the Application.
	ty as de	ents of the Application, including the claims, and I acknowledge the duty to disclose efined in Title 37, the United States Code of Federal Regulations, §1.56 for filings of
		se statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or th for filings of this Application in the United States of America.
Assignment		•
		DePuy Synthes Products, Inc. 325 Paramount Drive Raynham, MA 02767
		a corporation of Delaware
	(her	reinafter designated as the "Assignee"),
		I the above-identified invention by previous assignment (attached hereto) to Assignee S Patent Office and I confirm I have and do assign and transfer:
o <b>r</b>		
☐ For good and valuable considerates ssigned and transferred to Assignee:	ion, the	e sufficiency of which is acknowledged, I hereby assign and transfer and/or have
the right to claim priority to the Application States, European Patent Office and of all o uch inventions or discoveries and all rig continuations thereof, and to all Letters Pa upplementary protection certificates, reexan	n, all involves conduction that in the that the mination terms for the t	the Application, including all priority rights for other countries arising therefrom and ventions or discoveries therein disclosed, and any and all Letters Patent of the United untries, which may be granted for such inventions or discoveries, or any of them, all such Application including any and all provisionals, substitutions, divisions, and at may be granted for said inventions and discoveries, and in and to all extensions, ns, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own use for which such Letters Patent may be granted, as fully and entirely as the same would nent and sale not been made.
		Page 1 of 2

US Application No.: 15/148,464

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I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

DAVID B. SPENCINER

O7 · ((, | 6)

Date

50090840v.1

LEGAL NAME OF INVENTOR

Page 2 of 2

COMBINE	D DECLARATION AND ASSIGNMENT
Title of Invention: METHODS, DEVICES, A	AND SYSTEMS FOR BLOOD FLOW
This declaration and assignment is directed to:	
	The attached or filed herewith application of (list of named inventors),
or	
	The United States application or PCT international application number 15/148,464 filed on May 6, 2016.
Declaration	
As the below named inventor, I hereby de	colare that:
The above-identified application ("Application"	cation") was made or authorized by me.
I believe that I am the original inventor or	an original inventor of a claimed invention or discovery in the Application.
	tents of the Application, including the claims, and I acknowledge the duty to disclose defined in Title 37, the United States Code of Federal Regulations, §1.56 for filings of
	lse statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or oth for filings of this Application in the United States of America.
Assignment	
	DePuy Synthes Products, Inc. 325 Paramount Drive Raynham, MA 02767
	a corporation of Delaware
(h	ereinafter designated as the "Assignee"),
	ed the above-identified invention by previous assignment (attached hereto) to Assignee JS Patent Office and I confirm I have and do assign and transfer:
or	
For good and valuable consideration, the assigned and transferred to Assignee:	ne sufficiency of which is acknowledged, I hereby assign and transfer and/or have
the right to claim priority to the Application, all is States, Buropean Patent Office and of all other e such inventions or discoveries and all rights in continuations thereof, and to all Letters Patent the supplementary protection certificates, reexamination	r the Application, including all priority rights for other countries arising therefrom and any entitions or discoveries therein disclosed, and any and all Letters Patent of the United ountries, which may be granted for such inventions or discoveries, or any of them, all a such Application including any and all provisionals, substitutions, divisions, and nat may be granted for said inventions and discoveries, and in and to all extensions, ons, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own use for which such Letters Patent may be granted, as fully and entirely as the same would ment and sale not been made.
	Page 1 of 2

US Application No.: 15/148,464

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I hereby (i) authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from the Application or any divisional, continuation, or reissue applications thereof, and any reexamination of any of such applications, to Assignee, and (ii) covenant that I have full right to convey the interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

