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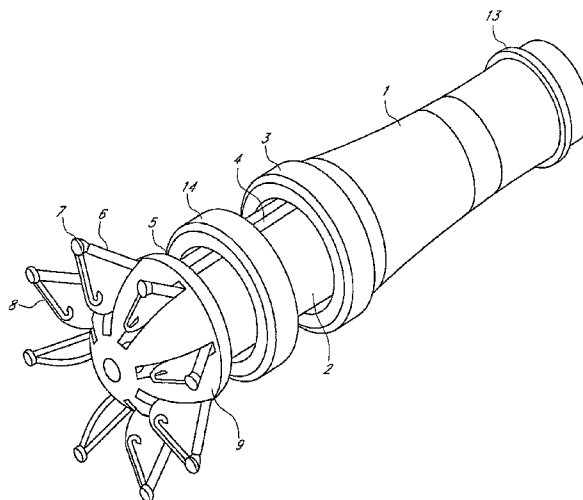
- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:

25 October 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: APPARATUS FOR MAGNETICALLY DEPLOYABLE CATHETER WITH MOSFET SENSOR AND METHOD FOR MAPPING AND ABLATION



(57) Abstract: A mapping and ablation catheter is described. In one embodiment, the catheter includes a MOSFET sensor array that provides better fidelity of the signal measurements as well as data collection and reduces the error generated by spatial distribution of the isotropic and anisotropic wavefronts. In one embodiment, the system maps the change in potential in the vicinity of an activation wavefront. In one embodiment, the mapping system tracks the spread of excitation in the heart, with properties such as propagation velocity changes. In one embodiment, during measurement, the manifold carrying the sensor array expands from a closed position state to a deployable open state. Spatial variation of the electrical potential is captured by the system's ability to occupy the same three-dimensional coordinate set for repeated measurements of the desired site. In one embodiment, an interpolation algorithm tracks the electrogram data points to produce a map relative to the electrocardiogram data.



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INTERNATIONAL SEARCH REPORT

International application No

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A. CLASSIFICATION OF SUBJECT MATTER

INV. A61B18/14

ADD. A61B5/04

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)

A61B

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.
A	US 2005/256521 A1 (KOZEL PETER D [US]) 17 November 2005 (2005-11-17) paragraphs [0041], [0047]; figure 5 -----	1
A	BERGVELD P: "DEVELOPMENT, OPERATION, AND APPLICATION OF THE ION-SENSITIVE FIELD-EFFECT TRANSISTOR AS A TOOL FOR ELECTROPHYSIOLOGY" IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING, IEEE SERVICE CENTER, PISCATAWAY, NJ, US, vol. BME-19, no. 5, September 1972 (1972-09), pages 342-351, XP001040798 ISSN: 0018-9294 the whole document ----- -/--	1

☒ 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

16 August 2007

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24/08/2007

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INTERNATIONAL SEARCH REPORT

International application No
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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.
A	WO 2005/112813 A (BARD INC C R [US]; FALWELL GARY S [US]; BROWN ERIK [US]) 1 December 2005 (2005-12-01) abstract -----	1
A	US 3 628 527 A (WEST LAURICE J) 21 December 1971 (1971-12-21) column 2, line 24 - line 54; figure 2 -----	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/004416

Box 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.: 34-46
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 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 fee, this Authority did not invite payment of any additional fee.
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.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/004416

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2005256521	A1	17-11-2005	NONE	
WO 2005112813	A	01-12-2005	EP 1761186 A1	14-03-2007
US 3628527	A	21-12-1971	NONE	