

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3963648

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
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
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	DEPUY SYNTHES PRODUCTS, INC.
<b>Street Address:</b>	325 PARAMOUNT DRIVE
<b>City:</b>	RAYNHAM
<b>State/Country:</b>	MASSACHUSETTS
<b>Postal Code:</b>	02767
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	15148464
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<i>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.</i>	
<b>Phone:</b>	617 348 3018
<b>Email:</b>	csperry@mintz.com
<b>Correspondent Name:</b>	CHRISTINA SPERRY
<b>Address Line 1:</b>	ONE FINANCIAL CENTER
<b>Address Line 4:</b>	BOSTON, MASSACHUSETTS 02111
<b>NAME OF SUBMITTER:</b>	CHRISTINA SPERRY
<b>SIGNATURE:</b>	/Christina Sperry/

<b>DATE SIGNED:</b>	07/15/2016
	This document serves as an Oath/Declaration (37 CFR 1.63).
<b>Total Attachments: 18</b> source=Combined_Decs_Assign_15148464#page1.tif source=Combined_Decs_Assign_15148464#page2.tif source=Combined_Decs_Assign_15148464#page3.tif source=Combined_Decs_Assign_15148464#page4.tif source=Combined_Decs_Assign_15148464#page5.tif source=Combined_Decs_Assign_15148464#page6.tif source=Combined_Decs_Assign_15148464#page7.tif source=Combined_Decs_Assign_15148464#page8.tif source=Combined_Decs_Assign_15148464#page9.tif source=Combined_Decs_Assign_15148464#page10.tif source=Combined_Decs_Assign_15148464#page11.tif source=Combined_Decs_Assign_15148464#page12.tif source=Combined_Decs_Assign_15148464#page13.tif source=Combined_Decs_Assign_15148464#page14.tif source=Combined_Decs_Assign_15148464#page15.tif source=Combined_Decs_Assign_15148464#page16.tif source=Combined_Decs_Assign_15148464#page17.tif source=Combined_Decs_Assign_15148464#page18.tif	

## 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

☒ 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:

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### 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 Assignee which is hereby conformed for recordation in the US Patent Office and I confirm I have and do assign and transfer:

or

☒ For good and valuable consideration, the sufficiency of which is acknowledged, I hereby assign and transfer and/or have assigned and transferred to Assignee:

my entire right, title, and interest in, to, and under the Application, including all priority rights for other countries arising therefrom and the right to claim priority to the Application, all inventions or discoveries therein disclosed, and any and all Letters Patent of the United States, European Patent Office and of all other countries, which may be granted for such inventions or discoveries, or any of them, all such inventions or discoveries and all rights in such Application including any and all provisionals, substitutions, divisions, and continuations thereof, and to all Letters Patent that may be granted for said inventions and discoveries, and in and to all extensions, supplementary protection certificates, reexaminations, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own use 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 would have been held and enjoyed by me had this assignment and sale not been made.

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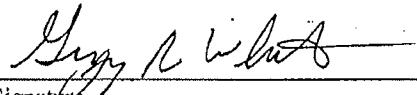
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I hereby (i) authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from the Application or any divisional, continuation, or reissue applications thereof, and any reexamination of any of 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.

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**LEGAL NAME OF INVENTOR**

**GREGORY R. WHITTAKER**

  
\_\_\_\_\_  
Signature

7-6-16  
\_\_\_\_\_  
Date

50090520v.1

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**LEGAL NAME OF INVENTOR**

**BENJAMIN CLEVELAND**

Signature

Date

12 JUL 2016

50090557v.1

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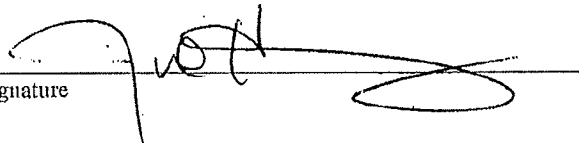
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**LEGAL NAME OF INVENTOR**

