

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court _____ for the District of Delaware _____ on the following

Trademarks or Patents. (the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED 12/9/2016	U.S. DISTRICT COURT for the District of Delaware
PLAINTIFF BOSTON SCIENTIFIC CORP. and BOSTON SCIENTIFIC NEUROMODULATION CORP.		DEFENDANT NEVRO CORP.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 US 6,895,280 B2	5/17/2005	Boston Scientific Neuromodulation Corp.
2 US 7,428,438 B2	9/23/2008	Boston Scientific Neuromodulation Corp.
3 US 7,437,193 B2	10/14/2008	Boston Scientific Neuromodulation Corp.
4 US 7,587,241 B2	9/8/2009	Boston Scientific Neuromodulation Corp.
5 US 7,891,085 B1	2/22/2011	Boston Scientific Neuromodulation Corp.

Continued on attached sheet

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY <input type="checkbox"/> Amendment <input type="checkbox"/> Answer <input type="checkbox"/> Cross Bill <input type="checkbox"/> Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

Nevro Corp.
 Ex. 1002
 U.S. Patent No. 8,646,172

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

Boston Scientific Corp. and
Boston Scientific Neuromodulation Corp.,

Plaintiffs,

v.

Nevro Corp.,

Defendant.

Civil Action No. _____

**REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A
PATENT OR TRADEMARK (continued)**

Patent or Trademark No.	Date of Patent or Trademark	Holder of Patent or Trademark
6. US 8,019,439 B2	9/13/2011	Boston Scientific Neuromodulation Corp.
7. US 8,644,933 B2	2/4/2014	Boston Scientific Neuromodulation Corp.
8. US 8,646,172 B2	2/11/2014	Boston Scientific Neuromodulation Corp.
9. US 8,650,747 B2	2/18/2014	Boston Scientific Neuromodulation Corp.
10. US 9,370,664 B2	6/21/2016	Boston Scientific Neuromodulation Corp.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	PATENT NUMBER	GROUP ART UNIT	FILE WRAPPER LOCATION
13/013,599	8646172	3729	9200



Correspondence Address/Fee Address Change

The following fields have been set to Customer Number 81995 on 02/04/2015

- Maintenance Fee Address

The address of record for Customer Number 81995 is:

81995
Boston Scientific Corporation
4100 Hamline Avenue North
MS: 3-394
St. Paul, MN 55112-5798



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/013,599	02/11/2014	8646172	1362009-2093.2	9046

50638 7590 01/22/2014
Boston Scientific Neuromodulation Corp.
c/o Frommer Lawrence & Haug LLP
745 Fifth Ave
NEW YORK, NY 10151

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 315 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Janusz A. Kuzma, Parker, CO;
Anne M. Pianca, Valencia, CA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

Receipt date: 01/25/2011

13013599 - GAU: 3729

IDS Form PTO/SB/08: Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Application Number	Not Yet Assigned
				Filing Date	January 25, 2011
				First Named Inventor	Janusz A. Kuzma et al.
				Art Unit	Not Yet Assigned
				Examiner Name	Not Yet Assigned
Sheet	1	of	1	Attorney Docket Number	1362009-2093.2

U.S. PATENTS AND PUBLISHED U.S. PATENT APPLICATIONS					
Examiner Initials	Cite No. ¹	Document Number	Issue or Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		2005/0215945	09-29-2005	Harris, et al.	
		3,769,984	11-06-1973	Muench	
		5,555,618	09-17-1996	Winkler	
		6,055,456	04-25-2000	Gerber	
		6,205,361	03-20-2001	Bardino, et al. Kuzma et al.	
		6,216,045 B1	04-10-2001	Black, et al.	
		6,249,708 B1	06-19-2001	Nelson, et al.	
		6,551,302	04-22-2003	Rosinko, et al.	

Change(s) applied to document, /J.G./ 11/6/2013

Note: Submission of copies of U.S. Patents and published U.S. Patent Applications is not required.

FOREIGN PATENT DOCUMENTS							
Examiner Initials	Cite No. ¹	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Translation ⁶
		Country Code ³	Number ⁴ Kind Code ⁵ (if known)				

NONPATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Translation ⁶
		U.S. Patent Application No. 11/329,907, Official Communication mailed November 17, 2008	
		U.S. Patent Application No. 11/329,907, Official Communication mailed April 2, 2009	
		U.S. Patent Application No. 11/329,907, Official Communication mailed July 1, 2009	
		U.S. Patent Application No. 11/329,907, Official Communication mailed March 31, 2010	
		U.S. Patent Application No. 11/329,907, Notice of Allowance mailed November 15, 2010	

Examiner Signature	/David Angwin/	Date Considered	02/25/2013
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.A./

PART B -FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 or Fax (571) 273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

FROMMER LAWRENCE & HAUG LLP
 745 5th Ave.
 New York, New York 10151

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
 I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

	(Depositor's name)
Via EFS	(Signature)
	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/013,599	01/25/2011	Janusz A. Kuzma	1362009-2093.2	9046

TITLE OF INVENTION: ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960.00			\$960.00	01/04/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
D. P. Angwin	3729	029-825

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
 Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
 "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached.
Use of a Customer Number is required.
2. For printing on the patent front page, list
 (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
- | | |
|---|-----------------------------|
| 1 | Frommer Lawrence & Haug LLP |
| 2 | Bruce E. Black |
| 3 | |

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

Boston Scientific Neuromodulation Corporation
 Reel / Frame: 021845 / 0966

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Valencia, California

Please check the appropriate assignee category or categories (will not be printed on the patent): Individual Corporation or other private group entity Government

4a. The following fee(s) are submitted:

- Issue Fee
 Publication Fee (No small entity discount permitted)
 Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- A check is enclosed.
 Payment by credit card. Form PTO-2038 is attached.
 The Director is hereby authorized to charge the required fee(s); any deficiency, or credit any overpayment, to Deposit Account Number 50-0320 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- Applicant certifying micro entity status. See 37 CFR 1.29.
 Applicant asserts small entity status. See 37 CFR 1.27.
 Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see form PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
 NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
 NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature Bruce E. Black Date January 2, 2014
 Typed or printed name Bruce E. Black Registration No. 41,622

Electronic Patent Application Fee Transmittal

Application Number:	13013599
Filing Date:	25-Jan-2011
Title of Invention:	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME
First Named Inventor/Applicant Name:	Janusz A. Kuzma
Filer:	Bruce Black/Terri Downey
Attorney Docket Number:	1362009-2093.2

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl Issue Fee	1501	1	960	960

Extension-of-Time:

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				960

Electronic Acknowledgement Receipt

EFS ID:	17803771
Application Number:	13013599
International Application Number:	
Confirmation Number:	9046
Title of Invention:	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME
First Named Inventor/Applicant Name:	Janusz A. Kuzma
Customer Number:	50638
Filer:	Bruce Black/Terri Downey
Filer Authorized By:	Bruce Black
Attorney Docket Number:	1362009-2093.2
Receipt Date:	02-JAN-2014
Filing Date:	25-JAN-2011
Time Stamp:	16:09:40
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$960
RAM confirmation Number	3308
Deposit Account	500320
Authorized User	FROMMER LAWRENCE & HAUG LLP

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		01379194.PDF	308912 <small>0c7d6822dceec95cc49feabe841120fcd64d082d</small>	yes	3

Multipart Description/PDF files in .zip description

Document Description	Start	End
Miscellaneous Incoming Letter	1	1
Transmittal Letter	2	2
Issue Fee Payment (PTO-85B)	3	3

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30415 <small>1204fa10d15ed5dfb6dd9143aa214201567196e0</small>	no	2
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Warnings:

Information:

Total Files Size (in bytes): 339327

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Certificate of Electronic Filing Under 37 C.F.R. § 1.8

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4):

MS Issue Fee
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on January 2, 2014
Date

/Terri M. Downey/

Signature

Terri M. Downey

Typed or printed name of person signing Certificate

Registration Number, if applicable

(206) 336-5690
Telephone Number

Note: Each paper must have its own certificate of mailing, or this certificate must identify each submitted paper.

Part B - Fee(s) Transmittal (1 pg.)
Transmittal (1 pg.)


Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<h1>TRANSMITTAL FORM</h1> <p><i>(to be used for all correspondence after initial filing)</i></p>	Application Number	13/013,599	
	Filing Date	January 25, 2011	
	First Named Inventor	Janusz A. Kuzma	
	Art Unit	3729	
	Examiner Name	D. P. Angwin	
Total Number of Pages in This Submission	3	Attorney Docket Number	1362009-2093.2

ENCLOSURES (Check all that apply)

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Part B - Fee(s) Transmittal (1 pg.); Certificate of Electronic Filing (1 pg.)
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	FROMMER LAWRENCE & HAUG LLP		
Signature			
Printed name	Bruce E. Black		
Date	January 2, 2014	Reg. No.	41,622



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

50638 7590 10/04/2013
Boston Scientific Neuromodulation Corp.
c/o Frommer Lawrence & Haug LLP
745 Fifth Ave
NEW YORK, NY 10151

EXAMINER

ANGWIN, DAVID PATRICK

ART UNIT PAPER NUMBER

3729

DATE MAILED: 10/04/2013

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
13/013,599 01/25/2011 Janusz A. Kuzma 1362009-2093.2 9046

TITLE OF INVENTION: ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME

Table with 7 columns: APPLN. TYPE, ENTITY STATUS, ISSUE FEE DUE, PUBLICATION FEE DUE, PREV. PAID ISSUE FEE, TOTAL FEE(S) DUE, DATE DUE
nonprovisional UNDISCOUNTED \$1780 \$300 \$0 \$2080 01/06/2014

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

50638 7590 10/04/2013
Boston Scientific Neuromodulation Corp.
 c/o Frommer Lawrence & Haug LLP
 745 Fifth Ave
 NEW YORK, NY 10151

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/013,599	01/25/2011	Janusz A. Kuzma	1362009-2093.2	9046

TITLE OF INVENTION: ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1780	\$300	\$0	\$2080	01/06/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
ANGWIN, DAVID PATRICK	3729	029-825000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). <input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. <input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.	2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, _____ 1 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. _____ 2 _____ 3
--	--

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)
 PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.
 (A) NAME OF ASSIGNEE _____ (B) RESIDENCE: (CITY and STATE OR COUNTRY) _____

Please check the appropriate assignee category or categories (will not be printed on the patent) : Individual Corporation or other private group entity Government

4a. The following fee(s) are submitted: <input type="checkbox"/> Issue Fee <input type="checkbox"/> Publication Fee (No small entity discount permitted) <input type="checkbox"/> Advance Order - # of Copies _____	4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above) <input type="checkbox"/> A check is enclosed. <input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached. <input type="checkbox"/> The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).
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5. **Change in Entity Status** (from status indicated above)

- Applicant certifying micro entity status. See 37 CFR 1.29
- Applicant asserting small entity status. See 37 CFR 1.27
- Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see form PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.

50638 7590 10/04/2013
Boston Scientific Neuromodulation Corp.
c/o Frommer Lawrence & Haug LLP
745 Fifth Ave
NEW YORK, NY 10151

Table with 1 column: EXAMINER

ANGWIN, DAVID PATRICK

Table with 2 columns: ART UNIT, PAPER NUMBER

3729

DATE MAILED: 10/04/2013

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 298 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 298 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

**Notices of Allowance and Fee(s) Due mailed between October 1, 2013 and
December 31, 2013**

(Addendum to PTOL-85)

If the "Notice of Allowance and Fee(s) Due" has a mailing date on or after October 1, 2013 and before January 1, 2014, the following information is applicable to this application.

If the issue fee is being timely paid on or after January 1, 2014, the amount due is the issue fee and publication fee in effect January 1, 2014. On January 1, 2014, the issue fees set forth in 37 CFR 1.18 decrease significantly and the publication fee set forth in 37 CFR 1.18(d)(1) decreases to \$0.

If an issue fee or publication fee has been previously paid in this application, applicant is not entitled to a refund of the difference between the amount paid and the amount in effect on January 1, 2014.

Notice of Allowability	Application No. 13/013,599	Applicant(s) KUZMA ET AL.	
	Examiner DAVID ANGWIN	Art Unit 3729	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to applicant's response to Ex Parte Quayle dated 8/28/13.
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. The allowed claim(s) is/are 29-33 and 35-40. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) All b) Some *c) None of the:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.


THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material 4. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Examiner's Amendment/Comment 6. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance 7. <input type="checkbox"/> Other _____. |
|---|---|


/David P. Angwin/
Primary Examiner
Art Unit: 3729

<i>Index of Claims</i> 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47


CLAIM		DATE									
Final	Original	01/16/2013	02/25/2013	04/16/2013	07/04/2013	09/27/2013					
	1	-	-	-	-	-					
	2	-	-	-	-	-					
	3	-	-	-	-	-					
	4	-	-	-	-	-					
	5	-	-	-	-	-					
	6	-	-	-	-	-					
	7	-	-	-	-	-					
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	25	÷	N	N	N	-					
	26	÷	N	N	N	-					
	27	÷	N	N	N	-					
	28	÷	N	N	N	-					
	29	÷	✓	✓	=	=					
	30	÷	N	N	=	=					
	31	÷	✓	✓	=	=					
	32	÷	N	N	=	=					
	33	÷	N	N	=	=					
	34	÷	N	N	N	-					
	35	÷	N	N	=	=					
	36	÷	✓	✓	=	=					

<i>Index of Claims</i> 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	01/16/2013	02/25/2013	04/16/2013	07/04/2013	09/27/2013			
	37	÷	✓	✓	=	=			
	38	÷	N	N	=	=			
	39	÷	N	N	=	=			
	40	÷	N	N	=	=			

Search Notes 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
29	825	2/25/13	DPA
29	825	7/4/13	DPA
607	115-122	7/4/13	DPA

SEARCH NOTES		
Search Notes	Date	Examiner
obtained search from Primary Examiner Carl Arbes (Class 29) for 11/329,907	11/12/08	DPA
reviewed parent applications	7/4/13	DPA
inventor name search	7/4/13	DPA

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
all listed above	all listed above	dates listed above	DPA


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BIB DATA SHEET
CONFIRMATION NO. 9046


SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
13/013,599	01/25/2011	029	3729	1362009-2093.2		
RULE						
APPLICANTS Janusz A. Kuzma, Parker, CO; Anne M. Pianca, Valencia, CA;						
** CONTINUING DATA ***** This application is a CON of 11/329,907 01/11/2006 PAT 7891085 which claims benefit of 60/643,093 01/11/2005						
** FOREIGN APPLICATIONS *****						
** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 02/08/2011						
Foreign Priority claimed 35 USC 119(a-d) conditions met Verified and Acknowledged	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No /DAVID PATRICK ANGWIN/ Examiner's Signature	<input type="checkbox"/> Met after Allowance Initials	STATE OR COUNTRY CO	SHEETS DRAWINGS 6	TOTAL CLAIMS 20	INDEPENDENT CLAIMS 3
ADDRESS Boston Scientific Neuromodulation Corp. c/o Frommer Lawrence & Haug LLP 745 Fifth Ave NEW YORK, NY 10151 UNITED STATES						
TITLE ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME						
FILING FEE RECEIVED 1090	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit		

Issue Classification 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.	
	Examiner DAVID ANGWIN	Art Unit 3729	

CPC			
Symbol		Type	Version


CPC Combination Sets				
Symbol	Type	Set	Ranking	Version

NONE			
(Assistant Examiner)	(Date)	Total Claims Allowed: 11	
/DAVID ANGWIN/ Primary Examiner.Art Unit 3729	9/27/13	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1(final)	6B

Issue Classification 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

US ORIGINAL CLASSIFICATION						INTERNATIONAL CLASSIFICATION														
CLASS		SUBCLASS				CLAIMED					NON-CLAIMED									
29		825				H	0	1	R	43 / 00 (2006.01.01)										
CROSS REFERENCE(S)						A	6	1	N	1 / 00 (2006.01.01)										
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)																			
607	116																			

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	11	
/DAVID ANGWIN/ Primary Examiner. Art Unit 3729	9/27/13	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1 (final)	6B

<i>Issue Classification</i> 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

<input checked="" type="checkbox"/> Claims renumbered in the same order as presented by applicant <input type="checkbox"/> CPA <input type="checkbox"/> T.D. <input type="checkbox"/> R.1.47															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original

NONE		Total Claims Allowed:	
		11	
(Assistant Examiner)	(Date)	O.G. Print Claim(s)	O.G. Print Figure
/DAVID ANGWIN/ Primary Examiner. Art Unit 3729	9/27/13	1 (final)	6B
(Primary Examiner)	(Date)		

Docket No.: 1362009-2093.2
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

.....
In re Patent Application of:
Janusz A. Kuzma et al.

Application No.: 13/013,599

Confirmation No.: 9046

Filed: January 25, 2011

Art Unit: 3729

For: ELECTRODE ARRAY ASSEMBLY AND
METHOD OF MAKING SAME
.....

Examiner: D. P. Angwin

AMENDMENT IN RESPONSE TO NON-FINAL OFFICE ACTION

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Madam:

INTRODUCTORY COMMENTS

In response to the Ex Parte Quayle Office Action dated July 8, 2013, please consider the following amendments and remarks/arguments:

Amendments to the Specification begin on page 2.

Amendments to the Claims begin on page 3.

Remarks/Arguments begin on page 6.

AMENDMENTS TO THE SPECIFICATION

Please amend the Abstract on page 19 as follows:

[0053] ~~A lead assembly and a method of making a lead are provided. The method of making a multi-contact lead assembly comprises placing monofilament placed in the void spaces not occupied by the plurality of conductor wires and, in one embodiment, thermally fusing the monofilament to the like material spacer by applying heat just below the melting temperature of the monofilament and spacer material. Alternatively, the monofilament and spacer may be of different materials and heat is applied to cause at least one material to thermally reflow or melt. The conductive contacts may be located at either the distal end and/or proximal end of the lead. Oversized spacers may be used in order to provide extra material to fill voids during the thermal fusion/reflow process. A method of manufacturing a stimulation lead includes providing a lead body having an insulation section that defines a central lumen extending along the insulation section and conductor lumens extending along the insulation section and arranged around, and external to, the central lumen. The lead body also includes conductive contacts located along an axial end of the lead body and conductor wires with each conductor wire disposed within one of the conductor lumens and each of the conductor lumens having at least one of the conductor wires disposed therein. After providing the lead body, conductively coupling at least one of the conductor wires to each of the conductive contacts; and placing non-conductive material into a portion of at least one of the conductor lumens of the lead body. A portion of the conductor lumens and at least a portion of the non-conductive material are disposed radially beneath the conductive contacts.~~

AMENDMENT TO CLAIMS

1.-28. (Canceled)

29. (Previously Presented) A method of manufacturing a stimulation lead comprising: providing a lead body comprising an insulation section, the insulation section defining a central lumen extending along the insulation section and a plurality of conductor lumens extending along the insulation section and arranged around, and external to, the central lumen, the lead body further comprising a plurality of conductive contacts located along an axial end of the lead body, and a plurality of conductor wires, wherein each of the conductor wires is disposed within one of the plurality of conductor lumens and each of the conductor lumens of the plurality of conductor lumens has at least one of the conductor wires of the plurality of conductor wires disposed therein, wherein a portion of the conductor lumens is disposed radially beneath the conductive contacts; after providing the lead body, conductively coupling at least one of the plurality of conductor wires to each of the conductive contacts; and after providing the lead body, placing non-conductive material into a portion of at least one of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material is disposed radially beneath the conductive contacts.

30. (Previously Presented) The method of claim 29, further comprising heating the non-conductive material to cause the non-conductive material to thermally reflow or melt.

31. (Previously Presented) The method of claim 29, wherein placing non-conductive material comprises placing the non-conductive material into a portion of each of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material in each of the conductor lumens is disposed radially beneath the conductive contacts.

32. (Previously Presented) The method of claim 29, further comprising placing spacers between pairs of adjacent conductive contacts.

33. (Previously Presented) The method of claim 32, further comprising heating the non-conductive material and spacers to cause the non-conductive material to thermally reflow or melt and to cause the non-conductive material and spacers to thermally fuse together.

34. (Canceled)

35. (Previously Presented) A method of manufacturing a stimulation lead comprising:
providing a lead body comprising an insulation section, the insulation section defining a central lumen extending along the insulation section and a plurality of conductor lumens extending along the insulation section and arranged around, and external to, the central lumen, the lead body further comprising a plurality of conductive contacts located along an axial end of the lead body, and a plurality of conductor wires, wherein each of the conductor wires is disposed within one of the plurality of conductor lumens and each of the conductor lumens of the plurality of conductor lumens has at least one of the conductor wires of the plurality of conductor wires disposed therein, wherein a portion of the conductor lumens is disposed radially beneath the conductive contacts;

after providing the lead body, conductively coupling at least one of the plurality of conductor wires to each of the conductive contacts;

after providing the lead body, placing non-conductive material into a portion of at least one of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material is disposed radially beneath the conductive contacts; and

after placing the non-conductive material, heating the non-conductive material at a temperature in a range of 140 to 250 degrees Celsius for a period in a range of 15 to 120 seconds to cause the non-conductive material to thermally reflow or melt.

36. (Previously Presented) The method of claim 35, wherein the plurality of conductor lumens is exactly eight conductor lumens.

37. (Previously Presented) The method of claim 35, wherein placing non-conductive material comprises placing the non-conductive material into a portion of each of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material in each of the conductor lumens is disposed radially beneath the conductive contacts.

38. (Previously Presented) The method of claim 35, further comprising placing spacers between pairs of adjacent conductive contacts.

39. (Previously Presented) The method of claim 38, wherein heating the non-conductive material comprises heating the non-conductive material and spacers to cause the non-conductive material to thermally reflow or melt and to cause the non-conductive material and spacers to thermally fuse together.

40. (Previously Presented) The method of claim 35, wherein the non-conductive material comprises polyurethane.

REMARKS

This amendment is in response to the Non-final Office Action of July 8, 2013. Claims 21-28 and 34 have been cancelled without prejudice. Claims 29-33 and 35-40 are currently pending. No new matter has been added. The Applicants thank the Examiner for indicating that claims 29-33 and 35-40 are allowed

ABSTRACT

The abstract of the disclosure is objected to because it is not directed to the disclosure of amended claims 29 and 35. The Abstract has been amended to correspond to the subject matter of claim 29. The Applicants respectfully request withdrawal of this objection to the Abstract.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. If the Examiner has any questions or concerns, the Applicants encourage the Examiner to contact the Applicants' representative, Bruce Black, by telephone to discuss the matter.