LEGAL NAME OF INVENTOR

WILLIAM R. PARRISH

William Date

07/06/16

Date

OS Application 13/140,	104
COMBINED DECLARATION AND ASSIGNMENT	
Title of Invention: METHODS, DEVICES, AND SYSTEMS FOR BLOOD FLOW	
This declaration and assignment is directed to:	
The attached or filed herewith application of (list of named inventors)	_1
or	
The United States application or PCT international application number 15/148,464 filed on May 6, 2016.	
Declaration	
As the below named inventor, I hereby declare that:	
The above-identified application ("Application") was made or authorized by me.	
I believe that I am the original inventor or an original inventor of a claimed invention or discovery in the Application.	
I have reviewed and understood the contents of the Application, including the claims, and I acknowledge the duty to discless information which is material to patentability as defined in Title 37, the United States Code of Federal Regulations, §1.56 for filings this Application in the United States of America.	of
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine imprisonment of not more than five (5) years, or both for filings of this Application in the United States of America.	or
Assignment	
DePuy Synthes Products, Inc. 325 Paramount Drive Raynham, MA 02767	
a corporation of Delaware	
(hereinafter designated as the "Assignee"),	
I hereby acknowledge that I have assigned the above-identified invention by previous assignment (attached hereto) to Assign which is hereby conformed for recordation in the US Patent Office and I confirm I have and do assign and transfer:	ee
or	
For good and valuable consideration, the sufficiency of which is acknowledged, I hereby assign and transfer and/or has assigned and transferred to Assignee:	γe
my entire right, title, and interest in, to, and under the Application, including all priority rights for other countries arising therefrom at the right to claim priority to the Application, all inventions or discoveries therein disclosed, and any and all Letters Patent of the Unit States, Buropean Patent Office and of all other countries, which may be granted for such inventions or discoveries, or any of them, such inventions or discoveries and all rights in such Application including any and all provisionals, substitutions, divisions, at continuations thereof, and to all Letters Patent that may be granted for said inventions and discoveries, and in and to all extension supplementary protection certificates, reexaminations, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own u and enjoyment to the full end of the term or terms for which such Letters Patent may be granted, as fully and entirely as the same wou have been held and enjoyed by me had this assignment and sale not been made.	ed all nd ns, se
Page 1 of 2	

US Application No.: 15/148,464

I shall execute all papers necessary in connection with the Application in the United States Patent and Trademark Office, European Patent Office, any other patent offices, and under the Patent Cooperation Treaty, and any continuing, divisional, or reissue applications thereof, any reexamination of any of such applications, and any patent term extensions or supplementary protection certificates of any such applications and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

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I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

LEGAL NAME OF INVENTOR

JACOB A. MARKS

Signature

7/6/2011

			·	**	·
•		OMBINEL	DECLARATION AND ASSIGNM	ENT	
Title (	of Invention: METHODS,	DEVICES, A	ND SYSTEMS FOR BLOOD FLOW		•
This de	claration and assignment is dir	ected to:			
		· 🔲	The attached or filed herewith application of	of (list of named inventors	),
		or			
	·	$\boxtimes$	The United States application or PCT internumber 15/148,464 filed on May 6, 2016.	national application	
Decla	ration	•			· .
	As the below named inventor	, I hereby dec	clare that:		
	The above-identified applicate	ion ("Applica	ation") was made or authorized by me.		
	I believe that I am the origina	l inventor or	an original inventor of a claimed invention or	discovery in the Applicat	ion.
		ntability as de	ents of the Application, including the claims, efined in Title 37, the United States Code of		
impriso			se statement made in this declaration is punis th for filings of this Application in the United		1001 by fine or
Assign	nment		DePuy Synthes Products, Inc. 325 Paramount Drive Raynham, MA 02767		·
	•		a corporation of Delaware	·	
,	•	(he	reinaster designated as the "Assignee"),		
which is			I the above-identified invention by previous a S Patent Office and I confirm I have and do as		to) to Assignce
or					,
⊠ assigned	For good and valuable cons d and transferred to Assignee:	ideration, the	e sufficiency of which is acknowledged, I	hereby assign and transf	er and/or have
the right States, such in continua- supplement enjoint	t to claim priority to the Appli European Patent Office and o ventions or discoveries and a ations thereof, and to all Lette nentary protection certificates,	cation, all in f all other co all rights in ers Patent that reexamination erm or terms	the Application, including all priority rights a ventions or discoveries therein disclosed, and untries, which may be granted for such inver- such Application including any and all prat- at may be granted for said inventions and d ns, renewals, and reissues thereof, to be held for which such Letters Patent may be granted ment and sale not been made.	I any and all Letters Pater ntions or discoveries, or a rovisionals, substitutions, iscoveries, and in and to and enjoyed by Assignee	nt of the United any of them, all divisions, and all extensions, for its own use
			Page <b>1</b> of <b>2</b>		
	•		<u>,                                     </u>		

