PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

Assignment ID: PATI141226

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Heartware, Inc.	03/29/2024

RECEIVING PARTY DATA

Company Name:	Medtronic, Inc.
Street Address:	710 Medtronic Parkway NE
City:	Minneapolis
State/Country:	MINNESOTA
Postal Code:	55432

PROPERTY NUMBERS Total: 19

Property Type	Number
Application Number:	62013680
Application Number:	14743166
Application Number:	15717105
Application Number:	12317393
Application Number:	61009412
Application Number:	12460281
Application Number:	14703122
Application Number:	61135004
Application Number:	16129231
Application Number:	61656342
Application Number:	14405948
Application Number:	15678555
Application Number:	61911852
Application Number:	14560424
Application Number:	61434894
Application Number:	13951302
Application Number:	13355297
Application Number:	15695529
Application Number:	62383794

CORRESPONDENCE DATA

Fax Number: 6517351102

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: 6517351100
Email: pairdocketing@ssiplaw.com,rs.patents.two@medtronic.com
Correspondent Name: Shumaker & Sieffert, P.A.
Address Line 1: 1625 Radio Drive
Address Line 2: Suite 300
Address Line 4: Woodbury, MINNESOTA 55125

NAME OF SUBMITTER:	Jonathon Achey
SIGNATURE:	Jonathon Achey
DATE SIGNED:	04/03/2024

Total Attachments: 8
source=Patent Assignment HW to MDT 03.28.24 (002) Signed Matt Anderson 4-2-2024#page1.tif
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PATENT ASSIGNMENT

THIS PATENT ASSIGNMENT (this "Assignment"), dated March 29, 2024, is made by and between Heartware, Inc., a company organized under the laws of the State of Delaware ("Assignor"), and Medtronic, Inc., a company organized under the laws of the State of Minnesota ("Assignee"). Assignor and Assignee may be referred to in this Assignment each as a "Party" and collectively as the "Parties."

NOW, THEREFORE, Assignor hereby agrees as follows:

1. Assignor hereby sells, conveys, transfers, assigns and delivers to Assignee, and Assignee hereby accepts, purchases and assumes, all of Assignor's right, title, and interest in and to the Assigned Patent Rights listed in Schedule A, together with all patents issuing on the Assigned Patent Rights, including (a) all national, regional and international applications for patent or other indicia of ownership of a design, industrial property, invention or discovery issued by a governmental authority, including provisional patent and utility model applications; (b) all applications claiming priority, directly or indirectly, from any of the foregoing, including divisionals, continuations, continuations-in-part, converted provisionals, continued prosecution applications and other pre-issue forms of any of the foregoing described in clauses (a); (c) any and all patents or other indicia of ownership of a design, industrial property, invention or discovery issued by a governmental authority that have issued or in the future issue from any of the foregoing described in clauses (a) and (b), including utility models, petty patents, innovation patents and design patents and certificates of invention; (d) any and all extensions or restorations by existing or future extension or restoration mechanisms, including revalidations, reissues, re-examinations and extensions (including any supplementary protection certificates and the like), and other post-issue forms of any of the foregoing described in clauses (a), (b) and (c); and (e) with respect to those foreign jurisdictions where legally codified, so-called pipeline protection or any importation, revalidation, confirmation or introduction patent or registration patent or patent of additions to any of the foregoing described in clauses (a) – (d), as each of the foregoing may exist anywhere in the world, and together with all rights to sue for past, present, and future infringement or misappropriation thereof, for any relief in law or in equity, and to recover any and all damages for such infringement or misappropriation in whatever form, including but not limited to lost profits or royalties (including the right to sue for pre-issuance royalties).

2. Assignor does hereby request and authorize the Commissioner of Patents and Trademarks of the United States and all other corresponding patent offices or authorities of other jurisdictions to issue letters patent, certificates of invention, utility models, or other governmental grants or issuances that may be granted upon any of the Assigned Patent Rights and the inventions disclosed in the Assigned Patent Rights to Assignee or Assignee's nominee, successor, or assign.