Dated: August 28, 2013

Respectfully submitted,

By  _____

Bruce E. Black

Registration No.: 41,622
FROMMER LAWRENCE & HAUG LLP
745 5th Ave.
New York, New York 10151
(206) 336-5668
(212) 588-0500 (Fax)
bblack@flhlaw.com (E-Mail)
Attorneys For Applicant

Electronic Acknowledgement Receipt

EFS ID:	16712015
Application Number:	13013599
International Application Number:	
Confirmation Number:	9046
Title of Invention:	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME
First Named Inventor/Applicant Name:	Janusz A. Kuzma
Customer Number:	50638
Filer:	Bruce Black/Terri Downey
Filer Authorized By:	Bruce Black
Attorney Docket Number:	1362009-2093.2
Receipt Date:	28-AUG-2013
Filing Date:	25-JAN-2011
Time Stamp:	16:22:34
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		01322685.PDF	2251324 1d3a9643a4d57adfb06c8a7105e4e9e2622d00793	yes	8

Multipart Description/PDF files in .zip description		
Document Description	Start	End
Miscellaneous Incoming Letter	1	1
Transmittal Letter	2	2
Amendment/Req. Reconsideration-After Non-Final Reject	3	3
Abstract	4	4
Claims	5	7
Applicant Arguments/Remarks Made in an Amendment	8	8

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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Application No. (if known): 13/013,599

Attorney Docket No.: 1362009-2093.2

Certificate of Electronic Filing Under 37 C.F.R. § 1.8

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4):

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on August 28, 2013
Date

/Terri M. Downey/

Signature

Terri M. Downey

Typed or printed name of person signing Certificate

Registration Number, if applicable

(206) 336-5690

Telephone Number

Note: Each paper must have its own certificate of mailing, or this certificate must identify each submitted paper.

Amendment Transmittal (1 page)

Amendment (6 pages)

AMENDMENT TRANSMITTAL LETTER

Docket No.
1362009-2093.2

Application No. 13/013,599	Filing Date January 25, 2011	Examiner D. P. Angwin	Art Unit 3729
-------------------------------	---------------------------------	--------------------------	------------------

Applicant(s): Janusz A. Kuzma et al.

Invention: ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME

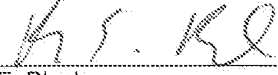
TO THE COMMISSIONER FOR PATENTS

Transmitted herewith is an Amendment and Certificate of Electronic Filing in the above-identified application.

The fee has been calculated and is transmitted as shown below.

CLAIMS AS AMENDED					
	Claims Remaining After Amendment	Highest Number Previously Paid	Number Extra Claims Present	Rate	
Total Claims	11	- 20 =	0	x	
Independent Claims	2	- 3 =	0	x	
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					
Other fee (please specify):					
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT:					0.00

- Large Entity Small Entity
- No additional fee is required for this amendment.
- Please charge Deposit Account No. _____ in the amount of \$ _____.
- A check in the amount of \$ _____ to cover the filing fee is enclosed.
- Payment by credit card. Form PTO-2038 is attached.
- The Director is hereby authorized to charge and credit Deposit Account No. 50-0320 as described below.
- Credit any overpayment.
- Charge any additional filing or application processing fees required under 37 C.F.R. § 1.16 and 1.17.


 Bruce E. Black
 Attorney/Agent Reg. No.: 41,622
 FROMMER LAWRENCE & HAUG LLP
 745 5th Ave.
 New York, New York 10151
 (206) 336-5668

Dated: August 28, 2013

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875			Application or Docket Number 13/013,599	Filing Date 01/25/2011	<input type="checkbox"/> To be Mailed		
ENTITY: <input checked="" type="checkbox"/> LARGE <input type="checkbox"/> SMALL <input type="checkbox"/> MICRO							
APPLICATION AS FILED – PART I							
(Column 1)		(Column 2)					
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)			
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A				
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A				
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A				
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =				
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =				
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL				
APPLICATION AS AMENDED – PART II							
(Column 1)		(Column 2)	(Column 3)				
AMENDMENT	08/28/2013	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 13	Minus	** 20	= 0	X \$80 = 0	
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0	X \$420 = 0	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0	
(Column 1)		(Column 2)	(Column 3)				
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE		
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.			** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".				
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".			The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.				
			LIE /GLORIA ANTHONY/				

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
 If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/013,599	01/25/2011	Janusz A. Kuzma	1362009-2093.2	9046
50638	7590	07/08/2013	EXAMINER	
Boston Scientific Neuromodulation Corp. c/o Frommer Lawrence & Haug LLP 745 Fifth Ave NEW YORK, NY 10151			ANGWIN, DAVID PATRICK	
			ART UNIT	PAPER NUMBER
			3729	
			MAIL DATE	DELIVERY MODE
			07/08/2013	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 13/013,599	Applicant(s) KUZMA ET AL.	
	Examiner DAVID ANGWIN	Art Unit 3729	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 31 May 2013.
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
- 4) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) Claim(s) 21-40 is/are pending in the application.
5a) Of the above claim(s) 21-28 and 34 is/are withdrawn from consideration.
- 6) Claim(s) 29-33 and 35-40 is/are allowed.
- 7) Claim(s) _____ is/are rejected.
- 8) Claim(s) _____ is/are objected to.
- 9) Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) The specification is objected to by the Examiner.
- 11) The drawing(s) filed on 25 January 2011 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) All b) Some * c) None of the:
 - 1. Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No. _____.
 - 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 3) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 4) Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 29 and 31 are directed to an allowable process. Pursuant to the procedures set forth in MPEP § 821.04(B), **claims 30 and 32-33**, also directed to a process depending from allowable claim 29, along with **claims 35-40**, previously withdrawn from consideration as a result of a restriction requirement, are hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Because **claims 30, 32-33, and 35-40**, previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, **the restriction requirement as set forth in the Office action mailed on 1/17/13 is hereby partially withdrawn**. In view of the partial withdrawal of the restriction requirement as to the rejoined inventions, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Please cancel claims 21-28.

Specification

The abstract of the disclosure is objected to because it is not directed to the disclosure of amended claims 29 and 35. Correction is required. See MPEP § 608.01(b).

Allowable Subject Matter

Claims 29-33 and 35-40 are now allowed.

Conclusion

This application is in condition for allowance except for the following formal matters:

To correct the informalities above with the abstract and claims.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 25 USPQ 74, 453 O.G. 213, (Comm'r Pat. 1935).

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Angwin whose telephone number is (571) 270-3735. The examiner can normally be reached on 7:30 AM - 5 PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo, can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Angwin/
Primary Examiner
Art Unit 3729

DPA

Notice of References Cited	Application/Control No. 13/013,599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.	
	Examiner DAVID ANGWIN	Art Unit 3729	Page 1 of 2

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification	
*	A	US-3,769,984 A	11-1973	Muench, Lloyd D.	607/122
*	B	US-5,410,797 A	05-1995	Steinke et al.	29/435
*	C	US-5,555,618 A	09-1996	Winkler, Josef	29/825
*	D	US-6,055,456 A	04-2000	Gerber, Martin Theodore	607/117
*	E	US-6,205,361 B1	03-2001	Kuzma et al.	607/116
*	F	US-6,216,045 B1	04-2001	Black et al.	607/122
*	G	US-6,249,708 B1	06-2001	Nelson et al.	607/122
*	H	US-6,551,302 B1	04-2003	Rosinko et al.	604/505
*	I	US-6,598,280 B1	07-2003	Giba et al.	29/447
*	J	US-2004/0024440 A1	02-2004	Cole, Mary Lee	607/122
*	K	US-2004/0225175 A1	11-2004	Moody et al.	600/003
*	L	US-6,909,918 B2	06-2005	Stypulkowski, Paul	607/117
*	M	US-2005/0215945 A1	09-2005	Harris et al.	604/066

FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
	O				
	P				
	Q				
	R				
	S				
	T				

NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U
	V
	W
	X

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Notice of References Cited	Application/Control No. 13/013,599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.	
	Examiner DAVID ANGWIN	Art Unit 3729	Page 2 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2006/0036218 A1	02-2006	Goodson et al.	604/264
*	B	US-7,047,081 B2	05-2006	Kuzma, Janusz A	607/115
*	C	US-2007/0021771 A1	01-2007	Oepen et al.	606/194
*	D	US-2007/0021821 A1	01-2007	Johnson et al.	623/001.11
*	E	US-7,184,840 B2	02-2007	Stolz et al.	607/122
*	F	US-2007/0249997 A1	10-2007	Goodson et al.	604/093.01
*	G	US-2008/0097426 A1	04-2008	Root et al.	606/041
*	H	US-2009/0018487 A1	01-2009	Doty, David	604/21
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			


FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	


*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<i>Index of Claims</i> 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47


CLAIM		DATE									
Final	Original	01/16/2013	02/25/2013	04/16/2013	07/04/2013						
	1	-	-	-	-						
	2	-	-	-	-						
	3	-	-	-	-						
	4	-	-	-	-						
	5	-	-	-	-						
	6	-	-	-	-						
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	27	÷	N	N	N						
	28	÷	N	N	N						
	29	÷	✓	✓	=						
	30	÷	N	N	=						
	31	÷	✓	✓	=						
	32	÷	N	N	=						
	33	÷	N	N	=						
	34	÷	N	N	N						
	35	÷	N	N	=						
	36	÷	✓	✓	=						

<i>Index of Claims</i> 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE								
Final	Original	01/16/2013	02/25/2013	04/16/2013	07/04/2013					
	37	÷	✓	✓	=					
	38	÷	N	N	=					
	39	÷	N	N	=					
	40	÷	N	N	=					

Search Notes 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
29	825	2/25/13	DPA
29	825	7/4/13	DPA
607	115-122	7/4/13	DPA

SEARCH NOTES		
Search Notes	Date	Examiner
obtained search from Primary Examiner Carl Arbes (Class 29) for 11/329,907	11/12/08	DPA
reviewed parent applications	7/4/13	DPA
inventor name search	7/4/13	DPA

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
all listed above	all listed above	dates listed above	DPA

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3668	29/825.ccls.	US-PGPUB; USPAT	OR	OFF	2013/07/04 01:51
L2	904	607/115.ccls.	US-PGPUB; USPAT	OR	OFF	2013/07/04 02:07
L3	2562	607/116.ccls.	US-PGPUB; USPAT	OR	OFF	2013/07/04 02:13
L4	556	607/117.ccls.	US-PGPUB; USPAT	OR	OFF	2013/07/04 02:20
L5	407	607/118.ccls.	US-PGPUB; USPAT	OR	OFF	2013/07/04 02:23
L6	748	607/119.ccls.	US-PGPUB; USPAT	OR	OFF	2013/07/04 02:25
L7	229	607/120.ccls.	US-PGPUB; USPAT	OR	OFF	2013/07/04 02:27
L8	104	607/121.ccls.	US-PGPUB; USPAT	OR	OFF	2013/07/04 02:30
L9	1936	607/122.ccls.	US-PGPUB; USPAT	OR	OFF	2013/07/04 02:32
S1	6	("3769984" OR "5555618" OR "6055456" OR "6205361" OR "6216045" OR "6249708").pn.	US-PGPUB; USPAT; USOCR	AND	ON	2008/11/11 17:57
S2	1806	29/825.ccls.	US-PGPUB; USPAT; USOCR	AND	ON	2008/11/12 19:12
S3	151	catheter.ti. (shrink adj wrap)	US-PGPUB; USPAT; USOCR	AND	ON	2009/03/28 17:10
S4	3049	catheter.ti. percutaneous	US-PGPUB; USPAT; USOCR	AND	ON	2009/03/28 20:15
S5	1165	catheter.ti. percutaneous same distal	US-PGPUB; USPAT; USOCR	AND	ON	2009/03/28 20:15
S6	0	catheter.ti. percutaneous same distal same	US-	AND	ON	2009/03/28

		(conductive adj contacts)	PGPUB; USPAT; USOCR			20:16
S7	64	catheter.ti. percutaneous same distal same contacts	US- PGPUB; USPAT; USOCR	AND	ON	2009/03/28 20:16
S8	1	"6205361".pn.	US- PGPUB; USPAT; USOCR	AND	ON	2009/03/28 21:51
S9	82	catheter.ti. ((shrink adj tubing) or (shrink adj wrap)) with cover\$3	US- PGPUB; USPAT; USOCR	AND	ON	2009/03/29 20:29
S10	86	"29"/\$6.ccls. (catheter).ti. (heat\$3 or melt\$3)	US- PGPUB; USPAT; USOCR	AND	ON	2010/03/26 10:54
S11	40	("6216045").URPN.	USPAT	AND	ON	2010/07/19 22:57
S12	644	607/115.ccls.	US- PGPUB; USPAT; USOCR	AND	ON	2010/09/29 15:01
S13	644	607/115.ccls.	US- PGPUB; USPAT; USOCR	AND	ON	2010/09/29 15:01
S14	1574	607/116.ccls.	US- PGPUB; USPAT; USOCR	AND	ON	2010/09/29 15:25
S15	331	607/117.ccls.	US- PGPUB; USPAT; USOCR	AND	ON	2010/11/02 22:51
S16	29	607/117.ccls. and spacer	US- PGPUB; USPAT; USOCR	AND	ON	2010/11/02 22:55
S17	296	(607/115.ccls. or 607/116.ccls. or 607/117.ccls. or 607/118.ccls. or 607/119.ccls. or 607/120.ccls. or 607/121.ccls. or 607/122.ccls.) and (lumens with inside)	US- PGPUB; USPAT; USOCR	AND	ON	2010/11/03 03:49
S18	180	(607/115.ccls. or 607/116.ccls. or 607/117.ccls. or 607/118.ccls. or 607/119.ccls. or 607/120.ccls. or 607/121.ccls. or 607/122.ccls.) and (lumens with inside)	USPAT; USOCR	AND	ON	2010/11/03 05:10
S19	1	(607/115.ccls. or 607/116.ccls. or 607/117.ccls. or 607/118.ccls. or 607/119.ccls. or 607/120.ccls. or 607/121.ccls. or 607/122.ccls.) and (lumens with reflow\$3)	USPAT; USOCR	AND	ON	2010/11/03 05:23
S20	158	607/118.ccls.	USPAT; USOCR	AND	ON	2010/11/03 05:36

EAST Search History

S21	17	(607/115.ccls. or 607/116.ccls. or 607/117.ccls. or 607/118.ccls. or 607/119.ccls. or 607/120.ccls. or 607/121.ccls. or 607/122.ccls.) and reflow\$3	USPAT; USOCR	AND	ON	2010/11/03 05:39
S22	352	607/119.ccls.	USPAT; USOCR	AND	ON	2010/11/03 05:43
S23	145	607/120.ccls.	USPAT; USOCR	AND	ON	2010/11/03 05:47
S24	65	607/121.ccls.	USPAT; USOCR	AND	ON	2010/11/03 05:53
S25	1282	607/122.ccls.	USPAT; USOCR	AND	ON	2010/11/03 05:57

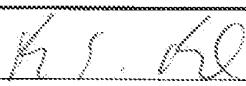
7/ 4/ 2013 2:34:34 AM

C:\Users\dangwin\Documents\Critical Data\EAST\Workspaces\11329907.wsp

Doc Code: A.NE.AFCEP

Document Description: After Final Consideration Pilot Program Request

PTO/SB/434 (05-13)

CERTIFICATION AND REQUEST FOR CONSIDERATION UNDER THE AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0		
Practitioner Docket No.:	Application No.:	Filing Date:
1362009-2093.2	13/013,599	January 25, 2011
First Named Inventor:	Title:	
Janusz A. Kuzma	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME	
APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS CONSIDERATION UNDER THE AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0 (AFCEP 2.0) OF THE ACCOMPANYING RESPONSE UNDER 37 CFR 1.116.		
<p>1. The above-identified application is (i) an original utility, plant, or design nonprovisional application filed under 35 U.S.C. 111(a) [a continuing application (e.g., a continuation or divisional application) is filed under 35 U.S.C. 111(a) and is eligible under (i)], or (ii) an international application that has entered the national stage in compliance with 35 U.S.C. 371(c).</p> <p>2. The above-identified application contains an outstanding final rejection.</p> <p>3. Submitted herewith is a response under 37 CFR 1.116 to the outstanding final rejection. The response includes an amendment to at least one independent claim, and the amendment does not broaden the scope of the independent claim in any aspect.</p> <p>4. This certification and request for consideration under AFCEP 2.0 is the only AFCEP 2.0 certification and request filed in response to the outstanding final rejection.</p> <p>5. Applicant is willing and available to participate in any interview requested by the examiner concerning the present response.</p> <p>6. This certification and request is being filed electronically using the Office's electronic filing system (EFS-Web).</p> <p>7. Any fees that would be necessary consistent with current practice concerning responses after final rejection under 37 CFR 1.116, e.g., extension of time fees, are being concurrently filed herewith. [There is no additional fee required to request consideration under AFCEP 2.0.]</p> <p>8. By filing this certification and request, applicant acknowledges the following:</p> <ul style="list-style-type: none">• Reissue applications and reexamination proceedings are not eligible to participate in AFCEP 2.0.• The examiner will verify that the AFCEP 2.0 submission is compliant, i.e., that the requirements of the program have been met (see items 1 to 7 above). For compliant submissions:<ul style="list-style-type: none">○ The examiner will review the response under 37 CFR 1.116 to determine if additional search and/or consideration (i) is necessitated by the amendment and (ii) could be completed within the time allotted under AFCEP 2.0. If additional search and/or consideration is required but cannot be completed within the allotted time, the examiner will process the submission consistent with current practice concerning responses after final rejection under 37 CFR 1.116, e.g., by mailing an advisory action.○ If the examiner determines that the amendment does not necessitate additional search and/or consideration, or if the examiner determines that additional search and/or consideration is required and could be completed within the allotted time, then the examiner will consider whether the amendment places the application in condition for allowance (after completing the additional search and/or consideration, if required). If the examiner determines that the amendment does not place the application in condition for allowance, then the examiner will contact the applicant and request an interview.<ul style="list-style-type: none">▪ The interview will be conducted by the examiner, and if the examiner does not have negotiation authority, a primary examiner and/or supervisory patent examiner will also participate.▪ If the applicant declines the interview, or if the interview cannot be scheduled within ten (10) calendar days from the date that the examiner first contacts the applicant, then the examiner will proceed consistent with current practice concerning responses after final rejection under 37 CFR 1.116.		
Signature		Date
Name (Print/Typed)	Bruce E. Black	May 31, 2013
		Practitioner Registration No. 41,622
<i>Note: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.</i>		
<input checked="" type="checkbox"/> * Total of 1 forms are submitted.		

Docket No.: 1362009-2093.2
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Janusz A. Kuzina et al.

Application No.: 13/013,599

Confirmation No.: 9046

Filed: January 25, 2011

Art Unit: 3729

For: ELECTRODE ARRAY ASSEMBLY AND
METHOD OF MAKING SAME

Examiner: D. P. Angwin

AMENDMENT IN RESPONSE TO FINAL OFFICE ACTION

MS AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INTRODUCTORY COMMENTS

In response to the Final Office Action dated April 18, 2013, please amend the above-identified U.S. patent application as follows:

Amendments to the Claims begin on page 2 of this paper.

Remarks/Arguments begin on page 7 of this paper.

AMENDMENT TO CLAIMS

- 1.-20. (Canceled)
21. (Withdrawn) A method of manufacturing a stimulation lead comprising:
providing a plurality of conductive contacts located at an end of a lead body of the stimulation lead and providing a plurality of conductor wires disposed in a plurality of conductor lumens formed in the lead body, wherein a portion of the conductor lumens is disposed beneath the conductive contacts;
connecting at least one of the plurality of conductor wires to each of the conductive contacts;
placing non-conductive material into at least one portion of at least one of the conductor lumens of the lead body that is not occupied by a conductor wire, wherein at least a portion of the non-conductive material is disposed beneath the conductive contacts; and
heating the non-conductive material to cause the non-conductive material to thermally reflow or melt.
22. (Withdrawn) The method of claim 21, further comprising placing spacers between pairs of adjacent conductive contacts.
23. (Withdrawn) The method of claim 22, wherein heating the non-conductive material comprises heating the non-conductive material and spacers to cause the non-conductive material to thermally reflow or melt and to cause the non-conductive material and spacers to thermally fuse together.
24. (Withdrawn) The method of claim 22, wherein a material of the spacers and the non-conductive material are a same material.
25. (Withdrawn) The method of claim 22, wherein a material of the spacers and the non-conductive material are different materials.

26. (Withdrawn) The method of claim 21, wherein the non-conductive material comprises polyurethane.

27. (Withdrawn) The method of claim 21, further comprising placing a heat shrink tubing around the conductive contacts and the non-conductive material.

28. (Withdrawn) The method of claim 21, wherein heating the non-conductive material comprises heating the non-conductive material at a temperature in a range of 140 to 250 degrees Celsius for a period in a range of 15 to 120 seconds to cause the non-conductive material to thermally reflow or melt.

29. (Currently Amended) A method of manufacturing a stimulation lead comprising: providing a lead body comprising an insulation section, the insulation section defining a central lumen extending along the insulation section and a plurality of conductor lumens extending along the insulation section and arranged around, and external to, the central lumen, the lead body further comprising a plurality of conductive contacts located [[at]] along an axial end of the lead body, and a plurality of conductor wires ~~disposed in the plurality of conductor lumens~~, wherein each of the conductor wires is disposed within one of the plurality of conductor lumens and each of the conductor lumens of the plurality of conductor lumens has at least one of the conductor wires of the plurality of conductor wires disposed therein, wherein a portion of the conductor lumens is disposed radially beneath the conductive contacts;

after providing the lead body, conductively coupling at least one of the plurality of conductor wires to each of the conductive contacts; and

after providing the lead body, placing non-conductive material into a portion of at least one of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material is disposed radially beneath the conductive contacts.

30. (Withdrawn) The method of claim 29, further comprising heating the non-conductive material to cause the non-conductive material to thermally reflow or melt.

31. (Currently Amended) The method of claim 29, wherein placing non-conductive material comprises placing the non-conductive material into a portion of each of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material in each of the conductor lumens is disposed radially beneath the conductive contacts.

32. (Withdrawn) The method of claim 29, further comprising placing spacers between pairs of adjacent conductive contacts.

33. (Withdrawn) The method of claim 32, further comprising heating the non-conductive material and spacers to cause the non-conductive material to thermally reflow or melt and to cause the non-conductive material and spacers to thermally fuse together.

34. (Withdrawn) The method of claim 21, wherein the non-conductive material comprises polyurethane.