US Application No.: 15/148,464

I shall execute all papers necessary in connection with the Application in the United States Patent and Trademark Office, European Patent Office, any other patent offices, and under the Patent Cooperation Treaty, and any continuing, divisional, or reissue applications thereof, any reexamination of any of such applications, and any patent term extensions or supplementary protection certificates of any such applications and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

I shall execute all papers necessary in connection with any litigation or any other judicial proceeding in the United States or other country, or any administrative proceeding in the United States Patent and Trademark Office, European Patent Office, any other patent office, or under the Patent Cooperation Treaty concerning the Application(s) or any continuation, divisional, or reissue applications thereof, or any reexamination of any such applications, or any Letters Patent issued therefrom or any patent term extensions or supplementary protection certificates of any such applications and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such litigation or proceeding.

I shall 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.

I shall do all other acts which, in the opinion of Assignee, may be necessary or desirable to secure the grant of Letters Patent to Assignee or its nominees, in the United States, by the European Patent Office and in all other countries where Assignee may desire to have such inventions or discoveries, or any of them, patented, with specifications and claims in such form as shall be approved by Assignee and to vest and confirm in Assignee or its nominees the full and complete legal and equitable title to all such Letters Patent.

I hereby (i) authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from the Application or any divisional, continuation, or reissue applications thereof, and any reexamination of any of such applications, to Assignee, and (ii) covenant that I have full right to convey the interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

LEGAL NAME OF INVENTOR

MEHMET Z. SENGUN

Signature

Date

50091734v.1

Page 2 of 2

/1/2016

COMBINED DECLARATION AND ASSIGNMENT				
Title of Invention: METHODS	, DEVICES, A	ND SYSTEMS FOR BLOOD FLOW		
This declaration and assignment is o	irected to:			
		The attached or filed herewith application of (list of named inventors),		
	o <b>r</b>			
		The United States application or PCT international application number 15/148,464 filed on May 6, 2016.		
Declaration				
As the below named inven	or, I hereby dec	clare that:		
The above-identified applie	cation ("Applica	ation") was made or authorized by me.		
I believe that I am the origi	nal inventor or	an original inventor of a claimed invention or discovery in the Application.		
	tentability as d	ents of the Application, including the claims, and I acknowledge the duty to disclose efined in Title 37, the United States Code of Federal Regulations, §1.56 for filings of		
		se statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or oth for filings of this Application in the United States of America.		
Assignment	1			
		DePuy Synthes Products, Inc. 325 Paramount Drive		
		Raynham, MA 02767		
•		a corporation of Delaware		
	(he	reinafter designated as the "Assignee"),		
		d the above-identified invention by previous assignment (attached hereto) to Assignee IS Patent Office and I confirm I have and do assign and transfer:		
or				
For good and valuable coassigned and transferred to Assigne		ne sufficiency of which is acknowledged, I hereby assign and transfer and/or have		
the right to claim priority to the Ap States, European Patent Office and such inventions or discoveries an continuations thereof, and to all L supplementary protection certificate	plication, all in d of all other ed d all rights in etters Patent thes, reexamination term or terms	the Application, including all priority rights for other countries arising therefrom and aventions or discoveries therein disclosed, and any and all Letters Patent of the United countries, which may be granted for such inventions or discoveries, or any of them, all such Application including any and all provisionals, substitutions, divisions, and tat may be granted for said inventions and discoveries, and in and to all extensions, ons, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own use for which such Letters Patent may be granted, as fully and entirely as the same would ment and sale not been made.		
		Page 1 of 2		

