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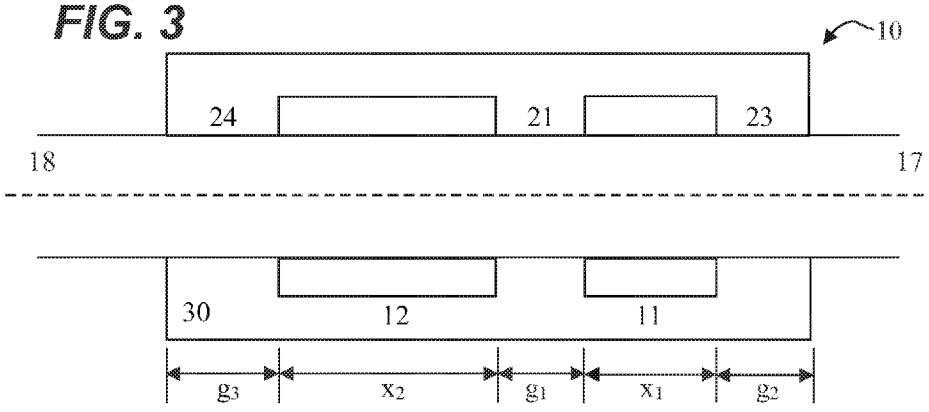
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(88) Date of publication of the international search report:
15 August 2019 (15.08.2019)

(54) Title: BIPOLOAR AND TRIPOLAR CONFIRGURATION FOR UNIDIRECTIONAL STIMULATION OF A-TYPE NERVE FIBRES

FIG. 3



(57) Abstract: There is provided a neural interface device (10) for unidirectional stimulation of a nerve comprising at least one A-type nerve fibre or at least one at least partially myelinated nerve fibre. The device comprises an electrode arrangement (15) for placing on or around the nerve. The electrode arrangement (15) comprises a first electrode (11) configured to be positively charged and a second electrode (12) configured to be negatively charged, where the surface area of the second electrode is larger than the surface area of first electrode.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
INV. A61N1/05 A61N1/20 A61N1/36
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 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	US 2014/214135 A1 (BEN-DAVID TAMIR [IL] ET AL) 31 July 2014 (2014-07-31) paragraphs [1255], [1547], [1548]; figures 2C, 18A, 19B ----- -/--	1-7, 13-15, 45,46, 49-57, 70-80, 92,93, 96,97, 99,100

[X] Further documents are listed in the continuation of Box C.

[X] 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	Date of mailing of the international search report
8 July 2019	17/07/2019

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Pfeiffer, Uwe

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Form PCT/ISA/210 (second sheet) (April 2005)

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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 2015/202433 A1 (FRANKE MANFRED [DE] ET AL) 23 July 2015 (2015-07-23) paragraphs [0041], [0033] - [0035]; figures 1, 2, 7	1,8-12, 16-31, 45,46, 49, 58-69, 92,93, 96,97, 99,100
X	US 2006/136024 A1 (COHEN EHUD [IL] ET AL) 22 June 2006 (2006-06-22) figure 16 the whole document	1,49
X	US 2014/228905 A1 (BOLEA STEPHEN L [US]) 14 August 2014 (2014-08-14) figure 27h the whole document	49

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. [X] Claims Nos.: 32-44, 47, 48, 81-91, 94, 95, 98, 101
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 therapy;Rule 39.1(vi) PCT - Program for computers;
Rule 39.1(ii) PCT - Animal variety

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:

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.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/GB2018/053597

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2014214135 A1	31-07-2014	NONE	
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		WO 2015108909 A1	23-07-2015
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