503684880 02/09/2016

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT			
NATURE OF CONVEYANCE:	ASSIGNMENT			

CONVEYING PARTY DATA

Name	Execution Date
SHANTANU SARKAR	11/25/2015
DANIEL L HANSEN	02/08/2016
GRANT A NEITZELL	11/30/2015
JERRY D REILAND	11/30/2015
RYAN WYSZYNSKI	11/30/2015

RECEIVING PARTY DATA

Name:	me: Medtronic, Inc.	
Street Address: 710 Medtronic Parkway		
Internal Address: Mail Stop LC340		
City: Minneapolis		
State/Country: MINNESOTA		
Postal Code:	55432	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14926419

CORRESPONDENCE DATA

Fax Number: (763)505-2530

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: (763) 526-1640

Email: susan.m.nienaber@medtronic.com

SCOTT A. BARDELL **Correspondent Name:**

Address Line 1: 710 MEDTRONIC PARKWAY

Address Line 2: MAIL STOP LC340

Address Line 4: MINNEAPOLIS, MINNESOTA 55432

ATTORNEY DOCKET NUMBER:	C00010698.USU1
NAME OF SUBMITTER:	SCOTT A. BARDELL
SIGNATURE:	/Scott A. Bardell/
DATE SIGNED:	02/09/2016

PATENT REEL: 037691 FRAME: 0650 503684880

Total Attachments: 6 source=executed assignment#page1.tif source=executed assignment#page2.tif source=executed assignment#page3.tif source=executed assignment#page4.tif source=executed assignment#page5.tif source=executed assignment#page6.tif

PATENT REEL: 037691 FRAME: 0651

Attorney Docket No.: C00010698.USU1

ASSIGNMENT OF APPLICATION(S)

Whereas I/we, the below named inventor(s), with residence and citizenship as indicated below, have made an invention in

METHOD AND APPARATUS FOR ADJUSTING A THRESHOLD DURING ATRIAL

	ARRHYTHMIA EPISODE DETECTION IN AN IMPLANTABLE MEDICAL DEVICE
	for which an application for a United States Patent or a U.S. Provisional Application is being filed contemporaneously herewith;
\boxtimes	for which an application for a United States Patent identified as U.S. Patent Application No. 14/926,419; was filed on October 29, 2015;
	for which an application for a U.S. Provisional Application No.; was filed on;
\boxtimes	for which above application claims priority to U.S. Provisional Patent Application No. 62/117,785; filed on February 18, 2015;
	which application is identified as PCT International Patent Application No.; filed;

Whereas, Medtronic, Inc., a corporation organized and existing under the laws of the State of Minnesota and having a principle place of business at 710 Medtronic Parkway N.E., Minneapolis, Minnesota 55432-5604, hereinafter referred to as "Corporation," 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 therefore;

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 Corporation, 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 therefore 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 Corporation 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 me 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 Corporation, 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 Corporation, 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, including interference proceedings, is lawful and desirable, or that a reissue of 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 oaths, 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 Corporation, its successors or assigns, but at Corporation's expense.

Assignment Page 1 of 3 Attorney Docket No.: C00010698.USU1

I/We 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 Medtronic, Inc., as the assignee of the entire right, title, and interest therein.

In witness whereof, I/we have signed my/our name(s) on the day and year set forth below.

Given Name (first and middle initial [if any]): Shantanu	Family N Sarkar	ame or Surname (last name):		
Inventor's Signature:		Date: 25 - NOV - 2015		
City and State: Roseville, Minnesota		Country: USA	Citizenship: US	
STATE OF MINNESOTA) SS. COUNTY OF RAMSEY) On this	d person's t	ree act and deed, on the day a	nally appeared the above-named, and year aforesaid.	
Given Name (first and middle initial [if any]): Daniel L.	Family N Hansen	ame or Surname (last name):		
Inventor's Signature:	nansen	Date:		
Residence (City and State): Castle Rock, Colorado		Country: USA	Citizenship: US	
STATE OF COLORADO) ss. COUNTY OF, before me personally appeared the above-named, and who executed the foregoing instrument, as said person's free act and deed, on the day and year aforesaid. (Seal)				
		Notary Public		

Given Name (first and middle initial [if any]): Grant A.	Family Na Neitzell	ame or Surname (last na	me):
Inventor's Signature:		Date: 11/33/	
Residence (City and State): Seattle, Washington		Country: USA	Citizenship: US
STATE OF WASHINGTON PLANES OF CLS	P. Y. T. J.		
COUNTY OF Ramsey) On this 30 day of 2002 mbs	L.J.	DOIS before me	personally appeared the above named
and who executed the foregoing instrument, as sai	id person's f	ree act and deed, on the	day and year aforesaid.
(Seal) SUSAN M. NIENABER Notary Public-Minnesota My Commission Expires Jan 31, 2020		Notary Public	heraber
Given Name (first and middle initial [if any]): Jerry D.	Family N Reiland	arne or Surname (last na	me):
Inventor's Signature: Jury Rula d		Date: ///30/24	015
Residence (City and State): Coon Rapids, Minnesota		Country: USA	Citizenship: US
STATE OF MINNESOTA) , ss.			
COUNTY OF RAMSEY On this 36 day of 2000 and who executed the foregoing instrument, as said	id person's i	ree act and deed, on the	personally appeared the above-named, day and year aforesaid.
(Seal) SUSAN M. NIENABER Notary Public-Minnesota My Commission Expires Jen 31, 2020		Notary Public	Leicher
Given Name (first and middle initial [if any]): Ryan	Family N Wyszyn	ame or Surname (last na ski	ime):
Inventor's Signature:		Date: 11/30/2	615
Residence (City and Spare): Oak Grove, Minnesota		Country: USA	Citizenship: US
STATE OF MINNESOTA) ss.			
COUNTY OF RAMSEY) On this 30 day of 100000000000000000000000000000000000	Linker	2015 before me	personally appeared the above-named,
and who executed the foregoing instrument, as sa	id person's	free act and deed, on the	day and year aforesaid.
(Seal) SUSAN M. NIENABER Notary Public-Minnesota My Commission Expires Jan 31, 2020		Notary Public	<u>Lieraber</u>