US Application No.: 15/148,464

I shall execute all papers necessary in connection with the Application in the United States Patent and Trademark Office, European Patent Office, any other patent offices, and under the Patent Cooperation Treaty, and any continuing, divisional, or reissue applications thereof, any reexamination of any of such applications, and any patent term extensions or supplementary protection certificates of any such applications and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

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I shall do all other acts which, in the opinion of Assignee, may be necessary or desirable to secure the grant of Letters Patent to Assignee or its nominees, in the United States, by the European Patent Office and in all other countries where Assignee may desire to have such inventions or discoveries, or any of them, patented, with specifications and claims in such form as shall be approved by Assignee and to vest and confirm in Assignee or its nominees the full and complete legal and equitable title to all such Letters Patent.

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I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

LEGAL NAME OF INVENTOR .

STEVEN N. BITTENSON	7/6/16	·
Signature	Date	<u> </u>

## COMBINED DECLARATION AND ASSIGNMENT

Title of Invention: METHODS, DEVICES, AND SYST	EMS FOR BLOOD FLOW			
This declaration and assignment is directed to:				
The atta	ched or filed herewith application of (list of named inventors),			
or				
	ited States application or PCT international application 15/148,464 filed on May 6, 2016.			
Declaration	•			
As the below named inventor, I hereby declare that:				
The above-identified application ("Application") was	made or authorized by me.			
I believe that I am the original inventor or an original inventor of a claimed invention or discovery in the Application.				
I have reviewed and understood the contents of the information which is material to patentability as defined in I this Application in the United States of America.	Application, including the claims, and I acknowledge the duty to disclose litle 37, the United States Code of Federal Regulations, §1.56 for filings of			
I hereby acknowledge that any willful false statement imprisonment of not more than five (5) years, or both for filing	nt made in this declaration is punishable under 18 U.S.C. § 1001 by fine or gs of this Application in the United States of America.			
325	Synthes Products, Inc. Paramount Drive			
	nham, MA 02767			
	oration of Delaware			
	signated as the "Assignee"),			
I hereby acknowledge that I have assigned the above which is hereby conformed for recordation in the US Patent O	e-identified invention by previous assignment (attached hereto) to Assignee ffice and I confirm I have and do assign and transfer:			
or	•			
For good and valuable consideration, the sufficient assigned and transferred to Assignee:	cy of which is acknowledged, I hereby assign and transfer and/or have			
the right to claim priority to the Application, all inventions of States, European Patent Office and of all other countries, where such inventions or discoveries and all rights in such App continuations thereof, and to all Letters Patent that may be supplementary protection certificates, reexaminations, renewal	ation, including all priority rights for other countries arising therefrom and discoveries therein disclosed, and any and all Letters Patent of the United tich may be granted for such inventions or discoveries, or any of them, all lication including any and all provisionals, substitutions, divisions, and granted for said inventions and discoveries, and in and to all extensions, is, and reissues thereof, to be held and enjoyed by Assignee for its own use such Letters Patent may be granted, as fully and entirely as the same would be not been made.			
Page 1 of 2				

US Application No.: 15/148,464

I shall execute all papers necessary in connection with the Application in the United States Patent and Trademark Office, European Patent Office, any other patent offices, and under the Patent Cooperation Treaty, and any continuing, divisional, or reissue applications thereof, any reexamination of any of such applications, and any patent term extensions or supplementary protection certificates of any such applications and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

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I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

LEGAL NAME OF INVENTOR

REAGAN A. THEIS

dignature

Date

6/28/16

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Page 2 of 2