3. Assignor agrees to execute all specific assignments, oaths, declarations, deeds, or other instruments, and to do all acts necessary or proper, in each case, that are reasonably requested by Assignee: (a) to transfer to Assignee the Assigned Patent Rights and the inventions disclosed therein; and (b) to vest and confirm therein the legal title to all such patent rights. Assignee agrees to reimburse Assignor for reasonable, documented expenses associated with such assistance.

4. This Assignment shall be binding on, and shall inure to the benefit of, Assignor, Assignee, and their respective successors and/or assigns, and all others acting by, through, with, or under their direction, and all those in privity therewith.

5. This Assignment may be executed in multiple counterparts and any Party may execute any such counterpart, each of which when executed and delivered shall be deemed to be an original and all of which counterparts taken together shall constitute but one and the same instrument. For purposes of this Assignment, facsimile signatures shall be deemed originals, and the Parties agree to exchange original signatures as promptly as possible.

6. This Assignment (and any claims or disputes arising out of or related hereto or the transactions contemplated hereby or to the inducement of any party to enter herein, whether for breach of contract, tortious conduct or otherwise and whether predicated on common law, statute or otherwise) shall be governed in all respects, including validity, interpretation, and effect, by and construed in accordance with the internal laws of the State of Minnesota (including in respect of the statute of limitations or other limitations period applicable to any claim, controversy or dispute) without giving effect to any choice or conflict of law provision or rule (whether of the State of Minnesota or any other jurisdiction) that would cause the application of laws of any jurisdictions other than those of the State of Minnesota.

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IN WITNESS WHEREOF, Assignor has caused this Assignment to be executed by its duly authorized representatives effective this 29th day of March, 2024.

ASSIGNOR:

HEARTWARE, INC.

By: _____
Name: Allison Duerr
Title: Senior Legal Director, Heartware, Inc.

ACCEPTED:

MEDTRONIC, INC.

By: _____
Name: Matthew Anderson
Title: VP Chief Counsel IP, Medtronic, Inc.

SCHEDULE A

ASSIGNED PATENT RIGHTS

Appl'n No.	Patent/Publ'n No.	Filing Date	Issue Date/Publ'n Date	Title	Country
15731819.7	3157596B1	June 18, 2015	November 11, 2023	METHODS AND DEVICES FOR IDENTIFYING SUCTION EVENTS	EP
62/013,680		June 18, 2014		IDENTIFYING SUCTION EVENTS	US
2017-519449	2017518862	June 18, 2015	July 13, 2017	METHOD AND DEVICES FOR IDENTIFYING SUCTION EVENTS	JP
PCT/US2015/036430	WO2015195916	June 18, 2015	December 23, 2015	METHOD AND DEVICES FOR IDENTIFYING SUCTION EVENTS	WO
14/743,166	9,795,726	June 18, 2015	October 24, 2017	METHOD AND DEVICES FOR IDENTIFYING SUCTION EVENTS	US
201580044375	107073183A	June 18, 2015	August 18, 2017	METHOD AND DEVICES FOR IDENTIFYING SUCTION EVENTS	CN
15/717,105	10,434,234	September 27, 2017	October 8, 2019	METHOD AND DEVICES FOR IDENTIFYING SUCTION EVENTS	US
15731819.7	3157596	June 18, 2015	November 11, 2023	METHOD AND DEVICES FOR IDENTIFYING SUCTION EVENTS	FR
15731819.7	60 2015 086 339.9	June 18, 2015	November 11, 2023	METHOD AND DEVICES FOR IDENTIFYING SUCTION EVENTS	DE
12/317,393	7,942,805	December 22, 2008	May 17, 2011	VAD CONNECTOR PLUG	US
61/009,412		December 27, 2007		VAD CONNECTOR PLUG	US
PCT/US2008/013974	WO200908524	December 22, 2008	July 9, 2009	VAD CONNECTOR PLUG	WO
08867142.5	2231223B1	December 22, 2008	October 3, 2018	VAD CONNECTOR PLUG	EP
08867142.5	2231223B1	December 22, 2008	October 3, 2018	VAD CONNECTOR PLUG	FR

