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[Continued on next page]

(54) Title: SYSTEMS FOR DELIVERING SPINAL CORD STIMULATION

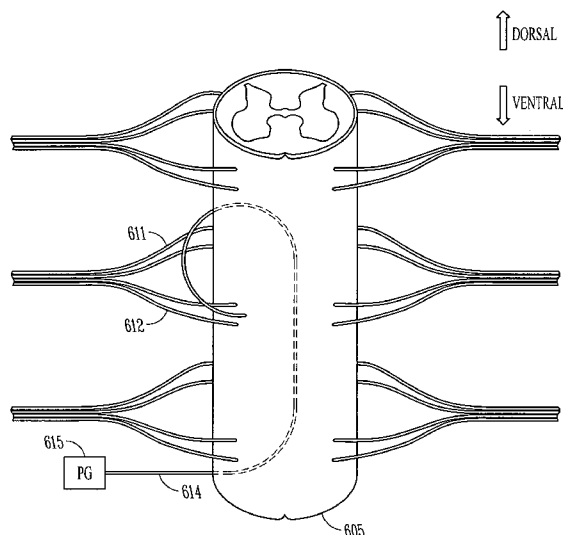


FIG. 6

(57) Abstract: Various system embodiments comprise a lead having a distal end and a proximal end. The distal end includes a plurality of electrodes. The lead is configured to be fed into a dorsal epidural space of a human to a desired region of a spinal column and to be fed laterally to at least partially encircle a spinal cord in the desired region to place at least one stimulation electrode in position to stimulate a dorsal nerve root and at least another stimulation electrode in position to stimulate a ventral nerve root. The desired region may include cervical vertebrae, thoracic vertebrae, or lumbar vertebrae. Some embodiments stimulate the spinal cord in the T1-T5 region.

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7 January 2010

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

# INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2009/002579

**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. A61N1/05

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 2004/116977 A1 (FINCH PHILIP M [AU] ET AL) 17 June 2004 (2004-06-17)--- abstract paragraphs [0004], [0016], [0038] paragraphs [0047], [0048], [0050] paragraph [0056] - paragraph [0061] -----	1-9, 11, 24-25
X	WO 2006/029257 A2 (SPINAL MODULATION INC [US]; KIM DANIEL H [US]; IMRAN MIR A [US]) 16 March 2006 (2006-03-16) abstract paragraphs [0010], [0078], [0079] paragraphs [0087], [0088], [0090] paragraphs [0100], [ 104], [0109] paragraphs [0112], [ 117], [0118] paragraphs [0123], [ 126], [0156] paragraphs [0157], [0160], [0163] ----- -/--	1-5, 7-11, 24-25

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)
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- \*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

13 November 2009

Date of mailing of the international search report

23/11/2009

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## INTERNATIONAL SEARCH REPORT

International application No

PCT/US2009/002579

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/039434 A1 (SCHROM MARK G [US] ET AL) 26 February 2004 (2004-02-26) paragraph [0011] paragraphs [0015], [0024] -----	1, 4, 8-9, 11
X	US 2002/156512 A1 (BORKAN WILLIAM N [US]) 24 October 2002 (2002-10-24) abstract paragraphs [0002], [0012], [0018] paragraph [0047] -----	1

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2009/002579

## 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.: 12-23  
because they relate to subject matter not required to be searched by this Authority, namely:  
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery
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.:

### 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: 1-11

implantable lead system  
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2. claims: 24-25

system for implanting a lead in position  
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2009/002579
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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