35. (Withdrawn, Currently Amended) A method of manufacturing a stimulation lead comprising:

providing a lead body comprising an insulation section, the insulation section defining a central lumen extending along the insulation section and a plurality of conductor lumens extending along the insulation section and arranged around, and external to, the central lumen, the lead body further comprising a plurality of conductive contacts located ~~[[at]]~~ along an axial end of the lead body, and a plurality of conductor wires ~~disposed in the plurality of conductor lumens~~, wherein each of the conductor wires is disposed within one of the plurality of conductor lumens and each of the conductor lumens of the plurality of conductor lumens has at least one of the conductor wires of the

plurality of conductor wires disposed therein, wherein a portion of the conductor lumens is disposed radially beneath the conductive contacts;

after providing the lead body, conductively coupling at least one of the plurality of conductor wires to each of the conductive contacts;

after providing the lead body, placing non-conductive material into a portion of at least one of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material is disposed radially beneath the conductive contacts; and

after placing the non-conductive material, heating the non-conductive material at a temperature in a range of 140 to 250 degrees Celsius for a period in a range of 15 to 120 seconds to cause the non-conductive material to thermally reflow or melt.

36. (Previously Presented) The method of claim 35, wherein the plurality of conductor lumens is exactly eight conductor lumens.

37. (Currently Amended) The method of claim 35, wherein placing non-conductive material comprises placing the non-conductive material into a portion of each of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material in each of the conductor lumens is disposed radially beneath the conductive contacts.

38. (Withdrawn) The method of claim 35, further comprising placing spacers between pairs of adjacent conductive contacts.

39. (Withdrawn) The method of claim 38, wherein heating the non-conductive material comprises heating the non-conductive material and spacers to cause the non-conductive material to thermally reflow or melt and to cause the non-conductive material and spacers to thermally fuse together.

Application No. 13/013,599
Amendment dated May 31, 2013
Reply to Office Action dated April 18, 2013

Docket No.: 1362009-2093.2

40. (Withdrawn) The method of claim 35, wherein the non-conductive material comprises polyurethane.

REMARKS

This amendment is in response to the Final Office Action of April 18, 2013. Claims 29, 31, 35, and 37 have been amended. Claims 21-40 are currently pending. No new matter has been added.

§ 112 Rejections

Claims 29, 31, 36, and 37 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. The Applicants traverse this rejection.

The Office Action asserts that the phrase “a plurality of conductor wires disposed in the plurality of conductor lumens” is indefinite. The Office Action asserts that “it is unclear as to whether all of the plurality of conductor [wires] are disposed in one lumens (sic), if some of the plurality of conductor [wires] are disposed in several lumens and no conductors (sic) in some lumens, or if one of the plurality of conductor wires is disposed in each conductor lumen.” Office Action, p. 2. Claims 29 and 35 each explicitly recite “each of the conductor wires is disposed within one of the plurality of conductor lumens and each of the conductor lumens of the plurality of conductor lumens has at least one of the conductor wires of the plurality of conductor wires disposed therein” which clearly addresses the assertions raised in the Office Action regarding whether a conductor wire is disposed in each conductor lumen. Accordingly, no amendment of the claims is necessary to render the claims definite.

The Office Action further asserts that the phrase “conductively coupling at least one of the plurality of conductor wires to each of the conductive contacts” is indefinite. The Office Action asserts that “[i]t is unclear as to whether more than one plurality [sic] of conductor wires can be coupled to each of the contacts...” Office Action, p. 3. The Applicants respectfully submit that the phrase recited above is clear and definite. That the phrase may encompass more than one possibility does not render it indefinite. Accordingly, the Applicants respectfully submit that no amendment is necessary.

For the reasons provided above and the amendments to claims 29 and 35, the Applicants respectfully submit that claims 29, 31, 36, and 37 are definite. The Applicants request withdrawal of this rejection of the claims.

§ 102 Rejections

Claims 29, 31, 36, and 37 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,249,708 to Nelson et al. (“Nelson”). The Applicants traverse these rejections.

Claims 29 and 35 (from which claims 36 and 37 depend) recite “after providing the lead body, placing non-conductive material into a portion of at least one of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material is disposed radially beneath the conductive contacts.” In rejecting the claims, the Office Action asserts that Nelson teaches these elements in Figure 13, item 90 of Nelson.

Nelson, however, teaches that item 90 is a support surface 90 for a mesh material 92 that is formed as an anchoring site 62. Nelson, Col. 9:34-53. Nelson explicitly states that “the various anchoring sites 62 [are] remote to the atrial electrodes 26.” Nelson, Col. 9:34-36. Accordingly, the support surface 90 is not “disposed radially beneath the conductive contacts” as recited in claims 29 and 35.

For at least these reasons, claims 29, 31, 36, and 37 are patentable over Nelson. The Applicants respectfully request withdrawal of this rejection of these claims.


Application No. 13/013,599
Amendment dated May 31, 2013
Reply to Office Action dated April 18, 2013

Docket No.: 1362009-2093.2

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. If the Examiner has any questions or concerns, the Applicants encourage the Examiner to contact the Applicants' representative, Bruce Black, by telephone to discuss the matter.

Dated: May 31, 2013

Respectfully submitted,

By 

Bruce E. Black

Registration No.: 41,622
FROMMER LAWRENCE & HAUG LLP
745 Fifth Avenue
New York, New York 10151
(206) 336-5668
(212) 588-0500 (Fax)
Attorneys/Agents For Applicant

Electronic Acknowledgement Receipt

EFS ID:	15919632
Application Number:	13013599
International Application Number:	
Confirmation Number:	9046
Title of Invention:	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME
First Named Inventor/Applicant Name:	Janusz A. Kuzma
Customer Number:	50638
Filer:	Bruce Black/Terri Downey
Filer Authorized By:	Bruce Black
Attorney Docket Number:	1362009-2093.2
Receipt Date:	31-MAY-2013
Filing Date:	25-JAN-2011
Time Stamp:	15:13:10
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		01283123.PDF	3419040 4f8e56273c851053a1639a9890eba6f74e1512a1	yes	12

Multipart Description/PDF files in .zip description		
Document Description	Start	End
Transmittal Letter	1	1
Miscellaneous Incoming Letter	2	2
After Final Consideration Program Request	3	3
Amendment After Final	4	4
Claims	5	9
Applicant Arguments/Remarks Made in an Amendment	10	12

Warnings:

Information:

Total Files Size (in bytes):	3419040
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

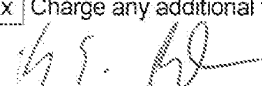
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

AMENDMENT TRANSMITTAL LETTER			Docket No. 1362009-2093.2		
Application No. 13/013,599	Filing Date January 25, 2011	Examiner D. P. Angwin	Art Unit 3729		
Applicant(s): Janusz A. Kuzma et al.					
Invention: ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME					
TO THE COMMISSIONER FOR PATENTS					
Transmitted herewith is an After Final Consideration Pilot Program Request, Amendment, and Certificate of Electronic Filing in the above-identified application.					
The fee has been calculated and is transmitted as shown below.					
CLAIMS AS AMENDED					
	Claims Remaining After Amendment	Highest Number Previously Paid	Number Extra Claims Present	Rate	
Total Claims	20	- 20 =	0	x 80.00	0.00
Independent Claims	3	- 3 =	0	x 420.00	0.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					
Other fee (please specify):					
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT:					
0.00					
<input checked="" type="checkbox"/> Large Entity <input type="checkbox"/> Small Entity					
<input checked="" type="checkbox"/> No additional fee is required for this amendment.					
<input type="checkbox"/> Please charge Deposit Account No. _____ in the amount of \$ _____.					
<input type="checkbox"/> A check in the amount of \$ _____ to cover the filing fee is enclosed.					
<input type="checkbox"/> Payment by credit card.					
<input checked="" type="checkbox"/> The Director is hereby authorized to charge and credit Deposit Account No. <u>50-0320</u> as described below.					
<input checked="" type="checkbox"/> Credit any overpayment.					
<input checked="" type="checkbox"/> Charge any additional filing or application processing fees required under 37 C.F.R. § 1.16 and 1.17.					
 Bruce E. Black Attorney/Agent Reg. No.: 41,622 FROMMER LAWRENCE & HAUG LLP 745 5th Ave. New York, New York 10151 (206) 336-5668			Dated: <u>May 31, 2013</u>		

Certificate of Electronic Filing Under 37 C.F.R. § 1.8

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4):

MS AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on May 31, 2013
Date

/Terri M. Downey/

Signature

Terri M. Downey

Typed or printed name of person signing Certificate

Registration Number, if applicable

(206) 336-5690

Telephone Number

Note: Each paper must have its own certificate of mailing, or this certificate must identify each submitted paper.

Amendment Transmittal (1 pg.)
After Final Consideration Pilot Program Request (1 pg.)
Amendment (9 pgs.)

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/013,599	Filing Date 01/25/2011	<input type="checkbox"/> To be Mailed
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ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)		(Column 2)
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

	(Column 1)	(Column 2)	(Column 3)		(Column 2)	(Column 3)
AMENDMENT	05/31/2013	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
Total (37 CFR 1.16(i))	*	20	Minus	** 20	= 0	X \$80 = 0
Independent (37 CFR 1.16(h))	*	3	Minus	***3	= 0	X \$420 = 0
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

	(Column 1)	(Column 2)	(Column 3)		(Column 2)	(Column 3)
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
Total (37 CFR 1.16(i))	*		Minus	**	=	X \$ =
Independent (37 CFR 1.16(h))	*		Minus	***	=	X \$ =
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/NINA RATANAVONG/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE

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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/013,599	01/25/2011	Janusz A. Kuzma	1362009-2093.2	9046
50638	7590	04/18/2013	EXAMINER	
Boston Scientific Neuromodulation Corp. c/o Frommer Lawrence & Haug LLP 745 Fifth Ave NEW YORK, NY 10151			ANGWIN, DAVID PATRICK	
			ART UNIT	PAPER NUMBER
			3729	
			MAIL DATE	DELIVERY MODE
			04/18/2013	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 13/013,599	Applicant(s) KUZMA ET AL.	
	Examiner DAVID ANGWIN	Art Unit 3729	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 11 April 2013.
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
- 4) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) Claim(s) 21-40 is/are pending in the application.
5a) Of the above claim(s) 21-28, 30, 32-35, and 38-40 is/are withdrawn from consideration.
- 6) Claim(s) _____ is/are allowed.
- 7) Claim(s) 29,31,36 and 37 is/are rejected.
- 8) Claim(s) _____ is/are objected to.
- 9) Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) The specification is objected to by the Examiner.
- 11) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) All b) Some * c) None of the:
 - 1. Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No. _____.
 - 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Interim copies:

- a) All b) Some c) None of the: Interim copies of the priority documents have been received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 3) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 4) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC §112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 29, 31, 36, and 37 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically:

- a. **Claim 29** recites the following limitations that are vague, indefinite, and confusing:
 - “a plurality of conductor wires disposed in the plurality of conductor lumens” (claim 29, line 5) - It is unclear as to whether multiple conductor wires of the plurality of conductor wires are disposed in one lumens, if some of the plurality of conductor wires are disposed in several lumens and no conductors in some lumens, or if one of the plurality of conductor wires is disposed in each conductor lumens. The shorthand phrasing utilized by the applicant is confusing in inhibits the reader from making a clear image, and the language is not literally correct. The examiner recommends indicating ‘at least one conductor wire of the plurality of conductor wires is disposed within every conductor lumens of the plurality of conductor lumens,’ or words to that effect, if that is what the applicant intends. Please be more precise with the claim language.

- “conductively coupling at least one of the plurality of conductor wires to each of the conductive contacts” (claim 29, lines 8-9) – It is unclear as to whether more than one plurality of conductor wires can be coupled to each of the contacts, or whether just one conductor wire is coupled to one conductive contact. Please be more precise with the claim language.

Claim Rejections - 35 USC § 102

The following is a set of quotations of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office Action:

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 29, 31, 36, and 37 are rejected under 35 U.S.C. § 102(b) as being anticipated by *Nelson et al* (US Patent 6,249,708).

- a. *Nelson et al* discloses in his reference the following:
 - i. providing a lead body comprising an insulation section (Fig. 3, item 30), the insulation section defining a central lumen (item 36) extending along the insulation section and a plurality of conductor lumens (items 40 and 44) extending along the insulation section and arranged around, and external to, the central lumen, the lead body further comprising a plurality of conductive contacts (Fig. 6, item 22, 24, 26, 50, and 52) located at an end of the lead body (radial or axial end), and a plurality of conductor wires (Figs. 3-5, item 40) disposed in the plurality of conductor lumens, wherein each of the conductor lumens has at least one of the conductor wires disposed therein, wherein a portion of the conductor lumens is disposed beneath the conductive contacts (Fig. 11, item 26-1);

conductively coupling at least one of the plurality of conductor wires to each of the conductive contacts;

placing non-conductive material (Fig. 13, item 90; *the examiner notes that the applicant has not provided an order to this step*) into a portion of at least one of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material is disposed beneath the conductive contacts;

- ii. wherein placing non-conductive material comprises placing the non-conductive material into a portion of each of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material in each of the conductor lumens is disposed beneath the conductive contacts (Fig. 13, item 90; *the examiner notes that the applicant has not provided an order to this step*);
- iii. wherein the plurality of conductor lumens is exactly eight conductor lumens (Fig. 3);
- iv. wherein placing non-conductive material comprises placing the non-conductive material into a portion of each of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material in each of the conductor lumens is disposed beneath the conductive contacts (Fig. 13, item 90; *the examiner notes that the applicant has not provided an order to this step*).

Response to Arguments

Regarding “a plurality of conductor wires disposed in the plurality of conductor lumens,” the applicant argues that it is not indefinite because the claim later states “each of the conductor lumens has at least one of the conductor wires disposed therein” (Applicant's Arguments, 6:10-18). However, the examiner disagrees. It is confusing and leaves the reader wondering about the writer's interpretation. The applicant's other arguments with respect to the above captioned claims have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

Examiner's Recommendations

The examiner recommends (1) amending the phrase "a plurality of conductor wires disposed in the plurality of conductor lumens" to 'at least one conductor wire of the plurality of conductor wires is disposed within every conductor lumens of the plurality of conductor lumens,' or words to that effect, if that is what the applicant intends; (2) more clearly defining the phrase "at an end of the lead body" (radial or axial end); (3) amending "the non-conductive material is disposed beneath the conductive contacts" to 'radially beneath the conductive contacts' (the examiner notes that *Nelson et al* Fig. 6 shows the lead body curling around like a snake, which allows for the interpretation of 'beneath' in multiple ways); (4) providing an order to the steps (i.e. 'after providing, coupling..., after coupling, placing...).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Angwin, whose telephone number is (571) 270-3735. The examiner can normally be reached on 7:30 AM - 5 PM (M-F). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo, can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Angwin/
Primary Examiner
Art Unit 3729

Application/Control Number: 13/013,599
Art Unit: 3729

Page 7

DPA

Notice of References Cited	Application/Control No. 13/013,599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.	
	Examiner DAVID ANGWIN	Art Unit 3729	Page 1 of 2

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification	
*	A	US-3,769,984 A	11-1973	Muench, Lloyd D.	607/122
*	B	US-5,410,797 A	05-1995	Steinke et al.	29/435
*	C	US-5,555,618 A	09-1996	Winkler, Josef	29/825
*	D	US-6,055,456 A	04-2000	Gerber, Martin Theodore	607/117
*	E	US-6,205,361 B1	03-2001	Kuzma et al.	607/116
*	F	US-6,216,045 B1	04-2001	Black et al.	607/122
*	G	US-6,249,708 B1	06-2001	Nelson et al.	607/122
*	H	US-6,551,302 B1	04-2003	Rosinko et al.	604/505
*	I	US-6,598,280 B1	07-2003	Giba et al.	29/447
*	J	US-2004/0024440 A1	02-2004	Cole, Mary Lee	607/122
*	K	US-2004/0225175 A1	11-2004	Moody et al.	600/003
*	L	US-6,909,918 B2	06-2005	Stypulkowski, Paul	607/117
*	M	US-2005/0215945 A1	09-2005	Harris et al.	604/066

FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
	O				
	P				
	Q				
	R				
	S				
	T				

NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U
	V
	W
	X

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Notice of References Cited	Application/Control No. 13/013,599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.	
	Examiner DAVID ANGWIN	Art Unit 3729	Page 2 of 2

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-2006/0036218 A1	02-2006	Goodson et al.	604/264
*	B US-7,047,081 B2	05-2006	Kuzma, Janusz A	607/115
*	C US-2007/0021771 A1	01-2007	Oepen et al.	606/194
*	D US-2007/0021821 A1	01-2007	Johnson et al.	623/001.11
*	E US-7,184,840 B2	02-2007	Stolz et al.	607/122
*	F US-2007/0249997 A1	10-2007	Goodson et al.	604/093.01
*	G US-2008/0097426 A1	04-2008	Root et al.	606/041
*	H US-2009/0018487 A1	01-2009	Doty, David	604/21
	I US-			
	J US-			
	K US-			
	L US-			
	M US-			


FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
	O				
	P				
	Q				
	R				
	S				
	T				

NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	
V	
W	
X	


*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<i>Index of Claims</i> 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected


Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	01/16/2013	02/25/2013	04/16/2013					
	1	-	-	-					
	2	-	-	-					
	3	-	-	-					
	4	-	-	-					
	5	-	-	-					
	6	-	-	-					
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	21	÷	N	N					
	22	÷	N	N					
	23	÷	N	N					
	24	÷	N	N					
	25	÷	N	N					
	26	÷	N	N					
	27	÷	N	N					
	28	÷	N	N					
	29	÷	✓	✓					
	30	÷	N	N					
	31	÷	✓	✓					
	32	÷	N	N					
	33	÷	N	N					
	34	÷	N	N					
	35	÷	N	N					
	36	÷	✓	✓					

<i>Index of Claims</i> 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant		<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47			
CLAIM		DATE							
Final	Original	01/16/2013	02/25/2013	04/16/2013					
	37	÷	✓	✓					
	38	÷	N	N					
	39	÷	N	N					
	40	÷	N	N					

Search Notes 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
29	825	2/25/13	DPA

SEARCH NOTES		
Search Notes	Date	Examiner

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

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Docket No.: 1362009-2093.2
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Janusz A. Kuzma et al.

Application No.: 13/013,599

Confirmation No.: 9046

Filed: January 25, 2011

Art Unit: 3729

For: ELECTRODE ARRAY ASSEMBLY AND
METHOD OF MAKING SAME

Examiner: D. P. Angwin

AMENDMENT IN RESPONSE TO NON-FINAL OFFICE ACTION

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INTRODUCTORY COMMENTS

In response to the Non-Office Action dated February 27, 2013, please amend the above-identified U.S. patent application as follows:

Amendments to the Claims begin on page 2 of this paper.

Remarks/Arguments begin on page 6 of this paper.

01251879.DOC

AMENDMENT TO CLAIMS

1.-20. (Canceled)

21. (Withdrawn) A method of manufacturing a stimulation lead comprising:
providing a plurality of conductive contacts located at an end of a lead body of the stimulation lead and providing a plurality of conductor wires disposed in a plurality of conductor lumens formed in the lead body, wherein a portion of the conductor lumens is disposed beneath the conductive contacts;
connecting at least one of the plurality of conductor wires to each of the conductive contacts;
placing non-conductive material into at least one portion of at least one of the conductor lumens of the lead body that is not occupied by a conductor wire, wherein at least a portion of the non-conductive material is disposed beneath the conductive contacts; and
heating the non-conductive material to cause the non-conductive material to thermally reflow or melt.

22. (Withdrawn) The method of claim 21, further comprising placing spacers between pairs of adjacent conductive contacts.

23. (Withdrawn) The method of claim 22, wherein heating the non-conductive material comprises heating the non-conductive material and spacers to cause the non-conductive material to thermally reflow or melt and to cause the non-conductive material and spacers to thermally fuse together.

24. (Withdrawn) The method of claim 22, wherein a material of the spacers and the non-conductive material are a same material.

25. (Withdrawn) The method of claim 22, wherein a material of the spacers and the non-conductive material are different materials.

26. (Withdrawn) The method of claim 21, wherein the non-conductive material comprises polyurethane.

27. (Withdrawn) The method of claim 21, further comprising placing a heat shrink tubing around the conductive contacts and the non-conductive material.

28. (Withdrawn) The method of claim 21, wherein heating the non-conductive material comprises heating the non-conductive material at a temperature in a range of 140 to 250 degrees Celsius for a period in a range of 15 to 120 seconds to cause the non-conductive material to thermally reflow or melt.

29. (Currently Amended) A method of manufacturing a stimulation lead comprising: providing a lead body comprising an insulation section, the insulation section defining a central lumen extending along the insulation section and a plurality of ~~conductors~~ conductor lumens extending along the insulation section and arranged around, and external to, the central lumen, the lead body further comprising a plurality of conductive contacts located at an end of the lead body, and a plurality of conductor wires disposed in the plurality of conductor lumens, wherein each of the conductor lumens has at least one of the conductor wires disposed therein, wherein a portion of the conductor lumens is disposed beneath the conductive contacts;

conductively coupling at least one of the plurality of conductor wires to each of the conductive contacts; and

placing non-conductive material into a portion of at least one of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material is disposed beneath the conductive contacts.

30. (Withdrawn) The method of claim 29, further comprising heating the non-conductive material to cause the non-conductive material to thermally reflow or melt.

31. (Previously Presented) The method of claim 29, wherein placing non-conductive material comprises placing the non-conductive material into a portion of each of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material in each of the conductor lumens is disposed beneath the conductive contacts.

32. (Withdrawn) The method of claim 29, further comprising placing spacers between pairs of adjacent conductive contacts.

33. (Withdrawn) The method of claim 32, further comprising heating the non-conductive material and spacers to cause the non-conductive material to thermally reflow or melt and to cause the non-conductive material and spacers to thermally fuse together.

34. (Withdrawn) The method of claim 21, wherein the non-conductive material comprises polyurethane.

35. (Withdrawn, Currently Amended) A method of manufacturing a stimulation lead comprising:

providing a lead body comprising an insulation section, the insulation section defining a central lumen extending along the insulation section and a plurality of ~~conductors~~ conductor lumens extending along the insulation section and arranged around, and external to, the central lumen, the lead body further comprising a plurality of conductive contacts located at an end of the lead body, and a plurality of conductor wires disposed in the plurality of conductor lumens, wherein each of the conductor lumens has at least one of the conductor wires disposed therein, wherein a portion of the conductor lumens is disposed beneath the conductive contacts;

conductively coupling at least one of the plurality of conductor wires to each of the conductive contacts;

placing non-conductive material into a portion of at least one of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material is disposed beneath the conductive contacts; and

heating the non-conductive material at a temperature in a range of 140 to 250 degrees Celsius for a period in a range of 15 to 120 seconds to cause the non-conductive material to thermally reflow or melt.