Appl'n No.	Patent/Publ'n No.	Filing Date	Issue Date/Publ'n Date	Title	Country
08867142.5	602008057284.6	December 22, 2008	October 3, 2018	VAD CONNECTOR PLUG	DE
12/460,281	9,050,418	July 16, 2009	June 9, 2015	CANNULA TIP FOR USE WITH A VAD	US
10-2011-7001890	10-1537523B1	July 16, 2009	July 17, 2015	CANNULA TIP FOR USE WITH A VAD	KR
14/703,122	10,076,596	May 4, 2015	September 18, 2018	CANNULA TIP FOR USE WITH A VAD	US
2822/MUMNP/2010		July 16, 2009		CANNULA TIP FOR USE WITH A VAD	IN
2729029	2729029A1	July 16, 2009	January 21, 2010	CANNULA TIP FOR USE WITH A VAD	CA
09798302.7	2300070B1	July 16, 2009	October 3, 2018	CANNULA TIP FOR USE WITH A VAD	EP
PCT/US2009/004109	WO2010008560	July 16, 2009	January 21, 2010	CANNULA TIP FOR USE WITH A VAD	WO
2009271585	2009271585B2	July 16, 2009	July 31, 2014	CANNULA TIP FOR USE WITH A VAD	AU
200980125770.6	102083481B	July 16, 2009	September 3, 2014	CANNULA TIP FOR USE WITH A VAD	CN
210231	210231A	July 16, 2009	November 30, 2016	CANNULA TIP FOR USE WITH A VAD	IL
61/135,004		July 16, 2008		CANNULA TIP FOR USE WITH A VAD	US
09798302.7	2300070	July 16, 2009	October 3, 2018	CANNULA TIP FOR USE WITH A VAD	FR
09798302.7	602009054888.3	July 16, 2009	October 3, 2018	CANNULA TIP FOR USE WITH A VAD	DE
18193600.6	EP3431116A1	July 16, 2009	January 23, 2019	CANNULAR FOR USE WITH A BLOOD CIRCULATION DEVICE	EP
16/129,231	10,881,767	September 12, 2018	January 5, 2021	CANNULA TIP FOR USE WITH A VAD	US

Appl'n No.	Patent/Publ'n No.	Filing Date	Issue Date/Publ'n Date	Title	Country
61/656,342		June 6, 2012		SPEED CHANGE ALGORITHM FOR A CONTINUOUS FLOW BLOOD PUMP	US
14/405,948	9,433,714	June 6, 2013	September 6, 2016	SPEED CHANGE ALGORITHM FOR A CONTINUOUS FLOW BLOOD PUMP	US
PCT/US2013/044540	WO2013184932	June 6, 2013	December 12, 2013	SPEED CHANGE ALGORITHM FOR A CONTINUOUS FLOW BLOOD PUMP	WO
15/678,555	10,543,302	August 16, 2017	January 28, 2020	MAP MEASUREMENT ON VAD PATIENTS WITH LOW PULSATILITY	US
PCT/US2017/047118	WO2019035823	August 16, 2017	February 21, 2019	MAP MEASUREMENT ON VAD PATIENTS WITH LOW PULSATILITY	WO
201780093948.8	111032109A	August 16, 2017	April 17, 2020	MAP MEASUREMENT ON VAD PATIENTS WITH LOW PULSATILITY	CN
17758006.5	3668559A1	August 16, 2017	June 24, 2020	MAP MEASUREMENT ON VAD PATIENTS WITH LOW PULSATILITY	EP
14816540.0	3077018B1	December 4, 2014	October 27, 2021	MOLDED VAD	EP
61/911,852		December 4, 2013		MOLDED MVAD PUMP	US
14/560,424	9,616,158	December 4, 2014	April 11, 2017	MOLDED VAD	US
PCT/US2014/068581	WO2015085076	December 4, 2014	June 11, 2015	MOLDED VAD	WO
14816540.0	3077018B1	December 4, 2014		MOLDED VAD	FR
14816540.0	60 2014 080 917.0	December 4, 2014	October 27, 2021	MOLDED VAD	DE