**JULIA HWANG**

Signature



Date

6/30/16

50090780v.1



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**LEGAL NAME OF INVENTOR**

DAVID B. SPENCINER



Signature

07.11.16

Date

50090840v.1

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**LEGAL NAME OF INVENTOR**

**WILLIAM R. PARRISH**



Signature

07/06/16

Date

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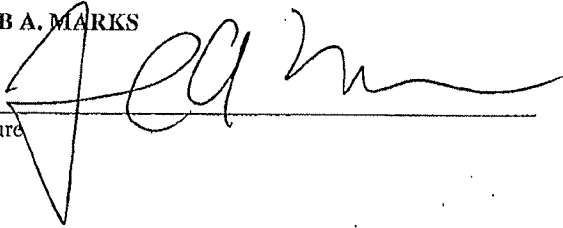
I hereby (i) authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from the Application or any divisional, continuation, or reissue applications thereof, and any reexamination of any of such applications, to Assignee, and (ii) covenant that 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**

JACOB A. MARKS

Signature



Date

7/6/2016

50091642v.1

## 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

☒ 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 disclose information which is material to patentability as defined in Title 37, the United States Code of Federal Regulations, §1.56 for filings of this Application in the United States of America.

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 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

(hereinafter designated as the "Assignee"),

☐ I hereby acknowledge that I have assigned the above-identified invention by previous assignment (attached hereto) to Assignee which is hereby conformed for recordation in the US Patent Office and I confirm I have and do assign and transfer:

or

☒ For good and valuable consideration, the sufficiency of which is acknowledged, I hereby assign and transfer and/or have assigned and transferred to Assignee:

my entire right, title, and interest in, to, and under the Application, including all priority rights for other countries arising therefrom and the right to claim priority to the Application, all inventions or discoveries therein disclosed, and any and all Letters Patent of the United States, European Patent Office and of all other countries, which may be granted for such inventions or discoveries, or any of them, all such inventions or discoveries and all rights in such Application including any and all provisionals, substitutions, divisions, and continuations thereof, and to all Letters Patent that may be granted for said inventions and discoveries, and in and to all extensions, supplementary protection certificates, reexaminations, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own use 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 would have been held and enjoyed by me had this assignment and sale not been made.

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.

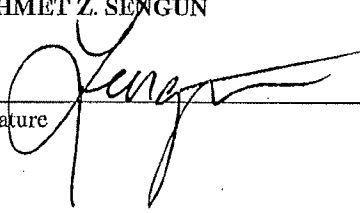
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**LEGAL NAME OF INVENTOR**

**MEHMET Z. SENGUN**

Signature



Date

7/1/2016

50091734v.1



## COMBINED DECLARATION AND ASSIGNMENT

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my entire right, title, and interest in, to, and under the Application, including all priority rights for other countries arising therefrom and the right to claim priority to the Application, all inventions or discoveries therein disclosed, and any and all Letters Patent of the United States, European Patent Office and of all other countries, which may be granted for such inventions or discoveries, or any of them, all such inventions or discoveries and all rights in such Application including any and all provisionals, substitutions, divisions, and continuations thereof, and to all Letters Patent that may be granted for said inventions and discoveries, and in and to all extensions, supplementary protection certificates, reexaminations, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own use 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 would have been held and enjoyed by me had this assignment and sale not been made.

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**LEGAL NAME OF INVENTOR**

STEVEN N. BITTENSON



Signature

7/6/16

Date

50091830v.1

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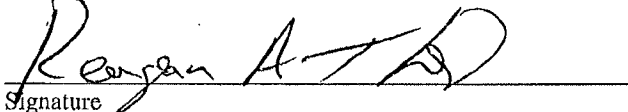
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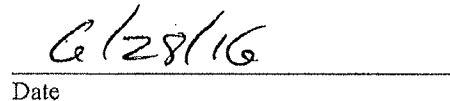
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**LEGAL NAME OF INVENTOR**

REAGAN A. THEIS

  
Signature

  
Date

50091961v.1