PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
GARY A FREEMAN	11/26/2016
ULRICH HERKEN	11/29/2016
CHRISTOPHER L KAUFMAN	11/29/2016
ANNEMARIE ELIZABETH SILVER	12/05/2016

RECEIVING PARTY DATA

Name:	ZOLL MEDICAL CORPORATION
Street Address:	269 MILL ROAD
City:	CHELMSFORD
State/Country:	MASSACHUSETTS
Postal Code:	01824

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15281363

CORRESPONDENCE DATA

Fax Number: (617)526-5000

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: 617-526-6000

Email: becky.douglas@wilmerhale.com
Correspondent Name: BECKY DOUGLAS / WILMERHALE

Address Line 1: 60 STATE STREET

Address Line 4: BOSTON, MASSACHUSETTS 02109

NAME OF SUBMITTER:	BECKY DOUGLAS
SIGNATURE:	/Becky Douglas/
DATE SIGNED:	12/13/2016

Total Attachments: 6

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PATENT 504142490 REEL: 040722 FRAME: 0130

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PATENT REEL: 040722 FRAME: 0131

ASSIGNMENT

WHEREAS, the undersigned, to wit:

- Gary A. FREEMAN residing at 185 Crescent Street, Apt. 423, Waltham, Massachusetts 02453;
- Ulrich HERKEN residing at 109 Brooks Street, Medford, Massachusetts 02155;
- Christopher L. KAUFMAN residing at 373 Highland Avenue, Apt. 302, Somerville, Massachusetts 02144;
- Annemarie Elizabeth SILVER residing at 21 Railroad Avenue, Bedford, Massachusetts 01730

(hereinafter collectively ASSIGNORS), have made a certain new and useful invention as set forth in an application for United States Letters Patent, entitled:

"NON-INVASIVE ASSESSMENT OF PHYSIOLOGICAL PARAMETERS OF TISSUE VIA NEAR INFRARED SPECTROSCOPY TO DISTINGUISH BETWEEN ARRHYTHMIC AND ASPHYXIAL ARREST"

(a)	which	is being filed herewith in the Un	ited States Patent and	d Trademark Office;	
(b)	x which was filed as U.S. Patent Application		tion No.	No. 15/281363	
	on	September 30, 2016 ;			

AND WHEREAS, ZOLL Medical Corporation (hereinafter ASSIGNEE), a corporation organized and existing under the laws of the Commonwealth of Massachusetts, and having its principal place of business at 269 Mill Road, Chelmsford, Massachusetts 01824, is desirous of acquiring the entire right, title, and interest in and to said invention and any and all patents that may be obtained therefor, and in and to said application and any and all patents that may issue therefrom;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, ASSIGNORS do hereby sell, assign, transfer, and set over unto said ASSIGNEE, its successors, assigns, and legal representatives, all right, title, and interest in and to said invention throughout the world, and any and all patents of the United States and foreign countries that may be obtained therefor, including the right to sue for past infringement and obtain past damages, and in and to said application, including any and all non-provisionals, continuations, continuations-in-part, divisionals, reissues, re-examinations, substitutions, and extensions thereof, and any and all patents of the United States and foreign countries that may issue therefrom, such right, title, and interest including the right to file applications and obtain patents, utility models, industrial models, and designs for said invention in the name of said ASSIGNEE, its successors, assigns, and legal representatives, throughout the world, including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention, and all rights to register said invention in appropriate registries;

3.

ASSIGNORS also do hereby covenant that they have the full right to convey the entire right, title, and interest herein assigned, and that they have not and will not execute any agreement in conflict herewith;

ASSIGNORS also do hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all Letters Patent of the United States on said invention or resulting from said application, including any continuations, continuations-in-part, divisions, reissues, re-examinations, substitutions, and extensions thereof, to said ASSIGNEE, its successors, assigns, and legal representatives as the ASSIGNEE of the entire right, title, and interest herein assigned;

ASSIGNORS also do hereby agree to, at any time, upon request, without further or additional consideration but at the expense of said ASSIGNEE, its successors, assigns, or legal representatives, execute and deliver any and all papers, make all rightful oaths, and do all lawful acts that may be necessary or desirable to perfect the entire right, title, and interest in said application, including any and all continuations, continuations-in-part, divisionals, reissues, re-examinations, substitutions, and extensions thereof, and any and all patents of the United States and foreign countries that may issue therefrom said ASSIGNEE, its successors, assigns, and legal representatives, and generally do everything possible to vest the entire right, title, and interest herein assigned in said ASSIGNEE, its successors, assigns, and legal representatives;

ASSIGNORS also do hereby grant the following individuals the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document:

ZOLL MEDICAL CORPORATION

All practitioners at Customer Number 119095.

This ASSIGNMENT is effective as of September 30, 2016

IN WITNESS WHEREOF, I have hereunto set	my hand and seal this <u>24 th</u> day of
Sigr Name	: Jky A Leading State Comment Comment
Date: <u>November 29, 2016</u>	
United States of America) State of Transackusto) so County of Transackusto)	s.:
On this 29th day of november personally came Gary	20/5, before me
personally came Gary	A. Freeman , to me known to
described in and who executed the foregoing in of the same.	Lee L. Lealy
	Notary Public
	HELEN D. LEAHY Notary Public Massachusetts Commission Expires Jul 11, 2019

Sign: Name: Ufrich Herken ASSIGNOR
Date: November 29, 30/6 United States of America State of November 29, 30/6 State of November 29, 30/6 State of November 29, 30/6 State of November 20, 30/6 State of State 20, 30/6 State of State 20, 30/6 St
On this 29th day of horestand, 2016, before me personally came Ulrich Herken, to me known to described in and who executed the foregoing instrument, and acknowledged execution
personally came Ulrich Herken, to me known to described in and who executed the foregoing instrument, and acknowledged execution of the same.
Notary Public V
HELEN D. LEARY Notary Public Massachusetts Commission Expires Jul 11, 2019

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 29^{M} day of hovember, $29/9$	
Sign: Quality	epological Control
Date: November 29, 3016	
United States of America) State of MagazefuseLls) ss.: County of Mekslessel	
On this 29th day of Christopher L. Kaufman, to me known described in and who executed the foregoing instrument, and acknowledged execution of the same. Notary Public	to
HELEN D. LEARY Notary Public Massachusetts Commission Expires Jul 11, 2019	

Commission Expires Jul 11, 2019

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 5th day of December. 2016 Name: Annemarie Elizabeth Silver ASSIGNOR United States of America State of County of day of ______, _____, ______, before me Annemarie Elizabeth Silver______, to me known to described in and who executed the foregoing instrument, and acknowledged execution of the same. HELEN D. LEARY Notary Public Massachusetts