504696792 12/20/2017

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
DAVID L. CARLSON	12/18/2017
HEATHER D. ORSER	12/19/2017
DALE G. SUILMANN	12/18/2017
KENNETH J. GUTZMAN	12/19/2017
GREGORY J. LOXTERCAMP	12/19/2017

RECEIVING PARTY DATA

Name:	MEDTRONIC, INC.
Street Address:	710 MEDTRONIC PARKWAY, N.E.
City:	MINNEAPOLIS
State/Country:	MINNESOTA
Postal Code:	55432

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15848291

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	1123-333US01/C001594.USU2
NAME OF SUBMITTER:	KAREN SORENSEN
SIGNATURE:	/Karen Sorensen/
DATE SIGNED:	12/20/2017

Total Attachments: 6

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PATENT REEL: 044446 FRAME: 0648

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> PATENT REEL: 044446 FRAME: 0649

Attorney Docket No.: 1123-333US01/C00015494,USU2

ASSIGNMENT OF APPLICATION(S)

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

	PRECISION DELIVERY OF ELECTRICAL STIMULATION	***************************************	
\boxtimes	for which an application for a United States Patent or a U.S. Provisional Application is be contemporaneously herewith;	eing filed	
	for which an application for a United States Patent identified as U.S. Patent Application I was filed on;	Vo	, , , , , , , , , , , , , , , , , , ,
	for which an application for a U.S. Provisional Application No; wa	is filed on	
\boxtimes	for which above application claims priority to U.S. Provisional Patent Application No. 62 13, 2017;	1/445,996, filed o	n January
	which application is identified as PCT International Patent Application No.	; filed	⁹
refe Uni	Whereas, Medtronic, Inc., a corporation organized and existing under the laws of ving a principal place of business at 710 Medtronic Parkway N.E., Minneapolis, Minneserred to as "Corporation," is desirous of acquiring the entire right, title and interest in a lited States and for all foreign countries and in and to any and all foreign and domestic inted therefore;	ota 55432-5604. and to said inver	, hereinafter ation for the

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, which include the right to claim priority based on the filing date of said application(s), 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 Assignment

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Attorney Docket No.: 1123-333US01/C00015494,USU2

Medtronic, Inc., 710 Medironic Parkway, Minneapolis, MN 55432

PATENT REEL: 044446 FRAME: 0650 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.

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]): Family Name or Surname (last name):				
David	Carlson			
Inventor Standare:	Date: Dec 18, 2017			
City and State:	Country: Citizenship:			
Fridley, Minnesota	USA USA			
STATE OF MINNESOTA)				
) 55.				
COUNTY OF ANOKA 2				
On this Of day of DOCANALL	, 2017, before me personally appeared the above-named David L.			
Carlson, and who executed the foregoing instrument	nent, as said person's free act and deed, on the day and year aforesaid			
(Seal) KARLA K. WEIS Notary Public State of Minnesota My Commission Expires January 31, 2020 Notary Public				

Inventor's Signature 12/19/17 Residence (City and State): Country: Citizenship: USA STATE OF MINNESOTA State of Minnesota State State	Given Name (first and middle initial [if any]): Heather D.	Family N Orser	ame or Surname (las	t name):		
STATE OF MINNESOTA STATE OF MINNESOTA SS. COUNTY OF ANOKA On this day of combour, 2017, before me personally appeared the above-named Heather I Orser, and who executed the foregoing instrument, as said person's free act and deed, on the day and year aforesaid. KARLA K WEIS Notary Public State of Minnesota KARLA K WEIS Notary Public State of Minnesota	Inventor's Signature			/17-		
STATE OF MINNESOTA S5. COUNTY OF ANOKA On this day of level of Minnesota and who executed the foregoing instrument, as said person's free act and deed, on the day and year aforesaid. KARIA K WEIS Notary Public State of Minnesota	Residence (City and State):		Country:		Citizenship:	
COUNTY OF ANOKA On this day of the foregoing instrument, as said person's free act and deed, on the day and year aforesaid. KARLA K WEIS Notary Public State of Managery a	Farmington, Minnesota		USA		USA	
January 31, 2020 Notary Public	COUNTY OF ANOKA On this day of December Orser, and who executed the foregoing instrumer RAPLA K WEIS Notary Public State of Minnesota My Commission Enter	it, as said pe	erson's free act and de	appeared the	ne above-named Heather D. day and year aforesaid.	:63

Given Name (first and middle initial [if any]): Dale G.	Family Name or Suilmann	Surname (last name	e):
Invertor's Signature Library	Date:	12/18	12017
Residence (City and State):	Count	ry:	Citizenship:
Elk River, Minnesota	USA		USA
STATE OF MINNESOTA) ss. COUNTY OF ANOKA On this lot day of December Suilmann, and who executed the foregoing instru	2017, before me p gent, as said perso:	ersonally appeared n's free act and dee	I the above-named Date G. d, on the day and year aforesaid.
(Seal) KARLA K. WEIS Notary Public State of Minnesota My Commission Expires January 31, 2020		Yoular Public	K. new

Given Name (first and middle initial [if any]): Kenneth J.	Family Name or Surname (last name): Gutzman			
Inventor's Signature:	Date: 12//6	7/17		
Residence (City and State):	Country:	Citizenship:		
Lino Lakes, Minnesota	USA	USA		
COUNTY OF ANOKA On this // day of /				

REEL: 044446 FRAME: 0654

Gregory J.	Loxtercamp	name):
Inventor's Signature:	Date: しごと	19 2017
Residence (City and State):	Country: USA	Citizenship: USA
	COA	USA
STATE OF MINNESOTA)) ss.		
COUNTY OF ANOKA	<i>)</i>	
On this <u>Handay</u> of <u>DCCMBU</u> Loxtercamp and who executed the foregoing ins	/2017, before me personally appea strument, as said person's free act :	ared the above-named Gregory J.
	-	*
KARLA K. WEIS Notary Public (Scal) State of Minnesota	Youter	\ <u>\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \</u>
My Commission Expires January 31, 2020	Notary/Public -	

Assignment

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PATENT REEL: 044446 FRAME: 0655

RECORDED: 12/20/2017