REEL: 037691 FRAME: 0654

Attorney Docket No.: C00010698.USU1

ASSIGNMENT OF APPLICATION(S)

Whereas I/we, the below named inventor(s), with residence and citizenship as indicated below, have made an invention in

METHOD AND APPARATUS FOR ADJUSTING A THRESHOLD DURING ATRIAL

	ARRHY I HIMIA EPISODE DETECTION IN AN IMPLANTABLE MEDICAL DEVICE
	for which an application for a United States Patent or a U.S. Provisional Application is being filed contemporaneously herewith;
\boxtimes	for which an application for a United States Patent identified as U.S. Patent Application No. 14/926,419; was filed on October 29, 2015;
	for which an application for a U.S. Provisional Application No.; was filed on;
図	for which above application claims priority to U.S. Provisional Patent Application No. 62/117,785; filed on February 18, 2015;
П	which application is identified as PCT International Patent Application No · filed ·

Whereas, Medtronic, Inc., a corporation organized and existing under the laws of the State of Minnesota and having a principle place of business at 710 Medtronic Parkway N.E., Minneapolis, Minnesota 55432-5604, hereinafter referred to as "Corporation," 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 therefore;

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 Corporation, 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 therefore 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 Corporation 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 me 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 Corporation, 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 Corporation, 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, including interference proceedings, is lawful and desirable, or that a reissue of 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 oaths, 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 Corporation, its successors or assigns, but at Corporation's expense.

Assignment

Page 1 of 3 Attorney Docket No.: C00010698,USU1

I/We 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 Medtronic, Inc., as the assignee of the entire right, title, and interest therein.

In witness whereof, I/we have signed my/our name(s) on the day and year set forth below.

Given Nam Shantanu	e (first and middle initial [if any]):	Family N Sarkar	Name or Surname (last name):		
Inventor's	Signature:		Date:		
City and St Roseville,	ate: , Minnesota		Country: USA		Citizenship: US
COUNTY	MINNESOTA)) ss. OF RAMSEY) sday of ecuted the foregoing instrument, as sa	id person's i	before act and deed, c	re me person	ally appeared the abovenamed, d year aforesaid.
(Seal)			Notary Public		
Given Nam Daniel L.	e (first and middle initial [if any]):	Family N Hansen	ame or Surname (I	ast name):	
Inversor's s	Signature: J.L. Hansen		Date: 2/8/2	016	3
	Čity and State): ck, Colorado		Country: USA		Citizenship: US
COUNTY On this	COLORADO) ss. OF DOUGLAS) a 800 day of Felorulus couted the foregoing instrument, as sa	id person's f	, 2016, befor	re me person	ally appeared the abovenamed, d year aforesaid.
(Seal)	Brittsny C Hall NOTARY PUBLIC STATE OF COLORADU NOTARY ID 20144009190 MY COMMISSION EXPIRES February 26, 2018		Notary Public	ngt	Hall
Given Nam Grant A.	e (first and middle initial [if any]):	Family N	ame or Surname (1	ast name):	
Inventor's	Signature:	·/······	Date:		
	City and State): /ashington		Country: USA		Citizenship: US
STATE OF	WASHINGTON)) ss. OF)	8		<u></u> <u>\$</u>	*
On this	day ofday of	id person's f	,, before	re me persons on the day and	ally appeared the abovenamed, I year aforesaid.
Assignment			Page 2 of 3	······································	Attorney Docket No.: C00010698,USU

PATENT

(Seal)		Notary Public		
Given Name (first and middle initial [if any]): Jerry D.	Family N	ame or Surname (la	ast name):	
Inventor's Signature:	14a Aminanananananananananananananananananana	Date:		
Residence (City and State): Coon Rapids, Minnesota		Country: USA	Citizenship: US	***************************************
STATE OF MINNESOTA)) ss. COUNTY OF RAMSEY)		-	<u> </u>	
On this day of and who executed the foregoing instrument, as sa	iid person's f	iree act and deed, or	re me personally appeared the abovenamed on the day and year aforesaid.	١,
(Scal)		Notary Public	**	
Given Name (first and middle initial [if any]): Ryan	Family No.	ame or Surname (la ski	ast name):	
Inventor's Signature:		Date:		
Residence (City and State): Oak Grove, Minnesota		Country: USA	Citizenship:	
STATE OF MINNESOTA)) ss. COUNTY OF RAMSEY)		***************************************		
On this day of and who executed the foregoing instrument, as sa	nid person's f	, before ect and deed, or	re me personally appeared the abovenamed on the day and year aforesaid.	Ι,
(Seal)		Notary Public		

Attorney Docket No.: C00010698.USU1

RECORDED: 02/09/2016 REEL: 037691 FRAME: 0657