502569878 11/14/2013

PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|----------------------|----------------|
| BARRY O'CONNELL | 11/12/2013 |
| COLM CONNOLLY | 11/12/2013 |
| H. ALLAN STEINGISSER | 11/12/2013 |

RECEIVING PARTY DATA

| Name: | MEDTRONIC VASCULAR GALWAY | |
|-----------------|-----------------------------|--|
| Street Address: | PARKMORE BUSINESS PARK WEST | |
| City: | BALLYBRIT, GALWAY | |
| State/Country: | IRELAND | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 14080433 |

CORRESPONDENCE DATA

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| ATTORNEY DOCKET NUMBER: | C00005375.USU1 |
|-------------------------|--------------------|
| NAME OF SUBMITTER: | MICHAEL G. HARMS |
| Signature: | /Michael G. Harms/ |
| Date: | 11/14/2013 |

PATENT

REEL: 031605 FRAME: 0269

Total Attachments: 4

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> PATENT REEL: 031605 FRAME: 0270

ASSIGNMENT

WHEREAS we, the below named inventor(s), BARRY O'CONNELL; COLM CONNOLLY; and ALLAN STEINGISSER, have made an invention in

SYSTEMS AND METHODS FOR DETERMINING FRACTIONAL FLOW RESERVE WITHOUT ADENOSINE OR OTHER PHARMALOGICAL AGENT

for which an application for a United States Patent or a U.S. Provisional Application is being filed contemporaneously herewith;

WHEREAS, <u>MEDTRONIC VASCULAR GALWAY</u> having a place of business at <u>Parkmore Business Park West</u>, <u>Ballybrit</u>, <u>Galway Ireland</u> hereinafter referred to as "ASSIGNEE," is desirous of acquiring the entire right, title and interest in and to said invention for the United States and for all foreign countries and in and to any and all foreign and domestic Letters Patent which may be granted therefor;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, we have sold, assigned, transferred and set over and by these presents do sell, assign, transfer and set over unto ASSIGNEE, its successors and assigns, the entire right, title and interest in and to said invention and the application(s) identified above, and in and to any application claiming benefit thereto, and the entire right, title and interest in and to any and all Letters Patent of the United States and any foreign countries which may be granted therefor including our rights under the International Convention for the Protection of Industrial Property, and in and to any and all extensions, divisions, continuations, continuations-in-part or reissues of said Letters Patent that may be granted, the same to be held and enjoyed by ASSIGNEE for its own use and benefit and use and benefit of its successors and assigns to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by us had this assignment and sale not been made, including the right to enforce such Letters Patent as fully and entirely as the same would have been held and enjoyed by the assignors if this assignment had not been made; together with all claims by assignors for damages by reason of past infringement or for provisional rights and including the right to sue for, and collect the same for its own use and benefit, and for the use and benefit of its successors, assigns, and other legal representatives;

AND, for the consideration aforesaid, we materially represent to ASSIGNEE, its successors and assigns, that at the time of the execution and delivery of these presents, we are the sole lawful owners of the entire right, title and interest in and to the invention, application and Letters Patent above mentioned, and that the same are unencumbered, and that we have good right and lawful authority to sell and convey the same in the manner herein set forth;

AND, for the consideration aforesaid, we hereby individually covenant and agree to and with ASSIGNEE, its successors and assigns, that whenever its counsel or the counsel of its successors or assigns, learned in the law, shall advise that an amendment or division of, or continuation or any continuation-in-part thereof, or any other proceeding in connection with the filing or prosecution of said domestic or foreign patent applications is lawful and desirable, or that a reissue or extension of said Letters Patent is lawful and desirable, we, or our executors, administrators or assigns will sign all papers and drawings, take all rightful caths, and do all acts necessary or required to be done for the procurement of valid Letters Patent for said invention, or for the reissue or extension of the same, without charge to ASSIGNEE, its successors or assigns, but at ASSIGNEE'S expense.

We hereby authorize and request the Honorable Commissioner of Patents to issue any and all Letters Patent to ASSIGNEE in accordance with this instrument.

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IN WITNESS WHEREOF, we have signed our name(s) below on this $\underline{\Omega}^*$ day of \underline{NoV} , 2013.

BARRY O'CONNELL

IN WITNESS WHEREOF, we have signed our name(s) below on this 12^{th} day of 10^{th} . 2013.

COLM CONNOLLY

REEL: 031605 FRAME: 0273

IN WITNESS WHEREOF, we have signed our name(s) below on this $\frac{12}{2}$ day of $\frac{100}{2}$, 2013.

H. ALTAN STEINØISSE