36. (Previously Presented) The method of claim 35, wherein the plurality of conductor lumens is exactly eight conductor lumens.

37. (Previously Presented) The method of claim 35, wherein placing non-conductive material comprises placing the non-conductive material into a portion of each of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material in each of the conductor lumens is disposed beneath the conductive contacts.

38. (Withdrawn) The method of claim 35, further comprising placing spacers between pairs of adjacent conductive contacts.

39. (Withdrawn) The method of claim 38, wherein heating the non-conductive material comprises heating the non-conductive material and spacers to cause the non-conductive material to thermally reflow or melt and to cause the non-conductive material and spacers to thermally fuse together.

40. (Withdrawn) The method of claim 35, wherein the non-conductive material comprises polyurethane.

REMARKS

This amendment is in response to the Non-final Office Action of February 27, 2013. Claims 29 and 35 have been amended. Claims 21-40 are currently pending. No new matter has been added.

§ 112 Rejections

Claims 29, 31, 36, and 37 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Claims 29 and 35 (from which claims 36 and 37 depend) have been amended to clarify that the central lumen and conductor lumens are defined by the insulation section and to correct the typographical error in the term “conductor lumen.”

The Office Action also asserts that the phrase “a plurality of conductor wires disposed in the plurality of conductor lumens” is indefinite. The Office Action asserts that “it is unclear as to whether all of the plurality of conductor [wires] are disposed in one lumens (sic), if some of the plurality of conductor [wires] are disposed in several lumens and no conductors (sic) in some lumens, or if one of the plurality of conductor wires is disposed in each conductor lumen.” Office Action, p. 3. Claims 29 and 35 each explicitly recite “each of the conductor lumens has at least one of the conductor wires disposed therein” which clearly addresses the assertions raised in the Office Action regarding whether a conductor wire is disposed in each conductor lumen. Accordingly, no amendment of the claims is necessary to render the claims definite.

The Office Action further asserts that the phrase “conductively coupling at least one of the plurality of conductor wires to each of the conductive contacts” is indefinite. The Office Action asserts that “[i]t is unclear as to whether more than one plurality [sic] of conductor wires can be coupled to each of the contacts...” Office Action, p. 3. The Applicants respectfully submit that the phrase recited above is clear and definite. That the phrase may encompass more than one possibility does not render it indefinite. Accordingly, the Applicants respectfully submit that no amendment is necessary.

For the reasons provided above and the amendments to claims 29 and 35, the Applicants respectfully submit that claims 29, 31, 36, and 37 are definite. The Applicants request withdrawal of this rejection of the claims.

§ 102 Rejections

Claims 29, 31, 36, and 37 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,216,045 to Black et al. (“Black”). The Applicants traverse these rejections.

Claims 29 and 35 (from which claims 36 and 37 depend) have been amended to clarify that the “conductor lumens extend[] along the insulation section and [are] arranged around, and external to, the central lumen.” Examples of such arrangements are found in Figures 5A-5C of the present patent application with central lumen 114 and conductor lumens 116.

Black does not teach or suggest such an arrangement of a central lumen and a plurality of conductor lumens. The Office Action asserts that the recited central lumen corresponds to “the space inside items 22-23” and the conductor lumens correspond to “item 20b and surrounding space”. Office Action, p. 4. As clearly illustrated in Figures 3 and 4 of Black, item 20b (the alleged conductor lumen) is within conductor 20 which is disposed within the “space inside items 22-23” (the alleged central lumen). As amended claims 29 and 35 clarify that the conductor lumens are “external to” the central lumen. The items of Black asserted as corresponding to the central lumen and conductor lumens do not have the recited relationship because the alleged conductor lumens of Black are within, not external to, the alleged central lumen of Black. Accordingly, Black does not teach or suggest that the “conductor lumens extend[] along the insulation section and [are] arranged around, and external to, the central lumen” as recited in the claims.

In addition, claims 29 and 35 recite “placing non-conductive material into a portion of at least one of the conductor lumens of the lead body.” The Office Action asserts that this element of the claims is taught at Col. 3:45-54 of Black. Office Action, p. 4. This portion of Black states:

Spanning between electrodes 18 of the distal end 14 and terminals 16 of the proximal end 12, body 22 is formed from a medical grade, substantially inert material, for example, polyurethane, silicone, or the like. While the specific material used for body 22 is not critical to the present invention, body 22 must be non-reactive to the environment of the human body, provide a flexible and durable (i.e., fatigue resistant) exterior structure for the components of lead 10, and insulate adjacent terminals 16 and/or electrodes 18.

Thus, this selection from Black is directed to a description of the body 22. The Office Action, however, asserts that the conductor lumens correspond to "item 20b and surrounding space". Office Action, p. 4. As clearly shown in Figures 3 and 4 of Black item 20b (the alleged conductor lumen) is within conductor 20 and that conductor 20 resides within body 22. Thus, the reference in the Office Action to Col. 3:45-54 is irrelevant to the recited claim element "placing non-conductive material into a portion of at least one of the conductor lumens of the lead body" because the body 22 is not placed into a portion of the alleged conductor lumens (i.e., "item 20b and surrounding space" - Office Action, p. 4) as recited in the claims. In fact, body 22 has exactly the opposite relationship to the alleged conductor lumens as that recited in the claims because the alleged conductor lumens (i.e., "item 20b and surrounding space" - Office Action, p. 4) are placed inside of the body 22 as clearly illustrated in Figures 3 and 4 of Black. Accordingly, Black does not teach or suggest "placing non-conductive material into a portion of at least one of the conductor lumens of the lead body" as recited in the claims.

For at least these reasons, claims 29, 31, 36, and 37 are patentable over Black. The Applicants respectfully request withdrawal of this rejection of these claims.

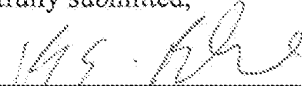
Application No. 13/013,599
Amendment dated April 11, 2013
Reply to Office Action dated February 27, 2013

Docket No.: 1362009-2093.2

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. If the Examiner has any questions or concerns, the Applicants encourage the Examiner to contact the Applicants' representative, Bruce Black, by telephone to discuss the matter.

Dated: April 11, 2013

Respectfully submitted,

By 
Bruce E. Black

Registration No.: 41,622
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745 Fifth Avenue
New York, New York 10151
(206) 336-5668
(212) 588-0500 (Fax)
Attorneys/Agents For Applicant

Electronic Acknowledgement Receipt

EFS ID:	15493476
Application Number:	13013599
International Application Number:	
Confirmation Number:	9046
Title of Invention:	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME
First Named Inventor/Applicant Name:	Janusz A. Kuzma
Customer Number:	50638
Filer:	Bruce Black/Terri Downey
Filer Authorized By:	Bruce Black
Attorney Docket Number:	1362009-2093.2
Receipt Date:	11-APR-2013
Filing Date:	25-JAN-2011
Time Stamp:	14:53:46
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		01258868.PDF	3189040 0455a3997ab0c65ccc9b05ddee9d257d650c6ebd5	yes	11

Multipart Description/PDF files in .zip description		
Document Description	Start	End
Transmittal Letter	1	1
Miscellaneous Incoming Letter	2	2
Amendment/Req. Reconsideration-After Non-Final Reject	3	3
Claims	4	7
Applicant Arguments/Remarks Made in an Amendment	8	11

Warnings:

Information:

Total Files Size (in bytes):	3189040
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

AMENDMENT TRANSMITTAL LETTER			Docket No. 1362009-2093.2
Application No. 13/013,599	Filing Date January 25, 2011	Examiner D. P. Angwin	Art Unit 3729

Applicant(s): Janusz A. Kuzma et al.

Invention: ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME

TO THE COMMISSIONER FOR PATENTS

Transmitted herewith is an Amendment and Certificate of Electronic Filing in the above-identified application.

The fee has been calculated and is transmitted as shown below.

CLAIMS AS AMENDED						
	Claims Remaining After Amendment	Highest Number Previously Paid	Number Extra Claims Present		Rate	
Total Claims	20	- 20 =	0	x	80.00	0.00
Independent Claims	3	- 3 =	0	x	420.00	0.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>						
Other fee (please specify):						
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT:						0.00

Large Entity Small Entity

No additional fee is required for this amendment.

Please charge Deposit Account No. _____ in the amount of \$ _____.

A check in the amount of \$ _____ to cover the filing fee is enclosed.

Payment by credit card. Form PTO-2038 is attached.

The Director is hereby authorized to charge and credit Deposit Account No. 50-0320 as described below.

Credit any overpayment.

Charge any additional filing or application processing fees required under 37 C.F.R. § 1.16 and 1.17.

B.E. Black

Bruce E. Black
Attorney/Agent Reg. No.: 41,622
FROMMER LAWRENCE & HAUG LLP
745 5th Ave.
New York, New York 10151
(206) 336-5668

Dated: April 11, 2013

Certificate of Electronic Filing Under 37 C.F.R. § 1.8

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4):

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on April 11, 2013
Date

/Terri M. Downey/

Signature

Terri M. Downey

Typed or printed name of person signing Certificate

Registration Number, if applicable

(206) 336-5690

Telephone Number

Note: Each paper must have its own certificate of mailing, or this certificate must identify each submitted paper.

Amendment Transmittal (1 page)
Amendment (9 pages)

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/013,599	Filing Date 01/25/2011	<input type="checkbox"/> To be Mailed
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ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)		(Column 2)
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

	(Column 1)	(Column 2)	(Column 3)		(Column 2)	(Column 3)
AMENDMENT	04/11/2013	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
Total (37 CFR 1.16(i))	*	20	Minus	** 20	= 0	X \$80 = 0
Independent (37 CFR 1.16(h))	*	3	Minus	***3	= 0	X \$420 = 0
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

	(Column 1)	(Column 2)	(Column 3)		(Column 2)	(Column 3)
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
Total (37 CFR 1.16(i))	*		Minus	**	=	X \$ =
Independent (37 CFR 1.16(h))	*		Minus	***	=	X \$ =
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/ANITA JOHNSON/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/013,599	01/25/2011	Janusz A. Kuzma	1362009-2093.2	9046
50638	7590	02/27/2013	EXAMINER	
Boston Scientific Neuromodulation Corp. c/o Frommer Lawrence & Haug LLP 745 Fifth Ave NEW YORK, NY 10151			ANGWIN, DAVID PATRICK	
			ART UNIT	PAPER NUMBER
			3729	
			MAIL DATE	DELIVERY MODE
			02/27/2013	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 13/013,599	Applicant(s) KUZMA ET AL.	
	Examiner DAVID ANGWIN	Art Unit 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 31 January 2013.
- 2a) This action is **FINAL**.
- 2b) This action is non-final.
- 3) An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
- 4) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) Claim(s) 21-40 is/are pending in the application.
- 5a) Of the above claim(s) 21-28,30,32-35 and 38-40 is/are withdrawn from consideration.
- 6) Claim(s) _____ is/are allowed.
- 7) Claim(s) 29,31,36 and 37 is/are rejected.
- 8) Claim(s) _____ is/are objected to.
- 9) Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) The specification is objected to by the Examiner.
- 11) The drawing(s) filed on 25 January 2011 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/25/11.
- 3) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 4) Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group II-B (claims 29, 31, 36, and 37) in the reply filed on 1/31/13 is acknowledged.

Claims 21-28, 30, 32-35, and 38-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. **The examiner notes that upon the finding of an allowable generic claim, all non-elected claims depending from the allowable generic claim necessarily will be rejoined.**

Claim Rejections - 35 USC §112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 29, 31, 36, and 37 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically:

Art Unit: 3729

a. **Claim 29** recites the following limitations that are vague, indefinite, and

confusing:

- “providing a lead body comprising an insulation section defining a central lumen... and a plurality of conductors lumens” (claim 29, lines 2-4) - It is unclear as to which element – the ‘lead body’ or ‘an insulation section’ – defines the central lumen, because the applicant has listed two elements that could each modify the central lumen. The examiner recommends phrasing this portion, if this is what is intended, “providing a lead body comprising an insulation section, the insulation section defining a central lumen and a plurality of conductors lumens, the central lumen extending along the insulation section, the plurality of conductors lumens extending along the insulation section and arranged around the central lumen...” Please be more precise with the claim language.
- “a plurality of conductors lumens” (claim 29, line 3) – It seems the appropriate term should be “conductor lumens” – the word “conductor” in the singular. Please be more precise with the claim language.
- “a plurality of conductor wires disposed in the plurality of conductor lumens” (claim 29, line 5) - It is unclear as to whether all of the plurality of conductor lumens are disposed in one lumens, if some of the plurality of conductor lumens are disposed in several lumens and no conductors in some lumens, or if one of the plurality of conductor wires is disposed in each conductor lumens. The shorthand phrasing utilized by the applicant is confusing in inhibits the reader from making a clear image. Please be more precise with the claim language.
- “conductively coupling at least one of the plurality of conductor wires to each of the conductive contacts” (claim 29, lines 8-9) – It is unclear as to whether more than one plurality of conductor wires can be coupled to each of the contacts, and whether this is disclosed in the Specification. (This is a 112(1) issue too.) Please be more precise with the claim language.

Claim Rejections - 35 USC § 102

Art Unit: 3729

The following is a set of quotations of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office Action:

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 29, 31, 36, and 37 are rejected under 35 U.S.C. § 102(b) as being anticipated by *Black et al* (US Patent 6,216,045).

- a. *Black et al* discloses in his reference the following:
 - i. providing a lead body comprising an insulation section (Figs. 1-5, items 22-23) defining a central lumen (*space inside items 22-23*) extending along the insulation section and a plurality of conductor lumens (*item 20b and surrounding space*) extending along the insulation section and arranged around the central lumen, a plurality of conductive contacts (Figs. 2 and 5, item 16) located at an end of the lead body, and a plurality of conductor wires (Figs. 3-5, item 20a) disposed in the plurality of conductor lumens, wherein each of the conductor lumens has at least one of the conductor wires disposed therein, wherein a portion of the conductor lumens is disposed beneath the conductive contacts;

conductively coupling at least one of the plurality of conductor wires to each of the conductive contacts;

placing non-conductive material (3:45-54) into a portion of at least one of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material is disposed beneath the conductive contacts;
 - ii. wherein placing non-conductive material comprises placing the non-conductive material into a portion of each of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material in each of the conductor lumens is disposed beneath the conductive contacts (3:45-54; Figs. 1-5);

- iii. wherein the plurality of conductor lumens is exactly eight conductor lumens (Figs. 1-5);
- iv. wherein placing non-conductive material comprises placing the non-conductive material into a portion of each of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material in each of the conductor lumens is disposed beneath the conductive contacts (3:45-54; Figs. 1-5).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Angwin, whose telephone number is (571) 270-3735. The examiner can normally be reached on 7:30 AM - 5 PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo, can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Application/Control Number: 13/013,599

Page 6

Art Unit: 3729

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Angwin/
Primary Examiner
Art Unit 3729

DPA

Notice of References Cited	Application/Control No. 13/013,599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.	
	Examiner DAVID ANGWIN	Art Unit 3729	Page 1 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,410,797 A	05-1995	Steinke et al.	29/435
*	B	US-6,551,302 B1	04-2003	Rosinko et al.	604/505
*	C	US-6,598,280 B1	07-2003	Giba et al.	29/447
*	D	US-2004/0024440 A1	02-2004	Cole, Mary Lee	607/122
*	E	US-2004/0225175 A1	11-2004	Moody et al.	600/003
*	F	US-6,909,918 B2	06-2005	Stypulkowski, Paul	607/117
*	G	US-2005/0215945 A1	09-2005	Harris et al.	604/066
*	H	US-2006/0036218 A1	02-2006	Goodson et al.	604/264
*	I	US-7,047,081 B2	05-2006	Kuzma, Janusz A	607/115
*	J	US-2007/0021771 A1	01-2007	Oepen et al.	606/194
*	K	US-2007/0021821 A1	01-2007	Johnson et al.	623/001.11
*	L	US-7,184,840 B2	02-2007	Stolz et al.	607/122
*	M	US-2008/0097426 A1	04-2008	Root et al.	606/041

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Notice of References Cited	Application/Control No. 13/013,599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.	
	Examiner DAVID ANGWIN	Art Unit 3729	Page 2 of 2

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-2009/0018487 A1	01-2009	Doty, David	604/21
B	US-			
C	US-			
D	US-			
E	US-			
F	US-			
G	US-			
H	US-			
I	US-			
J	US-			
K	US-			
L	US-			
M	US-			


FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
N					
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NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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V	
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X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
29	825	2/25/13	DPA

SEARCH NOTES		
Search Notes	Date	Examiner

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

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Receipt date: 01/25/2011

13013599 - GAU: 3729

IDS Form PTO/SB/08: Substitute for form 1449A/PTO				Complete if Known		
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <small>(Use as many sheets as necessary)</small>				Application Number		Not Yet Assigned
				Filing Date		January 25, 2011
				First Named Inventor		Janusz A. Kuzma et al.
				Art Unit		Not Yet Assigned
				Examiner Name		Not Yet Assigned
Sheet	1	of	1	Attorney Docket Number		1362009-2093.2

U.S. PATENTS AND PUBLISHED U.S. PATENT APPLICATIONS						
Examiner Initials	Cite No. ¹	Document Number		Issue or Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)				
		2005/0215945		09-29-2005	Harris, et al.	
		3,769,984		11-06-1973	Muench	
		5,555,618		09-17-1996	Winkler	
		6,055,456		04-25-2000	Gerber	
		6,205,361		03-20-2001	Baudino, et al.	
		6,216,045 B1		04-10-2001	Black, et al.	
		6,249,708 B1		06-19-2001	Nelson, et al.	
		6,551,302		04-22-2003	Rosinko, et al.	

Note: Submission of copies of U.S. Patents and published U.S. Patent Applications is not required.


FOREIGN PATENT DOCUMENTS							
Examiner Initials	Cite No. ¹	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Translation ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)					

NONPATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Translation ⁶
		U.S. Patent Application No. 11/329,907, Official Communication mailed November 17, 2008	
		U.S. Patent Application No. 11/329,907, Official Communication mailed April 2, 2009	
		U.S. Patent Application No. 11/329,907, Official Communication mailed July 1, 2009	
		U.S. Patent Application No. 11/329,907, Official Communication mailed March 31, 2010	
		U.S. Patent Application No. 11/329,907, Notice of Allowance mailed November 15, 2010	

Examiner Signature	/David Angwin/	Date Considered	02/25/2013
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.


ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.A./

<i>Index of Claims</i> 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	01/16/2013	02/25/2013						
	1	-	-						
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	3	-	-						
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	24	÷	N						
	25	÷	N						
	26	÷	N						
	27	÷	N						
	28	÷	N						
	29	÷	✓						
	30	÷	N						
	31	÷	✓						
	32	÷	N						
	33	÷	N						
	34	÷	N						
	35	÷	N						
	36	÷	✓						

<i>Index of Claims</i> 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE								
Final	Original	01/16/2013	02/25/2013							
	37	÷	✓							
	38	÷	N							
	39	÷	N							
	40	÷	N							

Docket No.: 1362009-2093.2
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Janusz A. Kuzma et al.

Application No.: 13/013,599

Confirmation No.: 9046

Filed: January 25, 2011

Art Unit: 3729

For: ELECTRODE ARRAY ASSEMBLY AND
METHOD OF MAKING SAME

Examiner: D. P. Angwin

RESPONSE TO RESTRICTION REQUIREMENT

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Madam:

In the Restriction Requirement mailed January 17, 2013, the Examiner requires election of one of the following species:

Species I: Claims 21-28, plurality of conductive lumens formed in the lead body embodiment;

Species II: Claims 29-40, plurality of conductors lumens extending along the insulation section and arranged around the central lumens embodiment.

If Species I (Claims 21-28) is elected, election of one of the following subspecies is required:

Group I-A: Claims 22-25, spacers feature;
Group I-B: Claim 26, polyurethane feature;
Group I-C: Claim 27, heat shrink;

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Group I-D: Claim 28, heat cycle feature.

If Group I-A is elected, election of one of the following sub-species is required:

Group I-A-1: Claim 23, melting material feature;

Group I-A-2: Claim 24, same material feature;

Group I-A-3: Claim 25, dissimilar material feature.

If Species II (claims 29-40) is elected, restriction to one of the following subspecies is required:

Group II-A: Claims 30 and 35, heating feature;

Group II-B: Claims 31, 36, and 37, non-conductor into conductor lumens feature;

Group II-C: Claims 32-33 and 38-39, spacers feature;

Group II-D: Claims 34 and 40, polyurethane feature.

Applicants hereby elect Species II, Group II-B for continued examination, without traverse. Claims 29, 31, 36, and 37 read on the elected Species and Group.

Applicants believe no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0320, under Order No. 1362009-2093.2 from which the undersigned is authorized to draw.

Dated: January 31, 2013

Respectfully submitted,

By 

Bruce E. Black

Registration No.: 41,622

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(212) 588-0500 (Fax)

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Attorneys For Applicant

Electronic Acknowledgement Receipt

EFS ID:	14845600
Application Number:	13013599
International Application Number:	
Confirmation Number:	9046
Title of Invention:	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME
First Named Inventor/Applicant Name:	Janusz A. Kuzma
Customer Number:	50638
Filer:	Bruce Black/Terri Downey
Filer Authorized By:	Bruce Black
Attorney Docket Number:	1362009-2093.2
Receipt Date:	31-JAN-2013
Filing Date:	25-JAN-2011
Time Stamp:	16:34:46
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		01221447.PDF	658086 <small>2c68a8aebce5080f991bcf26b500277b77cd5861</small>	yes	3

Multipart Description/PDF files in .zip description			
	Document Description	Start	End
	Miscellaneous Incoming Letter	1	1
	Response to Election / Restriction Filed	2	3
Warnings:			
Information:			
Total Files Size (in bytes):		658086	
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>			



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/013,599	01/25/2011	Janusz A. Kuzma	1362009-2093.2	9046
50638	7590	01/17/2013	EXAMINER	
Boston Scientific Neuromodulation Corp. c/o Frommer Lawrence & Haug LLP 745 Fifth Ave NEW YORK, NY 10151			ANGWIN, DAVID PATRICK	
			ART UNIT	PAPER NUMBER
			3729	
			MAIL DATE	DELIVERY MODE
			01/17/2013	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Election/Restriction

This application contains claims directed to the following patentably distinct species:

- I. **Species I** – plurality of conductive lumens formed in the lead body embodiment (**claims 21-28**); and
- II. **Species II** – plurality of conductors lumens extending along the insulation section and arranged around the central lumens embodiment (**claims 29-40**).

