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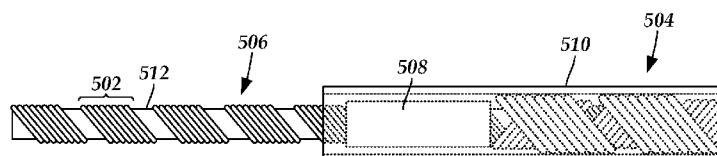


Fig. 5

(57) Abstract: An implantable lead includes an elongated member. A plurality of electrodes are disposed on a distal end of the elongated member. A plurality of terminals are disposed on a proximal end of the elongated member. Each of a plurality of conductors electrically couples at least one of the electrodes to at least one of the terminals. The plurality of conductors are disposed in the elongated member in a coiled configuration and have an end portion. Each of a plurality of constraining elements is disposed over at least one of the plurality of conductors such that the underlying at least one of the plurality of conductors is maintained in the coiled configuration. At least one of the plurality of electrodes or terminals is disposed over the constraining element and electrically coupled to at least one of the plurality of conductors.



INTERNATIONAL SEARCH REPORT

International application No

PCT/US2010/043875

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61N1/05

ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A61N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 016 646 A (GOTTHARDT GERHARD [AU] ET AL) 21 May 1991 (1991-05-21)	1,10,11
Y	abstract; figures 5, 10, 11 column 5, line 52 - column 6, line 43 -----	2-5
Y	US 2008/033497 A1 (BULKES CHERIK [US] ET AL) 7 February 2008 (2008-02-07) abstract; figures 17A, 17B -----	2-5
A	US 2009/157156 A1 (FOSTER ARTHUR J [US]) 18 June 2009 (2009-06-18) abstract; figure 3 -----	1-5,10, 11



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

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22/11/2011

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2010/043875

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-5, 10, 11

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-5, 10, 11

An implantable lead comprising a plurality of conductors
coiled such that the conductors form a single-layer region

2. claim: 6

An implantable lead comprising specially segmented
conductors

3. claims: 7, 8

An implantable lead comprising special spacers

4. claim: 9

An implantable lead comprising C-shaped constraining
elements

5. claims: 12-15

An electrical stimulating system comprising a control module

6. claims: 16-20

A method for forming an implantable lead comprising
uncoiling of conductors

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2010/043875

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5016646	A	21-05-1991	NONE

US 2008033497	A1	07-02-2008	EP 2079511 A1 22-07-2009
		WO 2008051913 A1	02-05-2008

US 2009157156	A1	18-06-2009	AT 509659 T 15-06-2011
		EP 2229210 A1	22-09-2010
		EP 2340869 A1	06-07-2011
		JP 2011500210 A	06-01-2011
		WO 2009079037 A1	25-06-2009
