01/17/2018 504733536

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
RONALD A. DRAKE	01/08/2018
MATTHEW D. BONNER	01/09/2018
TRENT M. FISCHER	01/09/2018
CARLA PFEIFFER	01/05/2018
BRIAN P. COLIN	01/09/2018
LESTER O. STENER	01/08/2018

RECEIVING PARTY DATA

Name:	MEDTRONIC, INC.	
Street Address:	710 MEDTRONIC PARKWAY NE	
Internal Address:	MAIL STOP LC340	
City:	MINNEAPOLIS	
State/Country:	MINNESOTA	
Postal Code:	55432	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15873153

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: 763-526-0932

Email: molly.a.chlebeck@medtronic.com

Correspondent Name: CAROL F. BARRY

710 MEDTRONIC PARKWAY NE Address Line 1:

Address Line 2: MAIL STOP LC340

Address Line 4: MINNEAPOLIS, MINNESOTA 55432

ATTORNEY DOCKET NUMBER:	C00015030.USU2
NAME OF SUBMITTER:	CAROL F. BARRY
SIGNATURE:	/Carol F. Barry/
DATE SIGNED:	01/17/2018

REEL: 044642 FRAME: 0603 504733536

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Total Attachments: 5 source=C00015030.USU2 Assignment-Executed#page1.tif

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PATENT REEL: 044642 FRAME: 0604

Attorney Docket No.: C00015030.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

	SHUTTLE APPARATUS AND ASSOCIATED SYSTEMS AND METHODS
\boxtimes	for which an application for a United States Patent or a U.S. Provisional Application is being filed contemporaneously herewith;
	for which an application for a United States Patent identified as U.S. Patent Application No.; was filed on
\boxtimes	for which an application for a U.S. Provisional Application No. 62/447,121; was filed on January 17, 2017;
\boxtimes	for which above application claims priority to U.S. Provisional Patent Application No. 62/447,121; filed on January 17, 2017;
	which application is identified as PCT International Patent Application No.; filed;

Whereas, <u>Medtronic</u>. Inc., a corporation organized and existing under the laws of the State of Minnesota and having a principle place of business at <u>710 Medtronic Parkway N.E.</u>, <u>Minneapolis</u>, <u>Minnesota 55432-5604</u>, 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.

Attorney Docket No. C000015030.USU2

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): Ronald A. Drake Inventor's Signature: Date: 08JAN 2018 (K cnald Citizenship: City and State: Country: St. Louis Park, Minnesota STATE OF MINNESOTA) COUNTY OF RAMSEY On this 8th day of January - , 2018 , before me personally appeared the above-named, Ronald A. Drake, and who executed the foregoing instrument, as said person's free act and deed, on the day and year aforesaid. ያ*ሉላላልላለላለላለላላላላላላላላላላላላላላላላላላላላ* MOLLY CHLEBECK Molly Chlibera Notary Public-Minnesota (Seal) My Commission Expires Jan 31, 2021 Notary Public Family Name or Surname (last name): Given Name (first and middle initial [if any]): Matthew D. Bonner Inventor's Signature: Date: Country: Citizenship: Residence (City and State): US US Plymouth, Minnesota STATE OF MINNESOTA) COUNTY OF RAMSEY On this _____day of _____, ____, before me personally appeared the above-named, Matthew D. Bonner, and who executed the foregoing instrument, as said person's free act and deed, on the day and year aforesaid. (Seal) Notary Public

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 assignce of the entire right, title, and interest therein.

Given Name (first and middle initial (if any)): Ronald A.	Family Name or Sumame (last name): Drake			
Inventor's Signature:		Date		
City and State: St. Louis Park, Minnesota		Country: US	Citizenship: US	
STATE OF MINNESOTA) SS. COUNTY OF RAMSEY) On this day of Ronald A. Drake, and who executed the foregoin aforesaid.	ng instrument,	,, befor as said person's fi	re me personally appeared the above-named, iree act and deed, on the day and year	
(Seal)		Notary Public		
Given Name (first and middle initial (if any)) Matthew D.	Family Na Bonner	ne or Surname (I	ast name):	
Inventor's Signature:		Date:	a 3038	
Residence (City and State): Plymouth, Minnesota		Country: US	Citizenship US	
STATE OF MINNESOTA) ss. COUNTY OF RAMSEY) ss. On this day of ANUAZU Maithew D. Bonner, and who executed the fore aforesaid. CHARLES A MCCRACKEN NOTARY PUBLIC - MINNESOTA MY COMMISSION EXPRES 0181/2020	going instrume	248 befont, as said person	ire me personally appeared the above-named, i's free act and deed, on the day and year	

Attorney Docket No.: C000015030 USU2

Circa Nome (East and middle initial life and)	Enmile M	anna an Crimana (last mana):	
Given Name (first and middle initial [if any]): Trent M.	Family Name or Surname (last name): Fischer		
	K. 12CHC1	,	
Inventor's Signature:		Date:	* !
Trent 45%		7-20~ -	2018
Residence (City and State):		9-Jan - Country:	Citizenship:
St. Paul, Minnesota		US	US
STATE OF MINNESOTA)) ss. COUNTY OF RAMSEY) On this Hay of Jamaa (Trent M. Fischer, and who executed the foregoin	instrument	, <u>2018</u> , before me perso , as said person's free act and	nally appeared the above-named, deed, on the day and year
aforesaid.			
(Seal) MOLLY CHLEBECK Notary Public-Minnesotts My Commission Expires Jan 31, 2021		Mally CW Notary Public	Ubeck
Given Name (first and middle initial [if any]): Carla	Pfeiffer	ame or Surname (last name):	
		Data	
Inventor's Signature:		Date:	7 × 1 9 ×
Cale CYDA)		05 JA N Country:	4018
Residence (City and State):		Country: US	Citizenship: US
Anoka, Minnesota	***************************************	US	(3)
STATE OF MINNESOTA) ss. COUNTY OF RAMSEY) On this 5 th day of 4th County of Carla Pfeiffer, and who executed the foregoing in	<u></u>	, <u>2018</u> , before me perso	nally appeared the above-named,
S		s said person's free act and dec	ed, on the day and year aforesaid.
(Seal) MOLLY CHLEBEO Notary Public-Minnesot My Commission Expires Jan 31, 21	X a	Molly Chle Notary Public	beck

Given Name (first and middle initial [if any]): Brian P.	Family Name or Surname (last name): Colin			
Inventor's Signature:		Date: 07.TAV 2018		
Residence (City and State): Shakopee, Minnesota		Country: US	Citizenship: US	
STATE OF MINNESOTA)) ss. COUNTY OF RAMSEY) On this	80000000000000000000000000000000000000		me personally appeared the above-namact and deed, on the day and year afores	
Given Name (first and middle initial [if any]): Lester O.	Family 1 Stener	Name or Surname (la	of name):	
Inventor's dignature	ii k	Date:	(N/8	
Kestdence (City and State): Hudson, Wisconsin		Country: US	Citizenship: US	
STATE OF MINNESOTA) ss. COUNTY OF RAMSEY) On this day of day of lester O. Stener, and who executed the foregoing aforesaid.	~~§	w. /	me personally appeared the above-name act and deed, on the day and year	

Assignment

Page 4 of 4 Medtronic, Inc., 710 Medtronic Parkway, Minneapolis, MN 55432

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