The species are independent or distinct because claims to the different species recite the mutually exclusive characteristics of such species. Specifically, **Species I** includes the limitation of a plurality of conductive lumens formed in the lead body, whereas **Species II** does not include this limitation. **Species II** includes the limitation of a plurality of conductors lumens extending along the insulation second and arranged around the central lumens, whereas **Species I** does not include this limitation. In addition, these species are not obvious variants of each other based on the current record. Finally, examining these species together is a serious burden to the examiner because they require separate searches. **No claims are generic. The examiner notes that upon the finding of an allowable generic claim, all non-elected species will be reconsidered for rejoinder.**

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

If the applicant elects **Species I** (claims 21-28), restriction to one of the following inventions is required under 35 U.S.C. 121:

- Group I-A.** spacers feature (**claims 22-25**), classified in class 470, subclass 1.
- Group I-B.** polyurethane feature (**claim 26**), classified in class 525, subclass 446.
- Group I-C.** heat shrink feature (**claim 27**), classified in class 156, subclass 209.
- Group I-D.** heat cycle feature (**claim 28**), classified in class 219, subclass 491.

These groups are distinct processes. Related inventions are distinct if: (1) the inventions as claimed are either not capable of use together or can have a materially different designs, modes of operation, function, or effect; (2) the inventions do not overlap in search, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP 806.05(j). In the instant case, the inventions as claimed have materially different designs (i.e. materially different manufacturing processes), require separate searches, and are not obvious variants. Specifically:

- Group I-A.** spacers feature, whereas the other groups do not require this limitation.
- Group I-B.** polyurethane feature, whereas the other groups do not require this limitation.
- Group I-C.** heat shrink feature, whereas the other groups do not require this limitation.
- Group I-D.** heat cycle feature, whereas the other groups do not require this limitation.

Claim 21 links Groups I-A to I-D. **The examiner notes that upon the finding of an allowable linking claim (i.e. claim 21), all non-elected claims depending from the allowable linking claim necessarily will be rejoined.**

If the applicant elects **Group I-A** (claims 22-25), restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I-A-1. melting material feature (**claim 23**), classified in class 219, subclass 634.

Group I-A-2. same material feature (**claim 24**), classified in class 219, subclass 543.

Group I-A-3. dissimilar material feature (**claim 25**), classified in class 156, subclass 73.5.

These groups are distinct processes. Related inventions are distinct if: (1) the inventions as claimed are either not capable of use together or can have a materially different designs, modes of operation, function, or effect; (2) the inventions do not overlap in search, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP 806.05(j). In the instant case, the inventions as claimed have materially different designs (i.e. materially different manufacturing processes), require separate searches, and are not obvious variants. Specifically:

Group I-A-1. melting material feature, whereas the other groups do not require this limitation.

Group I-A-2. same material feature, whereas the other groups do not require this limitation.

Group I-A-3. dissimilar material feature, whereas the other groups do not require this limitation.

Claim 22 links Groups I-A-1 to I-A-3. **The examiner notes that upon the finding of an allowable linking claim (i.e. claim 22), all non-elected claims depending from the allowable linking claim necessarily will be rejoined.**

If the applicant elects **Species II** (claims 29-40), restriction to one of the following inventions is required under 35 U.S.C. 121:

- Group II-A.** heating feature (**claims 30 and 35**), classified in class 219, subclass 491.
- Group II-B.** non-conductor into conductor lumens feature (**claims 31, 36, and 37**), classified in class 174, subclass 174.
- Group II-C.** spacers feature (**claims 32-33 and 38-39**), classified in class 470, subclass 1.
- Group II-D.** polyurethane feature (**claims 34 and 40**), classified in class 525, subclass 446.

These groups are distinct processes. Related inventions are distinct if: (1) the inventions as claimed are either not capable of use together or can have a materially different designs, modes of operation, function, or effect; (2) the inventions do not overlap in search, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP 806.05(j). In the instant case, the inventions as claimed have materially different designs (i.e. materially different manufacturing processes), require separate searches, and are not obvious variants. Specifically:

- Group II-A.** heating feature, whereas the other groups do not require this limitation.
- Group II-B.** non-conductor into conductor lumens feature, whereas the other groups do not require this limitation.

Group II-C. spacers feature, whereas the other groups do not require this limitation.

Group II-D. polyurethane feature, whereas the other groups do not require this limitation.

Claim 29 links Groups II-A to II-D. **The examiner notes that upon the finding of an allowable linking claim (i.e. claim 29), all non-elected claims depending from the allowable linking claim necessarily will be rejoined.**

Applicant is required under 35 U.S.C. 121 to elect a single disclosed group for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

As a result, the applicant may elect one of the following:

Group I-A-1 – claims 21, 22 and 23 will be examined.

Group I-A-2 – claims 21, 22, and 24 will be examined.

Group I-A-3 – claims 21, 22, and 25 will be examined.

Group I-B – claims 21 and 26 will be examined.

Group I-C – claims 21 and 27 will be examined.

Group I-D – claims 21 and 28 will be examined.

Group II-A – claims 29, 30, and 35 will be examined.

Group II-B – claims 29, 31, 36, and 37 will be examined.

Group II-C – claims 29, 32, 33, 38, and 39 will be examined.

Group II-D – claims 29, 34, and 40 will be examined.

The examiner notes that upon a finding of an allowable generic claim, all the non-elected claims depending from the allowable generic claim necessarily will be rejoined. In addition, upon a finding of an allowable generic claim, all non-elected claims will be reconsidered for rejoinder. Further, the examiner has no objection to the applicant amending an independent claim with limitations from a non-elected claim to overcome a rejection.

There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species**, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election of the species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record

showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Angwin whose telephone number is 571-270-3735. The examiner can normally be reached on 7:30 AM - 5 PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks, can be reached on 571-272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 13/013,599
Art Unit: 3729

Page 9

/David P. Angwin/
Primary Examiner, Art Unit 3729


DPA

<i>Index of Claims</i> 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE									
Final	Original	01/16/2013									
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	36	÷									

<i>Index of Claims</i> 	Application/Control No. 13013599	Applicant(s)/Patent Under Reexamination KUZMA ET AL.
	Examiner DAVID ANGWIN	Art Unit 3729

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant		<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47			
CLAIM		DATE							
Final	Original	01/16/2013							
	37	÷							
	38	÷							
	39	÷							
	40	÷							

Docket No.: 1362009-2093.2
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

.....
In re Patent Application of:
Janusz A. Kuzma et al.

Application No.: 13/013,599

Confirmation No.: 9046

Filed: January 25, 2011

Art Unit: 3729

For: ELECTRODE ARRAY ASSEMBLY AND
METHOD OF MAKING SAME
.....

Examiner: D. P. Angwin

SECOND PRELIMINARY AMENDMENT

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INTRODUCTORY COMMENTS

Please amend the above-identified U.S. patent application as follows:

Amendments to the Claims begin on page 2 of this paper.

Remarks/Arguments begin on page 6 of this paper.

01143417.DOC

AMENDMENT TO CLAIMS

- 1.-20. (Canceled)
21. (New) A method of manufacturing a stimulation lead comprising:
providing a plurality of conductive contacts located at an end of a lead body of the stimulation lead and providing a plurality of conductor wires disposed in a plurality of conductor lumens formed in the lead body, wherein a portion of the conductor lumens is disposed beneath the conductive contacts;
connecting at least one of the plurality of conductor wires to each of the conductive contacts;
placing non-conductive material into at least one portion of at least one of the conductor lumens of the lead body that is not occupied by a conductor wire, wherein at least a portion of the non-conductive material is disposed beneath the conductive contacts; and
heating the non-conductive material to cause the non-conductive material to thermally reflow or melt.
22. (New) The method of claim 21, further comprising placing spacers between pairs of adjacent conductive contacts.
23. (New) The method of claim 22, wherein heating the non-conductive material comprises heating the non-conductive material and spacers to cause the non-conductive material to thermally reflow or melt and to cause the non-conductive material and spacers to thermally fuse together.
24. (New) The method of claim 22, wherein a material of the spacers and the non-conductive material are a same material.
25. (New) The method of claim 22, wherein a material of the spacers and the non-conductive material are different materials.

26. (New) The method of claim 21, wherein the non-conductive material comprises polyurethane.

27. (New) The method of claim 21, further comprising placing a heat shrink tubing around the conductive contacts and the non-conductive material.

28. (New) The method of claim 21, wherein heating the non-conductive material comprises heating the non-conductive material at a temperature in a range of 140 to 250 degrees Celsius for a period in a range of 15 to 120 seconds to cause the non-conductive material to thermally reflow or melt.

29. (New) A method of manufacturing a stimulation lead comprising:
providing a lead body comprising an insulation section defining a central lumen extending along the insulation section and a plurality of conductor lumens extending along the insulation section and arranged around the central lumen, a plurality of conductive contacts located at an end of the lead body, and a plurality of conductor wires disposed in the plurality of conductor lumens, wherein each of the conductor lumens has at least one of the conductor wires disposed therein, wherein a portion of the conductor lumens is disposed beneath the conductive contacts;

conductively coupling at least one of the plurality of conductor wires to each of the conductive contacts; and

placing non-conductive material into a portion of at least one of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material is disposed beneath the conductive contacts.

30. (New) The method of claim 29, further comprising heating the non-conductive material to cause the non-conductive material to thermally reflow or melt.

31. (New) The method of claim 29, wherein placing non-conductive material comprises placing the non-conductive material into a portion of each of the conductor lumens of the lead body,

wherein at least a portion of the non-conductive material in each of the conductor lumens is disposed beneath the conductive contacts.

32. (New) The method of claim 29, further comprising placing spacers between pairs of adjacent conductive contacts.

33. (New) The method of claim 32, further comprising heating the non-conductive material and spacers to cause the non-conductive material to thermally reflow or melt and to cause the non-conductive material and spacers to thermally fuse together.

34. (New) The method of claim 21, wherein the non-conductive material comprises polyurethane.

35. (New) A method of manufacturing a stimulation lead comprising:
providing a lead body comprising a insulation section defining a central lumen extending along the insulation section and a plurality of conductors lumens extending along the insulation section and arranged around the central lumen, a plurality of conductive contacts located at an end of the lead body, and a plurality of conductor wires disposed in the plurality of conductor lumens, wherein each of the conductor lumens has at least one of the conductor wires disposed therein, wherein a portion of the conductor lumens is disposed beneath the conductive contacts;
conductively coupling at least one of the plurality of conductor wires to each of the conductive contacts;
placing non-conductive material into a portion of at least one of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material is disposed beneath the conductive contacts; and
heating the non-conductive material at a temperature in a range of 140 to 250 degrees Celsius for a period in a range of 15 to 120 seconds to cause the non-conductive material to thermally reflow or melt.

36. (New) The method of claim 35, wherein the plurality of conductor lumens is exactly eight conductor lumens.

37. (New) The method of claim 35, wherein placing non-conductive material comprises placing the non-conductive material into a portion of each of the conductor lumens of the lead body, wherein at least a portion of the non-conductive material in each of the conductor lumens is disposed beneath the conductive contacts.

38. (New) The method of claim 35, further comprising placing spacers between pairs of adjacent conductive contacts.

39. (New) The method of claim 38, wherein heating the non-conductive material comprises heating the non-conductive material and spacers to cause the non-conductive material to thermally reflow or melt and to cause the non-conductive material and spacers to thermally fuse together.

40. (New) The method of claim 35, wherein the non-conductive material comprises polyurethane.

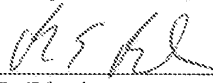
REMARKS

Claims 1-20 have been canceled without prejudice and new claims 21-40 have been added. Claims 21-40 are pending in this application. No new matter has been added.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. If the Examiner has any questions or concerns, the Applicants encourage the Examiner to contact the Applicants' representative, Bruce Black, by telephone to discuss the matter.

Dated: September 7, 2012

Respectfully submitted,

By 
Bruce E. Black

Registration No.: 41,622
FROMMER LAWRENCE & HAUG LLP
745 Fifth Avenue
New York, New York 10151
(206) 336-5668
(212) 588-0500 (Fax)
Attorneys/Agents For Applicant

Electronic Acknowledgement Receipt

EFS ID:	13691104
Application Number:	13013599
International Application Number:	
Confirmation Number:	9046
Title of Invention:	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME
First Named Inventor/Applicant Name:	Janusz A. Kuzma
Customer Number:	50638
Filer:	Bruce Black/Terri Downey
Filer Authorized By:	Bruce Black
Attorney Docket Number:	1362009-2093.2
Receipt Date:	07-SEP-2012
Filing Date:	25-JAN-2011
Time Stamp:	18:49:56
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		01154765.PDF	3565302 05f1da74290fbc6faa6293d9ada8603db707c242	yes	8

Multipart Description/PDF files in .zip description		
Document Description	Start	End
Transmittal Letter	1	1
Miscellaneous Incoming Letter	2	2
Preliminary Amendment	3	3
Claims	4	7
Applicant Arguments/Remarks Made in an Amendment	8	8

Warnings:

Information:

Total Files Size (in bytes):	3565302
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

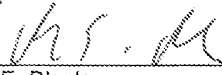
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

AMENDMENT TRANSMITTAL LETTER			Docket No. 1362009-2093.2		
Application No. 13/013,599	Filing Date January 25, 2011	Examiner D. P. Angwin	Art Unit 3729		
Applicant(s): Janusz A. Kuzma et al.					
Invention: ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME					
TO THE COMMISSIONER FOR PATENTS					
Transmitted herewith is a Second Preliminary Amendment and Certificate of Electronic Filing in the above-identified application.					
The fee has been calculated and is transmitted as shown below.					
CLAIMS AS AMENDED					
	Claims Remaining After Amendment	Highest Number Previously Paid	Number Extra Claims Present	Rate	
Total Claims	20	- 20 =	0	x 60.00	0.00
Independent Claims	3	- 3 =	0	x 250.00	0.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					
Other fee (please specify):					
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT:					0.00
<input checked="" type="checkbox"/> Large Entity <input type="checkbox"/> Small Entity					
<input checked="" type="checkbox"/> No additional fee is required for this amendment.					
<input type="checkbox"/> Please charge Deposit Account No. _____ in the amount of \$ _____.					
<input type="checkbox"/> A check in the amount of \$ _____ to cover the filing fee is enclosed.					
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.					
<input checked="" type="checkbox"/> The Director is hereby authorized to charge and credit Deposit Account No. <u>50-0320</u> as described below.					
<input checked="" type="checkbox"/> Credit any overpayment.					
<input checked="" type="checkbox"/> Charge any additional filing or application processing fees required under 37 CFR 1.16 and 1.17.					
 Bruce E. Black Attorney/Agent Reg. No.: 41,622			Dated: <u>September 7, 2012</u>		
FROMMER LAWRENCE & HAUG LLP 745 5th Ave. New York, New York 10151 (206) 336-5690					

Certificate of Electronic Filing Under 37 C.F.R. § 1.8

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4):

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on September 7, 2012
Date

/Terri M. Downey/

Signature

Terri M. Downey

Typed or printed name of person signing Certificate

Registration Number, if applicable

(206) 336-5690

Telephone Number

Note: Attached documents:

Second Preliminary Amendment (6 pages)
Amendment Transmittal (1 page)

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 13/013,599		Filing Date 01/25/2011		<input type="checkbox"/> To be Mailed										
APPLICATION AS FILED – PART I																			
(Column 1)			(Column 2)		SMALL ENTITY <input type="checkbox"/>			OR			OTHER THAN SMALL ENTITY								
FOR		NUMBER FILED		NUMBER EXTRA		RATE (\$)		FEE (\$)		RATE (\$)		FEE (\$)							
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>		N/A		N/A		N/A				N/A									
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>		N/A		N/A		N/A				N/A									
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>		N/A		N/A		N/A				N/A									
TOTAL CLAIMS <small>(37 CFR 1.16(j))</small>		minus 20 =		*		X \$ =				X \$ =									
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>		minus 3 =		*		X \$ =				X \$ =									
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).																	
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>																			
* If the difference in column 1 is less than zero, enter "0" in column 2.																			
APPLICATION AS AMENDED – PART II																			
(Column 1)			(Column 2)		(Column 3)			SMALL ENTITY			OR			OTHER THAN SMALL ENTITY					
AMENDMENT	09/07/2012		CLAIMS REMAINING AFTER AMENDMENT				HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)		RATE (\$)		ADDITIONAL FEE (\$)		
	Total <small>(37 CFR 1.16(i))</small>		* 20		Minus		** 20		= 0		X \$ =				OR		X \$60= 0		
	Independent <small>(37 CFR 1.16(h))</small>		* 3		Minus		*** 3		= 0		X \$ =				OR		X \$250= 0		
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>																		
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>																		
										TOTAL ADD'L FEE				OR		TOTAL ADD'L FEE		0	
AMENDMENT			CLAIMS REMAINING AFTER AMENDMENT				HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)		RATE (\$)		ADDITIONAL FEE (\$)		
	Total <small>(37 CFR 1.16(i))</small>		*		Minus		**		=		X \$ =				OR		X \$ =		
	Independent <small>(37 CFR 1.16(h))</small>		*		Minus		***		=		X \$ =				OR		X \$ =		
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>																		
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>																		
										TOTAL ADD'L FEE				OR		TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.																			
Legal Instrument Examiner: /KEVIN HORN/																			

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 4 columns: APPLICATION NUMBER (13/013,599), FILING OR 371(C) DATE (01/25/2011), FIRST NAMED APPLICANT (Janusz A. Kuzma), ATTY. DOCKET NO./TITLE (1362009-2093.2)

CONFIRMATION NO. 9046

PUBLICATION NOTICE



50638
Boston Scientific Neuromodulation Corp.
c/o Frommer Lawrence & Haug LLP
745 Fifth Ave
NEW YORK, NY 10151

Title:ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME

Publication No.US-2011-0118815-A1

Publication Date:05/19/2011

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
PG. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY.DOCKET.NO, TOT CLAIMS, IND CLAIMS. Row 1: 13/013,599, 01/25/2011, 3766, 1090, 1362009-2093.2, 20, 3

CONFIRMATION NO. 9046

FILING RECEIPT

50638
Boston Scientific Neuromodulation Corp.
c/o Frommer Lawrence & Haug LLP
745 Fifth Ave
NEW YORK, NY 10151



Date Mailed: 02/09/2011

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Applicant(s)

Janusz A. Kuzma, Parker, CO;
Anne M. Pianca, Valencia, CA;

Assignment For Published Patent Application

Boston Scientific Neuromodulation Corporation, Valencia, CA

Power of Attorney: The patent practitioners associated with Customer Number 50638

Domestic Priority data as claimed by applicant

This application is a CON of 11/329,907 01/11/2006 PAT 7,891,085
which claims benefit of 60/643,093 01/11/2005

Foreign Applications (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.)

If Required, Foreign Filing License Granted: 02/08/2011

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US 13/013,599

Projected Publication Date: 05/19/2011

Non-Publication Request: No

Early Publication Request: No

Title

ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME

Preliminary Class

607

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER**Title 35, United States Code, Section 184****Title 37, Code of Federal Regulations, 5.11 & 5.15****GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as

set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

APPLICATION AS FILED - PART I			SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
	(Column 1)	(Column 2)					
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	330
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A	540
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	220
TOTAL CLAIMS (37 CFR 1.16(i))	20	minus 20 = *				x 52 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3	minus 3 = *				x 220 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$270 (\$135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1090

APPLICATION AS AMENDED - PART II					SMALL ENTITY		OR	OTHER THAN SMALL ENTITY		
	(Column 1)	(Column 2)	(Column 3)							
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=			x	=	
	Independent (37 CFR 1.16(h))	*	Minus	***	=			x	=	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
TOTAL ADD'L FEE								TOTAL ADD'L FEE		
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=			x	=	
	Independent (37 CFR 1.16(h))	*	Minus	***	=			x	=	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
TOTAL ADD'L FEE								TOTAL ADD'L FEE		

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.



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UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/013,599	01/25/2011	Janusz A. Kuzma	1362009-2093.2

CONFIRMATION NO. 9046

POA ACCEPTANCE LETTER



50638
Boston Scientific Neuromodulation Corp.
c/o Frommer Lawrence & Haug LLP
745 Fifth Ave
NEW YORK, NY 10151

Date Mailed: 02/09/2011

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/25/2011.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/kung/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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UTILITY PATENT APPLICATION TRANSMITTAL (Only for new nonprovisional applications under 37 CFR 1.53(b))	Attorney Docket No.	1362009-2093.2
	First Inventor	Janusz A. Kuzma
	Title	ELECTRODE ARRAY ASSEMBLY AND ME
	Express Mail Label No.	Via EFS

APPLICATION ELEMENTS See MPEP chapter 600 concerning utility patent application contents.	ADDRESS TO: Commissioner for Patents P.O. Box 1450 Alexandria VA 22313-1450
---	---

1. Fee Transmittal Form (e.g., PTO/SB/17)
2. Applicant claims small entity status.
See 37 CFR 1.27.
3. Specification [Total Pages 19]
Both the claims and abstract must start on a new page
(For information on the preferred arrangement, see MPEP 608.01(a))
4. Drawing(s) (35 U.S.C. 113) [Total Sheets 6]
5. Oath or Declaration [Total Sheets 2]
 a. Newly executed (original or copy)
 b. A copy from a prior application (37 CFR 1.63(d))
 (for continuation/divisional with Box 18 completed)
 i. DELETION OF INVENTOR(S)
 Signed statement attached deleting inventor(s)
 name in the prior application, see 37 CFR
 1.63(d)(2) and 1.33(b).
6. Application Data Sheet. See 37 CFR 1.76
7. CD-ROM or CD-R in duplicate, large table or
Computer Program (Appendix)
 Landscape Table on CD
8. Nucleotide and/or Amino Acid Sequence Submission
(if applicable, items a. - c. are required)
 a. Computer Readable Form (CRF)
 b. Specification Sequence Listing on:
 i. CD-ROM or CD-R (2 copies); or
 ii. Paper
 c. Statements verifying identity of above copies

- ACCOMPANYING APPLICATION PARTS**
9. Assignment Papers (cover sheet & document(s))
Name of Assignee _____
 10. 37 CFR 3.73(b) Statement (when there is an assignee) Power of Attorney
 11. English Translation Document (if applicable)
 12. Information Disclosure Statement (PTO/SB/08 or PTO-1449)
 Copies of citations attached
 13. Preliminary Amendment
 14. Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)
 15. Certified Copy of Priority Document(s)
(if foreign priority is claimed)
 16. Nonpublication Request under 35 U.S.C. 122(b)(2)(B)(i).
Applicant must attach form PTO/SB/35 or equivalent.
 17. Other: PTO Form SB/08

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:

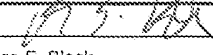
Continuation Divisional Continuation-in-part (CIP) of prior application No.: 11/329,907.....