Appl'n No.	Patent/Publ'n No.	Filing Date	Issue Date/Publ'n Date	Title	Country
2012207146	2012207146B2	January 20, 2012	October 6, 2016	FLOW ESTIMATION IN A BLOOD PUMP	AU
61/434,894		January 21, 2011		OCCLUSION DETECTION AND FLOW ESTIMATION ON AN AXIAL BLOOD PUMP USING BEMF DATA	US
14737079.5	3003421B1	June 4, 2014	October 13, 2021	SUCTION DETECTION IN AN AXIAL BLOOD PUMP USING BEMF DATA	EP
227513	227513A0	January 20, 2012	September 30, 2013	FLOW ESTIMATION IN A BLOOD PUMP	IL
6594/CHENP/2013		January 20, 2012		FLOW ESTIMATION IN A BLOOD PUMP	IN
2825354	2825354A1	January 20, 2012	July 26, 2012	FLOW ESTIMATION IN A BLOOD PUMP	CA
13/951,302	9,492,601	July 25, 2013	November 15, 2016	SUCTION DETECTION ON AN AXIAL BLOOD PUMP USING BEMF DATA	US
201280006098.0	103328018B	January 20, 2012	September 21, 2016	FLOW ESTIMATION IN A BLOOD PUMP	CN
PCT/US2014/040847	WO2014197558	June 4, 2014	December 11, 2014	SUCTION DETECTION IN AN AXIAL BLOOD PUMP USING BEMF DATA	WO
PCT/US2012/022096	WO2012100210	January 20, 2012	July 26, 2012	FLOW ESTIMATION IN A BLOOD PUMP	WO
12736244.0	2665499A1	January 20, 2012	November 27, 2013	FLOW ESTIMATION IN A BLOOD PUMP	EP
13/355,297	9,511,179	January 20, 2012	December 6, 2016	FLOW ESTIMATION IN A BLOOD PUMP	US
10-2013-7022089	20140040112A	January 20, 2012	April 2, 2014	FLOW ESTIMATION IN A BLOOD PUMP	KR
14737079.5	3003421B1	June 4, 2014	October 13, 2021	SUCTION DETECTION IN AN AXIAL BLOOD PUMP USING BEMF DATA	FR
14737079.5	60 2014 080 644.9	June 4, 2014	October 13, 2021	SUCTION DETECTION IN AN AXIAL BLOOD PUMP USING BEMF DATA	DE

Appl'n No.	Patent/Publ'n No.	Filing Date	Issue Date/Publ'n Date	Title	Country
15/695,529	10,525,180	September 5, 2017	January 7, 2020	INTEGRATED SENSORS FOR INTRAVENTRICULAR VAD	US
PCT/US2017/050078	WO2018048800	September 5, 2017	March 15, 2018	INTEGRATED SENSORS FOR INTRAVENTRICULAR VAD	WO
62/383,794		September 6, 2016		INTEGRATED SENSORS FOR INTRAVENTRICULAR VAD	US
201780052480.8	109641092B	September 5, 2017	March 12, 2021	INTEGRATED SENSORS FOR INTRAVENTRICULAR VAD	CN
17772153.7	3509662B1	September 5, 2017	December 30, 2020	INTEGRATED SENSORS FOR INTRAVENTRICULAR VAD	EP
17772153.7	3509662B1	September 5, 2017	December 30, 2020	INTEGRATED SENSORS FOR INTRAVENTRICULAR VAD	FR
17772153.7	602017030531.6	September 5, 2017	December 30, 2020	INTEGRATED SENSORS FOR INTRAVENTRICULAR VAD	DE