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- (81) **Designated States** (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

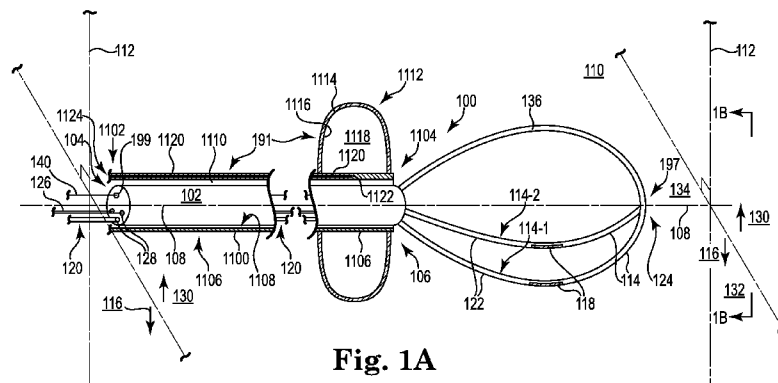
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- (88) **Date of publication of the international search report:**
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(54) **Title:** CATHETER AND CATHETER SYSTEM FOR ELECTRICAL NEUROMODULATION

**Fig. 1A**

- (57) **Abstract:** A catheter having an elongate body, at least two elongate stimulation members extending from the elongate body, at least one electrode on each of the elongate stimulation members, where the electrodes form an electrode array that receives and conducts electrical current. The elongate stimulation members curve only in the first volume defined at least in part by a first plane, and a second volume defined at least in part by the first plane and being opposite the first volume can contain no electrodes. The catheter can further include a position gauge having a marking that indicates a length between a second end of the elongate body and a bumper end of the position gauge. The catheter can also include a pulmonary artery catheter having a lumen, where the catheter extends through the lumen of the pulmonary artery catheter.



INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER INV. A61N1/36 ADD. A61M25/10		
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 A61M		
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 practicable, search terms used) EPO-Internal, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2012/149511 A2 (SYNECOR LLC [US]; RANSBURY TERRANCE [US]; SANDERS WILLIAM E [US]; STAC) 1 November 2012 (2012-11-01) pages 4,6-9; figures 2A-6B -----	1-15
A	US 2007/135875 A1 (DEMARAI DENISE [US] ET AL) 14 June 2007 (2007-06-14) the whole document -----	1-15
A	WO 97/24983 A2 (BIOSENSE ISRAEL LTD [IL]; BEN HAIM SHLOMO [IL]; GREENBERG ILAN [IL]; F) 17 July 1997 (1997-07-17) the whole document -----	1-15
☐ 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 application or patent 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 6 November 2015		Date of mailing of the international search report 01/03/2016
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016		Authorized officer Edward, Vinod

INTERNATIONAL SEARCH REPORT

International application No.
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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.:

1-15

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: 1-15

Catheter with two elongate stimulation members extending from the catheter elongate body

2. claims: 16-22

Catheter with a first anchor extending laterally from the peripheral surface of the elongate catheter body

3. claims: 23-27

Catheter with an attachment ring.

4. claims: 28-34

Catheter with an anchoring cage.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2015/031960

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2012149511 A2	01-11-2012	US 2014052208 A1 WO 2012149511 A2	20-02-2014 01-11-2012
US 2007135875 A1	14-06-2007	US 2007135875 A1 US 2011208096 A1 US 2014114305 A1 US 2015282877 A1	14-06-2007 25-08-2011 24-04-2014 08-10-2015
WO 9724983 A2	17-07-1997	AU 715925 B2 CA 2242353 A1 DE 69738547 T2 EP 0888082 A1 EP 1382293 A2 EP 1428472 A2 ES 2216124 T3 ES 2307871 T3 IL 116699 A IL 125261 A JP 4027976 B2 JP 2001502189 A US 6574492 B1 US 2002055674 A1 WO 9724983 A2	10-02-2000 17-07-1997 26-03-2009 07-01-1999 21-01-2004 16-06-2004 16-10-2004 01-12-2008 13-09-2001 31-10-2003 26-12-2007 20-02-2001 03-06-2003 09-05-2002 17-07-1997