Prior application information: Examiner D. P. ANGWIN Art Unit: 3729

19. CORRESPONDENCE ADDRESS

The address associated with Customer Number: 50638 OR Correspondence address below

Name			
Address			
City	State	Zip Code	
Country	Telephone	Email	

Signature		Date	January 25, 2011
Name (Print/Type)	Bruce E. Black	Registration No. (Attorney/Agent)	41,622

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.
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Effective on 12/08/2004.
 Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL For FY 2009

Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT		Complete if Known	
Application Number	(\$)	1,090.00	Not Yet Assigned
Filing Date			January 25, 2011
First Named Inventor			Janusz A. Kuzma
Examiner Name			Not Yet Assigned
Art Unit			Not Yet Assigned
Attorney Docket No.			1362009-2093.2

METHOD OF PAYMENT (check all that apply)

Check Credit Card Money Order None Other (please identify): _____

Deposit Account Deposit Account Number: 500320 Deposit Account Name: Frommer Lawrence & Haug

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

Charge fee(s) indicated below Charge fee(s) indicated below, **except for the filing fee**

Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	330	165	540	270	220	110	\$1,090.00
Design	220	110	100	50	140	70	
Plant	220	110	330	165	170	85	
Reissue	330	165	540	270	650	325	
Provisional	220	110	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	52	26
Each independent claim over 3 (including Reissues)	220	110
Multiple dependent claims	390	195

Total Claims **Extra Claims** **Fee (\$)** **Fee Paid (\$)** **Multiple Dependent Claims**

20 - 20 or HP = 0 x _____ = _____ **Fee (\$)** **Fee Paid (\$)**

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims **Extra Claims** **Fee (\$)** **Fee Paid (\$)**

3 - 3 or HP = 0 x _____ = _____

HP = highest number of independent claims paid for, if greater than 3.

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$270 (\$135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).


Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
_____	_____	_____ / 50 = _____ (round up to a whole number)	x _____	= _____

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount) **Fees Paid (\$)**

Other (e.g., late filing surcharge): _____

SUBMITTED BY

Signature		Registration No. (Attorney/Agent)	41622	Telephone	206-336-6668
Name (Print/Type)	Bruce E. Black	Date	January 25, 2011		

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1362009-2093.2
		Application Number	
Title of Invention	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2

Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1					
Applicant Authority		<input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117	
				<input type="radio"/> Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Janusz	A.	Kuzma		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Parker	State/Province	CO	Country of Residence	US
Citizenship under 37 CFR 1.41(b)		AU			
Mailing Address of Applicant:					
Address 1		7591 E. Ponderosa Circle			
Address 2					
City	Parker	State/Province	CO		
Postal Code	80138	Country	US		
Applicant 2					
Applicant Authority		<input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117	
				<input type="radio"/> Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Anne	M.	Pianca		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Valencia	State/Province	CA	Country of Residence	US
Citizenship under 37 CFR 1.41(b)		US			
Mailing Address of Applicant:					
Address 1		24450 Valencia Blvd., #6106			
Address 2					
City	Valencia	State/Province	CA		
Postal Code	91355	Country	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. Add					

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).

An Address is being provided for the correspondence information of this application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1362009-2093.2
		Application Number	
Title of Invention	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME		
Customer Number	50638		
Email Address	prosecutiondocketing@flhlaw.com	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME		
Attorney Docket Number	1362009-2093.2	Small Entity Status Claimed	<input type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter			
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)	3729		
Total Number of Drawing Sheets (if any)	6	Suggested Figure for Publication (if any)	

Publication Information:

<input type="checkbox"/>	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input type="checkbox"/>	Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.			
Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	50638		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.			
Prior Application Status			<input type="button" value="Remove"/>
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	11329907	2006-01-11
Prior Application Status			<input type="button" value="Remove"/>
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
11329907	non provisional of	60643093	2005-01-11

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	1362009-2093.2
	Application Number	
Title of Invention	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME	

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

<input type="button" value="Remove"/>			
Application Number	Country ¹	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			<input checked="" type="radio"/> Yes <input type="radio"/> No
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			

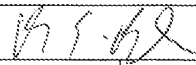
Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

Assignee 1			
If the Assignee is an Organization check here. <input checked="" type="checkbox"/>			
Organization Name	Boston Scientific Neuromodulation Corporation		
Mailing Address Information:			
Address 1	25155 Rye Canyon Loop		
Address 2			
City	Valencia	State/Province	CA
Country ¹	US	Postal Code	91355
Phone Number		Fax Number	
Email Address			
Additional Assignee Data may be generated within this form by selecting the Add button.			

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.

Signature		Date (YYYY-MM-DD)	2011-01-25
First Name	Bruce E.	Last Name	Black
Registration Number	41622		

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	1362009-2093.2
	Application Number	
Title of Invention	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

PATENT APPLICATION

DECLARATION AND POWER OF ATTORNEY

ATTORNEY DOCKET NO. AB-561U

As a below named inventor, I hereby declare that:

My residence/post office address and citizenship are as stated below next to my name;

I believe I am an original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Electrode Array Assembly and Method of Making Same

the specification of which is attached hereto unless the following box is checked:

was filed on _____ as US Application Serial No. or PCT International Application Number _____ and was amended on _____ (if applicable).

I hereby state that I have reviewed and understood the contents of the above-identified specification, including the claims, as amended by any amendment(s) referred to above. I acknowledge the duty to disclose all information which is material to patentability as defined in 37 CFR 1.56.

Foreign Application(s) and/or Claim of Foreign Priority

I hereby claim foreign priority benefits under Title 35, United States Code Section 119 of any foreign application(s) for patent or inventor(s) certificate listed below and have also identified below any foreign application for patent or inventor(s) certificate having a filing date before that of the application on which priority is claimed:

COUNTRY	APPLICATION NUMBER	DATE FILED	PRIORITY CLAIMED UNDER 35 U.S.C. 119
			YES: NO:
			YES: NO:

Provisional Application

I hereby claim the benefit under Title 35, United States Code Section 119(e) of any United States provisional application(s) listed below:

APPLICATION SERIAL NUMBER	FILING DATE
60/643,093	January 11, 2005

U.S. Priority Claim

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code Section 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, Section 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

APPLICATION SERIAL NUMBER	FILING DATE	STATUS(patented/pending/abandoned)

POWER OF ATTORNEY:

As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) listed below to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

Bryant R. Gold, Reg. No. 29715
Peter K. Johnson, Reg. No. 57,236

Laura Haburay Bishop, Reg. No. 47424
Victoria Poissant, Reg. No. 56,871

Philip H. Lee, Reg. No. 50645

<p>Send Correspondence to:</p> <p>Bryant R. Gold Advanced Bionics Corporation 25129 Rye Canyon Road Valencia, CA 91355</p>	<p>Direct Telephone Calls To:</p> <p>Philip H. Lee (661) 362-1964</p>
--	---

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of Inventor: Janusz A. Kuzma

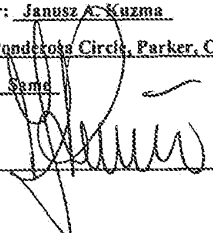
Citizenship: Australia

Residence: 7591 E. Ponderosa Circle, Parker, Colorado, 80138

Post Office Address: Same

Inventor's Signature

Date



01/11/2006

DECLARATION AND POWER OF ATTORNEY
FOR PATENT APPLICATION (continued)

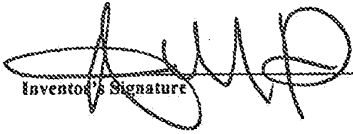
ATTORNEY DOCKET NO. AB-561U

Full Name of Inventor: Anne M. Pianza

Citizenship: United States of America

Residence: 24450 Valencia Blvd., #6106, Valencia, California, 91355

Post Office Address: Same


Inventor's Signature

11 JAN '06
Date

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

Practitioners associated with the Customer Number: 50638

OR

Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

The address associated with Customer Number: 50638

OR

Firm or Individual Name

Address

City	State	Zip
Country	Telephone	Email

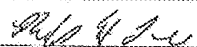
Assignee Name and Address:

Boston Scientific Neuromodulation Corporation
 25155 Rye Canyon Loop
 Valencia, California 91355

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/86 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	August 5, 2008
Name	Philip H. Lee	Telephone	(661) 949-4134
Title	Patent Counsel		

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Janusz A. Kuzma et al.

Application No./Patent No.: 11/329,907 Filed/Issue Date: January 11, 2006

Titled: ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME

Boston Scientific Neuromodulation Corporation, a corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

- 1. the assignee of the entire right, title, and interest in;
- 2. an assignee of less than the entire right, title, and interest in
(The extent (by percentage) of its ownership interest is _____ %); or
- 3. the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)
the patent application/patent identified above, by virtue of either:

A. An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 021845, Frame 0966, or for which a copy therefore is attached.

OR

B. A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

Additional documents in the chain of title are listed on a supplemental sheet(s).

As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature

January 25, 2011

Date

Bruce E. Black

Attorney for Assignee

Printed or Typed Name

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Docket No.: 1362009-2093.2
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Janusz A. Kuzma et al.

Application No.: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Filed: January 25, 2011

Art Unit: Not Yet Assigned

For: ELECTRODE ARRAY ASSEMBLY AND
METHOD OF MAKING SAME

Examiner: Not Yet Assigned

FIRST PRELIMINARY AMENDMENT

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INTRODUCTORY COMMENTS

Please amend the above-identified U.S. patent application as follows:

Amendment to the Specification begins on page 2 of this paper.

Remarks/Arguments begin on page 3 of this paper.

00873251.DOC

REMARKS

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. If the Examiner has any questions or concerns, the Applicants encourage the Examiner to contact the Applicants' representative, Bruce Black, by telephone to discuss the matter.

Dated: January 25, 2011

Respectfully submitted,

By  _____

Bruce E. Black

Registration No.: 41,622

FROMMER LAWRENCE & HAUG LLP

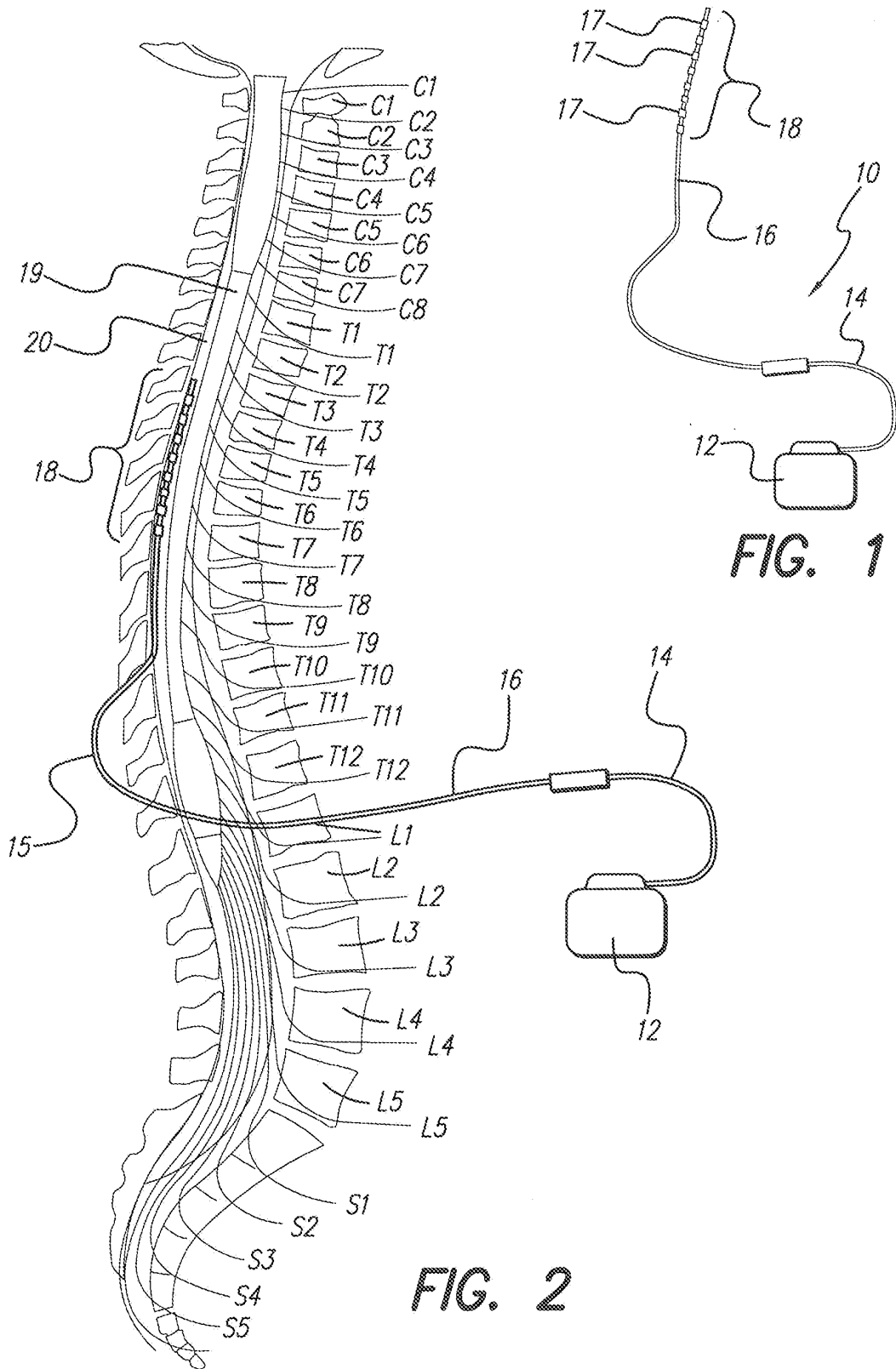
745 Fifth Avenue

New York, New York 10151

(206) 336-5668

(212) 588-0500 (Fax)

Attorneys/Agents For Applicant



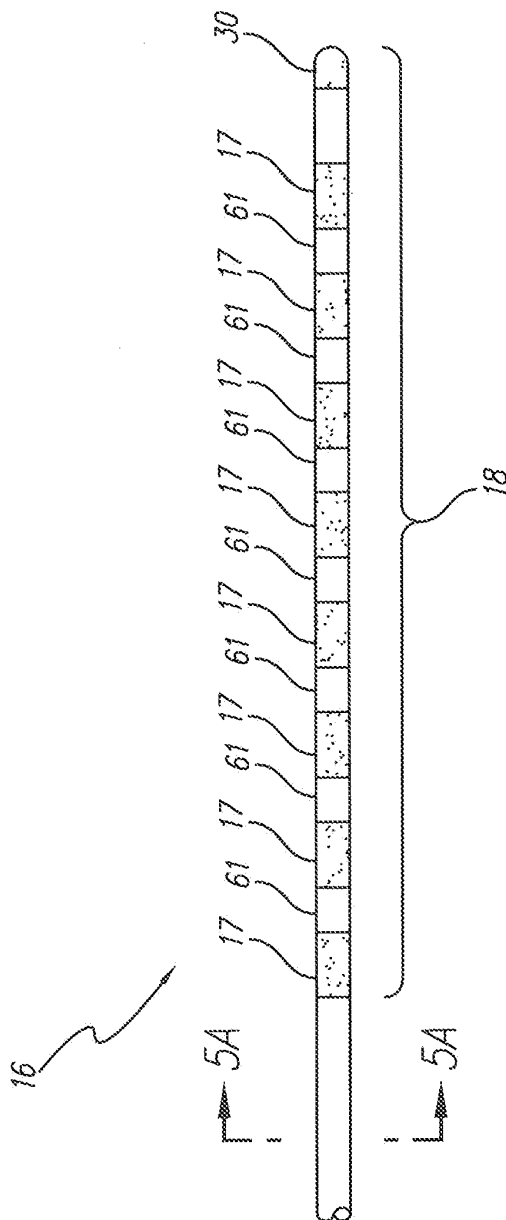


FIG. 3A

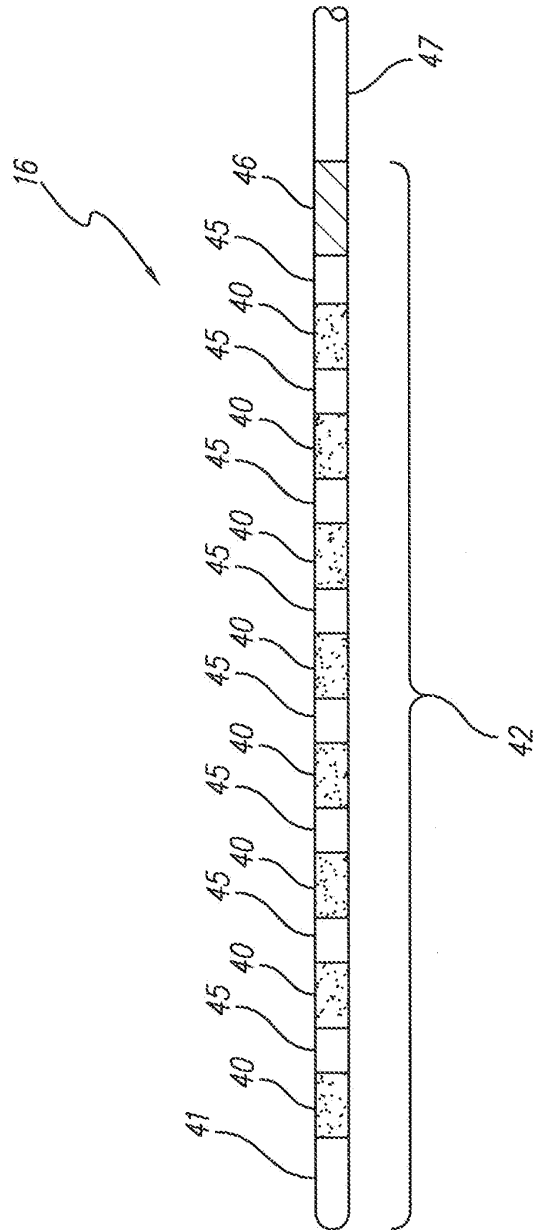


FIG. 3B

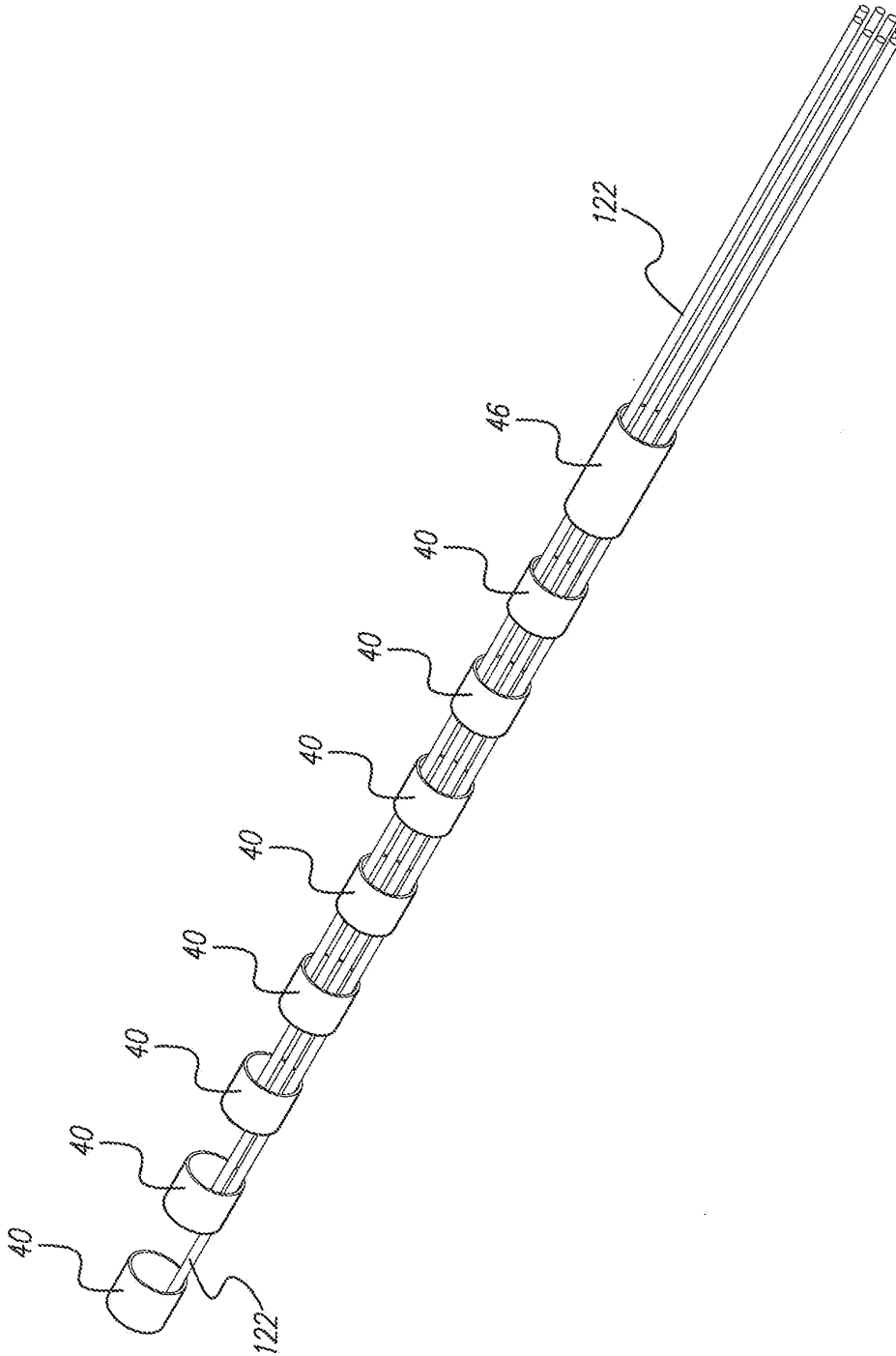


FIG. 4

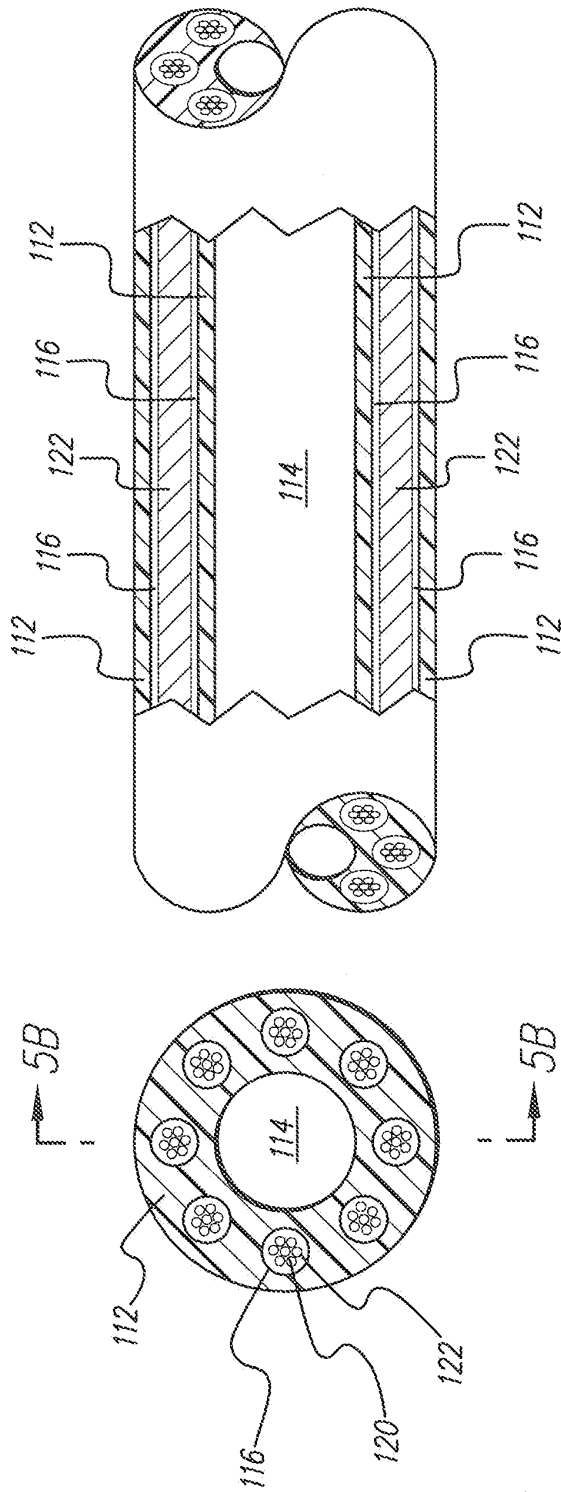


FIG. 5B

FIG. 5A

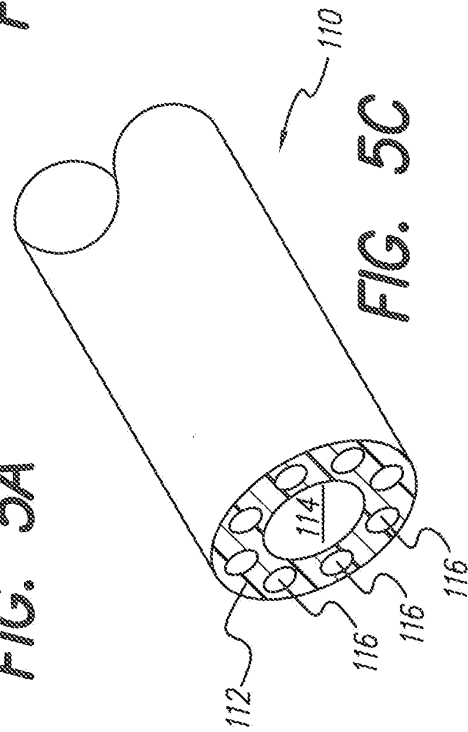


FIG. 5C

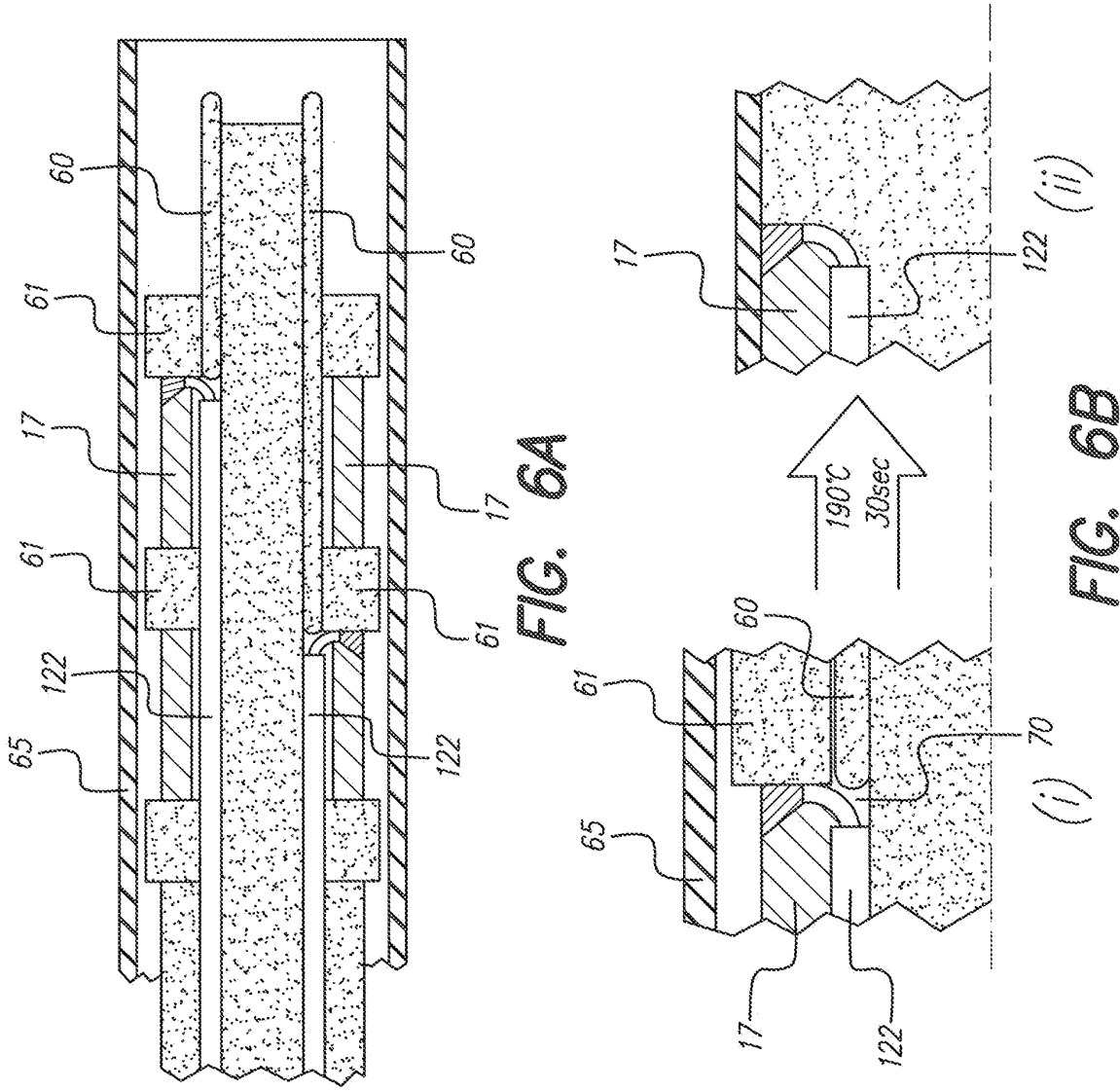


FIG. 6A

FIG. 6B

Docket No.: 1362009-2093.2
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Janusz A. Kuzma et al.

Application No.: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Filed: January 25, 2011

Art Unit: Not Yet Assigned

For: ELECTRODE ARRAY ASSEMBLY AND
METHOD OF MAKING SAME

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Information Disclosure Statement is submitted in accordance with 37 C.F.R. 1.97, 1.98, and it is requested that the information set forth in this statement and in the listed documents be considered during the pendency of the above-identified application, and any other application relying on the filing date of the above-identified application or cross-referencing it as a related application.

1. This IDS should be considered, in accordance with 37 C.F.R. 1.97, as it is filed:
(Check one of the boxes A-D)

- A. within three months of the filing date of the above-identified national application or within three months of the entry into the national stage of the above identified national application
- B. before the mailing date of a first office action on the merits, or a first office action after filing a request for continued examination.
- C. after (A) and (B) above, but before final rejection or allowance, and Applicants have made the necessary statement in box "i" below or paid the necessary fee in box "ii" below.

(check one of the boxes "i" and "ii" below:)

- i. Counsel states that, upon information and belief, each item of information listed herein was (check one of boxes (a) or (b))
- (a) first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS; or
- (b) not cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of undersigned after making reasonable inquiry, was not known to any individual designated in 1.56(c) more than three months prior to the filing of this IDS.
- ii. Payment in the amount of the fee set forth in 1. 17(p), presently believed to be \$180, is enclosed.
- D. after (A), (B) and (C) above, but before payment of the issue fee: Applicant petitions under 37 C.F.R. 1.97(d) for the consideration of this IDS. Under 37 CFR 1.17(p) payment in the amount of \$180.00 is enclosed. Counsel certifies that, upon information and belief, each item of information listed herein was

(check one of the boxes "a" and "b" below:)

- (a) first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS; or
- (b) was not cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of undersigned after making reasonable inquiry, was not known to any individual designated in 1.56(c) more than three months prior to the filing of this IDS.

2. In accordance with 37 C.F.R. 1.98, this IDS includes a list (e.g., form PTO/SB/08) of all patents, publications, or other information submitted for consideration by the office, either incorporated into this IDS or as an attachment hereto. A copy of each document listed is attached, except as explained below.

(check boxes A, B and/or C and fill in blanks, if appropriate.)

- A. Pursuant to the Notice issued by the United States Patent and Trademark Office dated August 5, 2003 waiving the requirements of 37 C.F.R. § 1.98(a)(2)(ii), a copy/copies of the U.S. Patent(s) and/or U.S. Patent Application Publication(s) on PTO/SB/08 is/are not being submitted.
- B. Document(s) _____ is (are) deemed substantially cumulative to document(s) _____, and, in accordance with 1.98(c), only a copy of each of the latter documents is enclosed.
- C. Certain documents were previously cited by or submitted to the Office in the following prior applications, which are relied upon under 35 U.S.C. 120:

<<INSERT SERIAL NO. & FILING DATE>>

Applicant identifies these documents by attaching hereto copies of the forms PTO-892, PTO-1449 and/or PTO/SB/08 from the files of the prior application(s) or a fresh PTO/SB/08 listing these documents, and request that they be considered and made of record in accordance with 1.98(d). Per 37 CFR 1.98(d), copies of these documents need not be filed in this application.

- 3. Cite Nos. _____ are not in the English language. In accordance with 1.98(c), Applicant states:

- An English translation of each document (or of the pertinent portions thereof), or a copy of each corresponding English-language patent or application, or English-language abstract (or claim) is enclosed.
- The requirement for a concise explanation of the relevance of any foreign language document is satisfied by the attached search report; citation of the documents cited in the search report shall not be construed as an admission that they are or are considered to be, material to patentability of the subject matter claimed herein (See MPEP §609).
- A concise explanation of the relevance of document(s) _____ is set forth as follows: [Insert concise explanation of relevance]
- A concise explanation of the relevance of document(s) _____ can be found on page(s) _____ of the specification.
- A concise explanation of document(s) _____ can be found on the attached sheet.
4. No explanation of relevance is necessary for documents in the English language (see reply to Comments 67 in the preamble to the final rules; 1135 OG 13 at 20).
5. Other information being provided for the examiner's consideration follows:

U.S. Patent Application No. 11/329,907, Official Communication
mailed November 17, 2008

U.S. Patent Application No. 11/329,907, Official Communication
mailed April 2, 2009

U.S. Patent Application No. 11/329,907, Official Communication
mailed July 1, 2009

U.S. Patent Application No. 11/329,907, Official Communication
mailed March 31, 2010

U.S. Patent Application No. 11/329,907, Notice of Allowance
mailed November 15, 2010

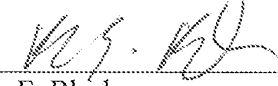
6. In accordance with 37 C.F.R. 1.97(g) and (h), the filing of this IDS should not be construed as a representation that a search has been made or that information cited is, or is considered to be, material to patentability as defined in §1.56 (b), or that any cited document listed or attached is (or constitutes) prior art. Unless other-wise indicated, the date of publication indicated for an item is taken from the face of the item and Applicant reserves the right to prove that the date of publication is in fact different.

Early and favorable consideration is earnestly solicited.

The Commissioner is authorized to charge any deficiency of up to \$300.00 or credit any excess in this fee to Deposit Account No. 50-0320.

Dated: January 25, 2011

Respectfully submitted,

By 
Bruce E. Black

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IDS Form PTO/SB/08: Substitute for form 1449A/PTO				Complete if Known		
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Application Number		Not Yet Assigned
				Filing Date		January 25, 2011
				First Named Inventor		Janusz A. Kuzma et al.
				Art Unit		Not Yet Assigned
				Examiner Name		Not Yet Assigned
Sheet	1	of	1	Attorney Docket Number		1362009-2093.2

U.S. PATENTS AND PUBLISHED U.S. PATENT APPLICATIONS					
Examiner Initials	Cite No. ¹	Document Number	Issue or Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		2005/0215945	09-29-2005	Harris, et al.	
		3,769,984	11-06-1973	Muench	
		5,555,618	09-17-1996	Winkler	
		6,055,456	04-25-2000	Gerber	
		6,205,361	03-20-2001	Baudino, et al.	
		6,216,045 B1	04-10-2001	Black, et al.	
		6,249,708 B1	06-19-2001	Nelson, et al.	
		6,551,302	04-22-2003	Rosinko, et al.	

Note: Submission of copies of U.S. Patents and published U.S. Patent Applications is not required.

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Translation ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				

NONPATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Translation ⁶
		U.S. Patent Application No. 11/329,907, Official Communication mailed November 17, 2008	
		U.S. Patent Application No. 11/329,907, Official Communication mailed April 2, 2009	
		U.S. Patent Application No. 11/329,907, Official Communication mailed July 1, 2009	
		U.S. Patent Application No. 11/329,907, Official Communication mailed March 31, 2010	
		U.S. Patent Application No. 11/329,907, Notice of Allowance mailed November 15, 2010	

Examiner Signature		Date Considered	
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Electronic Patent Application Fee Transmittal

Application Number:				
Filing Date:				
Title of Invention:	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME			
First Named Inventor/Applicant Name:	Janusz A. Kuzma			
Filer:	Bruce Black/Terri Downey			
Attorney Docket Number:	1362009-2093.2			
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility application filing	1011	1	330	330
Utility Search Fee	1111	1	540	540
Utility Examination Fee	1311	1	220	220
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1090

Electronic Acknowledgement Receipt

EFS ID:	9304725
Application Number:	13013599
International Application Number:	
Confirmation Number:	9046
Title of Invention:	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME
First Named Inventor/Applicant Name:	Janusz A. Kuzma
Customer Number:	50638
Filer:	Bruce Black/Terri Downey
Filer Authorized By:	Bruce Black
Attorney Docket Number:	1362009-2093.2
Receipt Date:	25-JAN-2011
Filing Date:	
Time Stamp:	18:03:45
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 1090
RAM confirmation Number	6057
Deposit Account	500320
Authorized User	FROMMER LAWRENCE & HAUG LLP

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		2093_APP_TRANS.pdf	8031229 <small>71b95c74b5c76e7394eeeca3e131a62321173da5</small>	yes	13
Multipart Description/PDF files in .zip description					
Document Description		Start	End		
Transmittal of New Application		1	1		
Miscellaneous Incoming Letter		2	2		
Application Data Sheet		3	6		
Oath or Declaration filed		7	8		
Power of Attorney		9	9		
Assignee showing of ownership per 37 CFR 3.73(b).		10	10		
Preliminary Amendment		11	13		
Warnings:					
Information:					
2		2093_SPEC.pdf	10409960 <small>c2f9b7e4ec1301552a12a9f7b77cb68ab9c288b4</small>	yes	19
Multipart Description/PDF files in .zip description					
Document Description		Start	End		
Specification		1	14		
Claims		15	18		
Abstract		19	19		
Warnings:					
Information:					
3	Drawings-only black and white line drawings	2093_DRAWINGS.pdf	1971655 <small>e04b056a7b599b14a2584c2da6294db8bdce91f9</small>	no	6

Warnings:					
Information:					
4		2093_IDS.pdf	3261984 8f2de8505f0caced8169b0aae8431495e71e7e26	yes	6
Multipart Description/PDF files in .zip description					
		Document Description	Start	End	
		Transmittal Letter	1	5	
		Information Disclosure Statement (IDS) Filed (SB/08)	6	6	
Warnings:					
Information:					
5	NPL Documents	00873299.PDF	331525 6a7b247922da82a9f3d037c901a924c9da7a3439	no	9
Warnings:					
Information:					
6	NPL Documents	00873303.PDF	449174 0b9b637c1cdb4a71cf8e8372f6de8f5cd6771959	no	12
Warnings:					
Information:					
7	NPL Documents	00873298.PDF	445115 3b912c88519961ed821d5c19b55b644eac246e46	no	12
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8	NPL Documents	00873302.PDF	359849 4f9a0b9f0f9f6a29da7eca4ec9d3e80f4a6cc8b8	no	9
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Warnings:					
Information:					
Total Files Size (in bytes):			25607416		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Electronic Acknowledgement Receipt

EFS ID:	9304725
Application Number:	13013599
International Application Number:	
Confirmation Number:	9046
Title of Invention:	ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME
First Named Inventor/Applicant Name:	Janusz A. Kuzma
Customer Number:	50638
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Multipart Description/PDF files in .zip description					
	Document Description		Start		End
	Transmittal of New Application		1		1
	Miscellaneous Incoming Letter		2		2
	Application Data Sheet		3		6
	Oath or Declaration filed		7		8
	Power of Attorney		9		9
	Assignee showing of ownership per 37 CFR 3.73(b).		10		10
	Preliminary Amendment		11		13
Warnings:					
Information:					
2		2093_SPEC.pdf	10409960 <small>c2f9b7e4ec1301552a12a9f7b77cb68ab9c288b4</small>	yes	19
Multipart Description/PDF files in .zip description					
	Document Description		Start		End
	Specification		1		14
	Claims		15		18
	Abstract		19		19
Warnings:					
Information:					
3	Drawings-only black and white line drawings	2093_DRAWINGS.pdf	1971655 <small>e04b056a7b599b14a2584c2da6294db8bdce91f9</small>	no	6

Warnings:					
Information:					
4		2093_IDS.pdf	3261984 8f2de8505f0caced8169b0aae8431495e71e7e26	yes	6
Multipart Description/PDF files in .zip description					
		Document Description	Start	End	
		Transmittal Letter	1	5	
		Information Disclosure Statement (IDS) Filed (SB/08)	6	6	
Warnings:					
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5	NPL Documents	00873299.PDF	331525 6a7b247922da82a9f3d037c901a924c9da7a3439	no	9
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Information:					
6	NPL Documents	00873303.PDF	449174 0b9b637c1cdb4a71cf8e8372f6de8f5cd6771959	no	12
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8	NPL Documents	00873302.PDF	359849 4f9a0b9f0f9f6a29da7eca4ec9d3e80f4a6cc8b8	no	9
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9	NPL Documents	00873314.PDF	313659 7dbed6371935ee03630a594c0c4331abd044363c	no	6
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10	Fee Worksheet (PTO-875)	fee-info.pdf	33266 2a0a649a9f6751ade90a60a4c6aea818a2b593852	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			25607416		

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AMENDMENT TO SPECIFICATION

Please amend the following paragraph of the Specification:

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] ~~The present application~~ This utility patent application is a continuation of allowed U.S. Patent Application No. 11/329,907 filed January 11, 2006, which claims the benefit of United States Provisional Patent Application Serial No. 60/643,093, filed January 11, 2005, all of which application is are herein incorporated by reference in its their entirety.

Electrode Array Assembly and Method of Making Same

[0001] The present application claims the benefit of United States Provisional Patent Application Serial No. 60/643,093, filed January 11, 2005, which application is herein incorporated by reference in its entirety.

Field of the Invention

[0002] The present invention relates to implantable leads for providing electrical stimulation and, more particularly, relates to leads having multiple electrode contacts and methods of making such leads.

Background

[0003] Many types of implantable leads are currently used to treat a variety of maladies. Two common treatment applications use leads having multiple electrode contacts. Cochlear stimulator systems use a multiple electrode contact lead inserted into one of the cochlear chambers to stimulate the cochlear nerve. Another application where a multiple electrode contact lead is used is the treatment of chronic pain through stimulation of the spinal cord.

[0004] Spinal cord stimulation systems generally have two implantable components: an implantable pulse generator (IPG) and at least one lead connected to one output of the IPG. Generally, however, the IPG is a multi-channel device capable of delivering electrical current through the electrode contacts of the lead. The term "lead" used herein will refer to an elongate device having any conductor or conductors, covered with an insulated sheath and having at least one electrode contact attached to the elongate device, usually at the distal portion of the elongate device. The lead can have an inner stylet lumen running through most of the length of the lead and which lumen has an opening at the proximal end of the lead. A stylet may be placed

into this stylet lumen during steering and implantation of the lead. The inserted stylet in the lumen can help stiffen the lead so that the stylet/lead combination may be more easily inserted through tissue.

[0005] There are two types of leads that may be used with the IPG. The first type is a paddle lead, which has a multiplicity of electrode contacts spread out over a flat, paddle-like surface that is attached to one end of the lead. A paddle lead advantageously permits the electrode contacts to be spaced apart to provide wide coverage over a stimulation area. A disadvantage presented with a paddle lead is that it usually requires a laminectomy or laminotomy, which are highly invasive surgical procedures necessary to implant the large, non-isodiametric paddle.

[0006] A second type of lead that is commonly used is a percutaneous lead, which has multiple electrode contacts positioned along the distal portion of an elongate lead. U.S. Pat. No. 6,205,361 issued to Baudino et al. describes the making of a multi-contact electrode array for a lead. The distal end of the lead may be about the same thickness or diameter as the remainder of the lead. The percutaneous lead is dimensionally configured for tunneling to a target stimulation site. No invasive surgical procedure such as a laminotomy is required; the percutaneous lead may be placed through an epidural type needle reducing surgical trauma.

[0007] The method of making a multi-contact percutaneous lead can be involved. In general, it is desirable to make the lead efficiently, with the fewest number of process steps, maximize the manufacturing yield, and hence reduce the cost of goods of building the leads. There is thus a continual need to improve the design of a percutaneous lead in order to improve its performance and to improve the method of manufacturing the lead.

Brief Summary

[0008] A method of making a lead is provided. In one embodiment of the invention the method comprises: providing a plurality of conductive contacts located at the distal end of the stimulation lead; connecting a conductor wire to each of the conductive contacts; placing spacers between pairs of adjacent conductive contacts; placing monofilament within void spaces not occupied by a conductor wire, wherein the monofilament is the same material as the spacers; placing a heat shrink tubing around the spacers, conductive contacts and monofilament; and heating the spacers and monofilament just below the melting temperature to cause thermal fusion between the monofilament and spacer.

[0009] The conductive contacts may be connector contacts located at the proximal portion of the lead, which contacts are used to connect to the IPG, or the conductive contacts may be electrode contacts located somewhere on the lead (e.g., usually at the distal end of the lead).

[0010] In another embodiment of the method of making the lead, the method comprises: providing a plurality of conductive contacts located at the proximal end of the stimulation lead; connecting a conductor wire to each of the conductive contacts; placing spacers between pairs of adjacent conductive contacts; placing monofilament within void spaces not occupied by a conductor wire, wherein the monofilament is a different material than the spacers; placing a heat shrink tubing around the spacers, conductive contacts, and monofilament; and heating the spacers and monofilament to a temperature to cause thermal flow or melting of at least one of the spacers or monofilament.

[0011] Hence, while the monofilament and spacers may be the same material with the same melting temperatures, that is an optional part of the invention. The monofilament and spacers may actually be different materials, e.g., a type of thermoplastic polyurethane monofilament and another type thermoplastic polyurethane spacer, with different hardness and melting points in order to yield a particular stiffness.

[0012] In an embodiment of the invention, a lead assembly is provided comprising: a plurality of electrically conductive contacts; spacers placed between each adjacent contacts; a conductor wire connected to each conductive contact; and monofilament placed into void spaces not occupied by conductor wire, wherein the monofilament is made from the same insulative material as the spacer; and wherein the spacer and monofilament are thermally fused from heat applied to the lead assembly, which heat is just below the melting temperature of the spacer and the monofilament material.

[0013] In yet another embodiment, a lead assembly is provided comprising: a plurality of electrically conductive contacts; spacers placed between each adjacent contacts; a conductor wire connected to each conductive contact; and monofilament placed into void spaces not occupied by conductor wire, wherein the monofilament is made from a different insulative material as the spacer; and wherein the spacer and monofilament are heated to a temperature to cause either the spacer or monofilament material to thermally reflow or melt.

[0014] The monofilament and spacer may be the same thermoplastic material to have the same melting point and to thereby allow thermal fusion upon heating at a temperature just below the melting temperature of the material or the monofilament and spacer may have different melting points.

Brief Description of the Drawings

[0015] The above and other aspects of the present invention will be more apparent from the following more particular description thereof, presented in conjunction with the following drawings wherein:

[0016] FIG. 1 shows a generalized spinal cord stimulation system with a percutaneous lead connected to an implantable pulse generator ("IPG");

[0017] FIG. 2 shows an illustration of the percutaneous lead implanted into the epidural space of a human spinal cord;

- [0018]** FIG. 3A shows a side view of the distal end of a percutaneous lead.
- [0019]** FIG. 3B shows a side view of the proximal (connector) end of the percutaneous lead shown in FIG. 3A;
- [0020]** FIG. 4 shows a view of the proximal end of the lead assembly showing the connector contacts and conductor wires that connect to each connector contact;
- [0021]** FIG. 5A shows a cross-sectional view of the percutaneous lead shown in FIG. 3A at line 5A-5A;
- [0022]** FIG. 5B shows a cross-sectional view of the percutaneous lead shown in FIG. 5A along line 5B-5B;
- [0023]** FIG. 5C shows a perspective view of the lead body, having a central stylet lumen and surrounding smaller lumens for containing conductor wires;
- [0024]** FIG. 6A shows a close-up, partial, longitudinal view of the lead assembly at the distal portion of the lead; and
- [0025]** FIG. 6B depicts how polyurethane monofilament or a thermoplastic material is used to fill the voids and is incorporated into the lead by applying heat.
- [0026]** Corresponding reference characters indicate corresponding components throughout the several views of the drawings.

Detailed Description of the Invention

[0027] The following description is of the best mode presently contemplated for carrying out the invention. This description is not to be taken in a limiting sense, but is made merely for the purpose of describing the general principles of the invention. The scope of the invention should be determined with reference to the claims.

[0028] FIG. 1 shows a generalized stimulation system that may be used in spinal cord stimulation (SCS), as well as other stimulation applications. Such a

system typically comprises an implantable pulse generator ("IPG") 12, an optional lead extension 14, a lead 16 and an electrode array 18. The electrode array 18 includes a plurality of electrode contacts 17. In a percutaneous lead, the electrode contacts 17 can be arranged in an in-line electrode array 18 at the distal end of the lead 16. Other electrode array configurations can also be used. The IPG 12 generates stimulation current pulses that are applied to selected electrode contacts 17 within the electrode array 18.

[0029] The proximal end of the lead extension 14 can be removably connected to the IPG 12 and a distal end of the lead extension 14 can be removably connected to a proximal end of the lead 16. The electrode array 18 is formed on a distal end of the lead 16. The in-series combination of the lead extension 14 and lead 16 conduct the stimulation current from the IPG 12 to electrode contacts 17 of the electrode array 18. It is noted that the lead extension 14 need not always be used with the neural stimulation system 10. Instead, the lead extension 14 may be used when the physical distance between the IPG 12 and the electrode array 18 requires its use, or for the purpose of a temporary trial procedure.

[0030] The IPG 12 contains electrical circuitry, powered by an internal primary (one-time-use-only) or a rechargeable battery, which through the use of electrical circuitry can output current pulses to each stimulation channel. Communication with the IPG can be accomplished using an external programmer (not shown), typically through a radio-frequency (RF) link.

[0031] FIG. 2 shows a transverse, mid-sagittal view of a spinal cord and a generalized, implantable, spinal cord stimulation system. The stimulation system shown is being used as a spinal cord stimulator (SCS) system. In such an application, the lead 16 and, more particularly, the electrode array 18 are implanted in the epidural space 20 of a patient in close proximity to the spinal cord 19. Because of the lack of space near the lead exit point 15 where the electrode lead 16 exits the spinal column, the IPG 12 may be implanted in the

abdomen or above the buttocks. Use of lead extension 14 facilitates locating the IPG 12 away from the lead exit point 15.

[0032] FIG. 3A shows, in accordance with the invention, a distal portion of a percutaneous stimulating lead 16. The stimulating lead 16 is used to stimulate neural tissue by delivering electrical stimulus pulses through at least one of the electrode contacts 17. The electrode contacts 17 can be separated by electrode contact spacers (or an insulative material) 61 that insulate the electrode contacts 17 from each other. A radiopaque marker 30 located at the distal tip of the lead 16 may be optionally included. Alternatively, the tip of the lead may be the same material as the remainder of the lead insulation. The IPG 12 may be configured to permit connection to the two stimulating leads, each having eight electrode contacts 17. A pair of stimulating leads 16 may be connected to an IPG 12 and an electrical circuit may be created between one electrode contact on the first lead and another electrode contact located on the second lead. The IPG 12, for example, may have sixteen independently programmable outputs that allow programming of pulse amplitude, pulse width and frequency of the pulse width. The electrode contacts 17 are to be made of a bio-compatible, electrically conductive electrode material such as platinum/iridium alloy, platinum, titanium or the like.

[0033] As an example, the stimulating lead 16 may have a diameter of between about 0.03 to 0.07 inches for spinal cord stimulation applications. An insertion cannula (not shown), e.g., a 14 gauge insertion needle may be used, while a 0.05 inch diameter stimulating lead is inserted within the cannula to help implant the stimulating lead 16. The stimulating lead 16 may come in a variety of lengths, e.g., 30, 50, 70 and 90 cm. A practitioner can extend the length of any of the available lead lengths by opting to use an extension lead 14 (shown in FIG. 1). The proximal male end of the extension lead 14 should be configured to be insertable into the lead connector of the IPG and the distal female end of the

extension lead should be configured to accept the proximal connector end of the stimulating lead 16.

[0034] FIG. 3B shows, in accordance with the invention, a depiction of the proximal end of the lead 16. This proximal lead end, including the eight, electrically conductive, connector contacts 40, and a contact tip element 41, collectively will be called herein as the proximal lead connector end 42 of the stimulating lead 16. Connector contact spacers 45 are placed between the connector contacts 40. The spacers 45 may be made from an implantable grade polyurethane such as Pellethane® 55D thermoplastic material. The contacts 40 may be made from a non-corrosive, electrically conductive material, e.g., platinum/iridium alloy or platinum. Contact tip 41, however, is not electrically connected to any conductor and contact tip 41 may merely serve as a hard surface for a mechanical contact securing device, such as a set screw, which may be used to secure the lead connector end 42 with the connector block of the IPG 12. Contact tip 41 is optional and does not need to be included as part of the lead. Instead, the contact tip of the lead may be of similar or the same insulation material as the remainder of the lead 16 or lead body 110 (FIG. 5C).

[0035] Preferably the lead 16 is substantially isodiametric, meaning that the diameter along the lead's entire length is equal or nearly equal. However, the lead 16 does not need to be isodiametric. For example, the connector contacts 40 at the proximal end may be larger (oversized) or smaller in diameter compared to the remainder of the lead 16 or lead body 110 (shown in FIG. 5C). Likewise, the electrode contacts 17 may be larger (oversized) or smaller in diameter compared to the remainder of the lead 16 or lead body 110 (shown in FIG. 5C).

[0036] FIG. 4 shows a proximal lead assembly with each of the connector contacts 40 welded to a respective one of conductors 122. Each of the eight connector contacts 40, as shown, are connected to a conductor 122 which, in turn, are connected to a respective electrode contact 17 at the distal end of the

stimulating lead 16. The insulating material between the connector contacts 40 and around the conductors 122 is not shown in FIG. 4 for purposes of better illustrating the connection between each conductor and its respective connector contact. The connection may be a weld. Cylindrical element 46 is optional and is not connected to any conductor. Cylindrical element 46 may be used as a contact element for a mechanical securing device such as a set screw in order to secure the lead 16 to the IPG 12. Alternatively, or in addition, the cylindrical element 46 may function as a radiopaque element, provided that the material used for element 46 is radiopaque.

[0037] FIG. 5A shows a cross-sectional view of the lead of FIG. 3A along line 5A-5A.

[0038] FIG. 5B shows a partial, cross-sectional view of the lead along the line 5B-5B.

[0039] FIG. 5C shows a perspective view of an exemplary lead body 110 of the lead 16, excluding conductor wires. The lead body is that portion of the lead insulation 112 that is between the distal electrode contact array 18 and the array of connectors contacts 40 (FIG. 4) at the proximal lead connector end 42. The lead body 110 may be extruded as a one-piece component. Note the central stylet lumen 114 and the surrounding eight conductor lumens 116.

[0040] FIGS. 5A and 5B show an exemplary embodiment of an insulation section 112 of the lead body 110 having eight lumens 116 containing the conductor (wires) 122, having individual strands 120. For example 15 or 16 individual conductor strands 120 may be braided or bundled into a single conductor 122. Also shown is a central lumen 114 that may be used to accept an insertion stylet (not shown) within the lumen to facilitate lead implantation. The opening of the lumen occurs at the proximal end of the lead 16. The lead body 110 may be a biocompatible, insulating lead material. Preferably the lead body 110 is made from a polyurethane. In particular the material may be Pellethane® thermoplastic material, e.g. 55D, 65D, or other durometer hardness.

As previously indicated for FIG. 5C, the lead body 110 shown in FIG. 5B may be extruded as one piece.

[0041] FIG. 6A shows a partial view of a longitudinal, cross-section at the distal end of the lead, in accordance with an embodiment of the invention. FIG. 6A shows a ring-like electrode contact 17 (which may be platinum, for example), multi-stranded conductor 122 and electrode contact spacer 61 (or an insulative material). The spacer 61, which is ring-like in configuration, may be made of polyurethane insulative material, e.g., Pellethane®. Monofilament 60, also may be made of thermoplastic Pellethane® material or other insulation material, e.g., polyester. During manufacture, the monofilament 60 may be inserted into the void spaces that are not filled by the conductor 50. A heat shrink tube 65 is also shown placed around the electrode contacts 17 and conductor 122 assembly. The heat shrink tube 65 may be PTFE (e.g., Teflon® material) or a polyester heat shrink material. The heat shrink tube can be used during manufacturing and is not part of the stimulation lead.

[0042] FIG. 6B shows a two-frame, time-elapsd illustration of a partial view of the distal end of the lead as in FIG. 6A showing the conductor 122 connected (e.g., welded) to the electrode contact 17. The first frame (i) of FIG. 6B shows the sequence in which the monofilament 60 fills a large part of the void space 70. The part of the lead assembly shown is then placed into a heat, for example, at 190 degrees Celsius for a period of 30 seconds. The heat that may be used, e.g., for polyurethane material (such as Pellethane®), may range from about 140 to 250 degrees Celsius for a period of about between 15 to 120 seconds. However, importantly, the heat applied to the spacer and monofilament material, should be just below the melting temperature of the material. At this just-below-melting temperature, the spacer and monofilament will reflow and thermally fuse together as shown in the second frame (ii). The spacer 61 and the monofilament 60 may be exactly the same material with the same melting temperature in order to facilitate thermal fusion. For example, the

material may be the same implantable grade polyurethane such as Pellethane 55D or 75D.

[0043] Alternatively, however, the monofilament may be of a different material than the spacer to alter the mechanical characteristic of the final lead assembly. The monofilament and spacer may have different melting points or very close melting points. The monofilament and spacers may be the same type of material but with different formulations, e.g., to provide different hardness. For example, the monofilament may be a 55D (durometer hardness) material and the spacer may be a 75D material. The predetermined temperature chosen to heat both the monofilament and spacers should cause at least one of the materials used to thermally reflow or, alternatively to melt. In some cases, the temperature may be chosen that one material melts while the other material thermally reflows.

[0044] While FIGS. 6A and 6B show the distal end of the lead, the same process of using a monofilament to fill up void spaces may be used at the proximal end of the lead assembly. At the proximal end of the lead assembly, the conductive contacts are not electrode contacts but, are instead, electrically conductive connector contacts 40 that must be in electrical connection with complementary contacts in the IPG connector. The connector contact spacers 45 at the proximal end of the lead (shown in FIG. 3B) are placed between adjacent connector contacts 40. In one embodiment of the invention, the connector contact spacers 45 may be oversized — that is, the spacers may have an initial diameter that is larger than the final lead diameter. The proximal connector end of the lead assembly 42 may then be heated to a temperature (just below melting point of the spacer and monofilament) for a duration of time previously described in order to produce thermal fusion of the connector contact spacer 45 and monofilament 60 to create a continuous reflow of material between the spaces not occupied by the connector contacts 40 and conductor wires 122.

[0045] Alternatively, the monofilament 60 and spacer 45 may be different materials/with different melting points or about the same melting points.

[0046] Hence, the method of placing monofilament into void spaces not occupied by the conductor 122, may be used solely at the distal end of a lead, solely at the proximal end of a lead, or may be employed concurrently at both ends of a lead. If only one end of a lead employs monofilament, the other end of the lead may employ another method to finish the build, e.g., overmolding using a mold or injecting material such as epoxy, e.g., Hysol® into the void spaces between the contacts and conductor wires.

Example

[0047] The following steps illustrate one example embodiment of a method for making the lead, in accordance with the invention. Embodiments of the method can include one or more of the following steps (although not necessarily in the order presented). (1) A braided or bundled, insulated, multi-filament conductor, e.g., having 2-200 filaments, can be ablated of insulation at one end to expose the conductor. (2) The exposed end of the conductor can be welded to an electrode contact (located on the distal end lead assembly). (3) Oversized, distal lead spacers may be placed between the electrode contacts. (4) The multi-lumen tube (lead body) may be pre-cut with ablated section located at the distal and proximal ends. (5) Each end of the conductor cable can be inserted through the corresponding conductor lumens in the lead body. (6) The oversized spacers can be placed between each ring-like electrode contact at the distal end of the lead assembly; the spacers 61 may be "oversized", meaning that they may have a diameter greater than the lead body 110 and in addition, the diameter of the electrode contacts 17 may be oversized compared to the diameter of the lead body 110. (7) The distal end of each conductor cable can be welded to the ring-shaped electrode contact. (8) Polyurethane monofilament may be placed inside the void space as shown in FIG. 6A, and inside any empty

conductor lumens 116. (9) A heat shrink tube or wrap, preferably, made from PTFE (Teflon) or polyester, can be placed over the distal end of the lead assembly and over the electrode array; this distal end can be placed into a high temperature block, e.g., between about 140-250 degrees Celsius for a period of about 30 to 120 seconds. (10) The distal assembly can be removed from the heat and the shrink tube or wrap can be removed. (10) Optionally, the distal tip of the lead can be formed using an RF welder.

[0048] Post processing of the lead is not always required. For example, grinding of the distal or proximal ends of the leads is not necessary with this method of manufacturing, although optionally, a centerless grinding process may be used, if desired.

[0049] The method of making the distal and proximal part of the lead, in accordance with the present invention, eliminates most, if not all tooling, including eliminating the use of molds.

[0050] The method of making a lead and the resulting multi-contact lead, in accordance with the invention, provides advantages over conventional leads and methods of making a lead. A prior method of making the distal portion of the lead uses epoxy to fill the voids between the spacer 61 and the contacts 17. This has certain disadvantages. For instance, use of an epoxy requires a curing step, e.g., of up to eight hours, adding to the total time required to build a lead. With use of epoxy, there may also be some variation in stiffness of the final lead assembly post-cure because the epoxy is generally a different material than the insulative body or spacers and because curing may occur unevenly. The use of like materials, e.g., polyurethane lead body, polyurethane spacers and polyurethane monofilament can yield a better bond between these parts.

[0051] Although the lead and method of making the lead are described in the context of a spinal cord stimulation lead, it will be understood by those skilled in the art that the same lead, albeit with appropriate dimensions for a particular application, and the method of making the lead may be used to make a

multi-contact lead suitable for use in other applications, such as deep brain stimulation, cardiac stimulation and peripheral nerve stimulation.

[0052] While the invention herein disclosed has been described by means of specific embodiments and applications thereof, numerous modifications and variations could be made thereto by those skilled in the art without departing from the scope of the invention set forth in the claims.

CLAIMS

What is claimed and desired to be protected by Letters Patent of the United States is:

1. A stimulation lead assembly for making a lead, the assembly comprising:
 - a lead body defining a plurality of conductor lumens;
 - a plurality of electrically conductive contacts disposed along an end of the lead body, wherein a portion of the conductor lumens is disposed beneath the conductive contacts;
 - a plurality of conductor wires disposed in the conductor lumens, wherein at least one of the conductor wires is connected to each conductive contact; and
 - monofilament disposed, at least in part, beneath the conductive contacts and within portions of the conductor lumens not occupied by conductor wire; and
 - wherein the monofilament is thermally fused from heat applied to the lead assembly, which heat is at a temperature to cause the monofilament to thermally reflow or melt.
2. The lead assembly of claim 1, further comprising a plurality of spacers disposed between adjacent pairs of the conductive contacts.
3. The lead assembly of claim 2, wherein the spacers and the monofilament are thermally fused together from heat applied to the lead assembly.
4. The lead assembly of claim 3, wherein the monofilament is a different material than the spacers.
5. The lead assembly of claim 3, wherein the monofilament is a same material as the spacers.

6. The lead assembly of claim 1, wherein the plurality of electrically conductive contacts are located on a proximal end of the stimulation lead.

7. The lead assembly of claim 1, wherein the plurality of electrically conductive contacts are located on a distal end of the stimulation lead.

8. The lead assembly of claim 1, wherein the monofilament comprises polyurethane.

9. A method of manufacturing a stimulation lead comprising:
providing a plurality of conductive contacts located at an end of a lead body of the stimulation lead and providing a plurality of conductor wires disposed in a plurality of conductor lumens formed in the lead body, wherein a portion of the conductor lumens is disposed beneath the conductive contacts;
connecting at least one of the plurality of conductor wires to each of the conductive contacts;
placing monofilament into at least one portion of at least one of the conductor lumens of the lead body that is not occupied by a conductor wire, wherein at least a portion of the monofilament is disposed beneath the conductive contacts; and
heating the monofilament to cause the monofilament to thermally reflow or melt.

10. The method of claim 9, further comprising placing spacers between pairs of adjacent conductive contacts.

11. The method of claim 10, wherein heating the monofilament comprises heating the monofilament and spacers to cause the monofilament to thermally reflow or melt and to cause the monofilament and spacers to thermally fuse together.

12. The method of claim 9, wherein a material of the spacers and the monofilament is the same.
13. The method of claim 9, wherein a material of the spacers and a material of the monofilament are different.
14. The method of claim 9, wherein the monofilament comprises polyurethane.
15. The method of claim 9, further comprising placing a heat shrink tubing around the conductive contacts and the monofilament.
16. A stimulation lead assembly for making a lead, the assembly comprising:
 - a lead body defining a plurality of conductor lumens;
 - a plurality of electrically conductive contacts disposed along an end of the lead body;
 - a plurality of spacers disposed between pairs of adjacent conductive contacts;
 - a plurality of conductor wires disposed in the conductor lumens, wherein at least one of the conductor wires is connected to each conductive contact; and monofilament disposed, at least in part, beneath the conductive contacts and within portions of the conductor lumens not occupied by conductor wire; and wherein the spacers and monofilament are thermally fused from heat applied to the lead assembly.
17. The lead assembly of claim 16, wherein the monofilament is a different material than the spacers.

18. The lead assembly of claim 16, wherein the monofilament is a same material as the spacers.

19. The lead assembly of claim 16, wherein the plurality of electrically conductive contacts are located on a proximal end of the stimulation lead.

20. The lead assembly of claim 16, wherein the plurality of electrically conductive contacts are located on a distal end of the stimulation lead.

ABSTRACT OF THE DISCLOSURE

[0053] A lead assembly and a method of making a lead are provided. The method of making a multi-contact lead assembly comprises placing monofilament placed in the void spaces not occupied by the plurality of conductor wires and, in one embodiment, thermally fusing the monofilament to the like material spacer by applying heat just below the melting temperature of the monofilament and spacer material. Alternatively, the monofilament and spacer may be of different materials and heat is applied to cause at least one material to thermally reflow or melt. The conductive contacts may be located at either the distal end and/or proximal end of the lead. Oversized spacers may be used in order to provide extra material to fill voids during the thermal fusion/reflow process.