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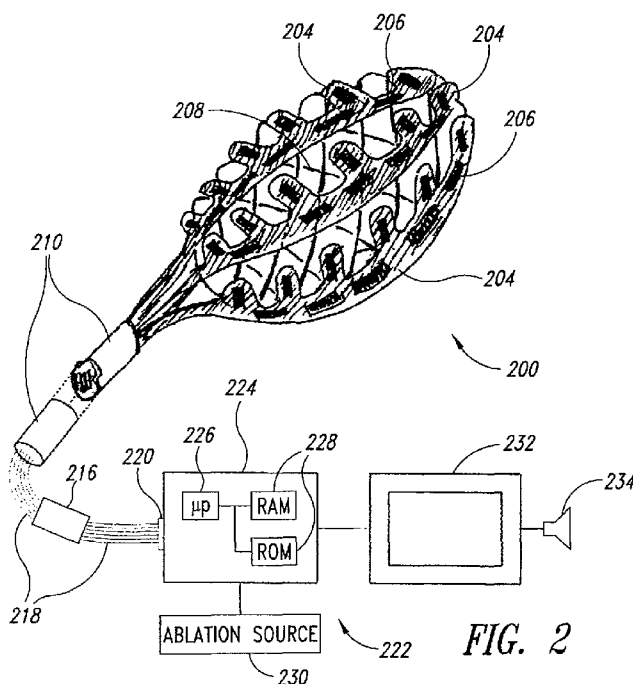
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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Declarations under Rule 4.17:

[Continued on next page]

(54) Title: MEDICAL DEVICE FOR USE IN BODILY LUMENS, FOR EXAMPLE AN ATRIUM BACKGROUND



(57) Abstract: A device positionable in a cavity of a bodily organ (e.g., a heart) may discriminate between fluid (e.g., blood) and non-fluid tissue (e.g., wall of heart) to provide information or a mapping indicative of a position and/or orientation of the device in the cavity. Discrimination may be based on flow, or some other characteristic, for example electrical permittivity or force. The device may selectively ablate portions of the non-fluid tissue based on the information or mapping. The device may detect characteristics (e.g., electrical potentials) indicative of whether ablation was successful. The device may include a plurality of transducers, intravascularly guided in an unexpanded configuration and positioned proximate the non-fluid tissue in an expanded configuration. Expansion mechanism may include helical member(s) or inflatable member(s).



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- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))* — *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))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
- (88) Date of publication of the international search report:**
21 January 2010
- Published:**
- *with international search report (Art. 21(3))*

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2008/083644

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61B18/14

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, 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 2006/105121 A (MINNOW MEDICAL LLC [US]; STONE CORBETT W [US]; HOEY MICHAEL F [US]; ST) 5 October 2006 (2006-10-05) abstract; figures 12A,12B paragraphs [0083], [0105], [0106], [0123], [0135], [0139]	1-6,8-10
Y	-----	7
Y	US 2002/107511 A1 (COLLINS RUSSELL F [US] ET AL) 8 August 2002 (2002-08-08) abstract; figures 4-6 paragraph [0047] - paragraph [0059] -----	7

☐ 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

6 August 2009

Date of mailing of the international search report

02/12/2009

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2008/083644

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.: 11-15
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.:

see annex

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: 1-10

A medical system comprising an device positionable in a portion of a bodily organ, the device comprising a plurality of transducer elements, wherein at least some of the transducer elements are responsive to a characteristic of at least one of a fluid and a non-fluid tissue characterized by a computing system configured to discriminate between fluid and non-fluid tissue

2. claims: 16-30

A medical system comprising an expandable device positionable in the vascular system, the device comprising a plurality of transducer elements movable in response to the expansion of the device, wherein at least some of the transducer elements are responsive to a characteristic of at least one of a fluid and a non-fluid tissue characterized by an expandable transducer moving helical member

3. claims: claims 31-44

A medical system comprising an expandable device positionable in the vascular system, the device comprising a plurality of transducer elements movable in response to the expansion of the device, wherein at least some of the transducer elements are responsive to a characteristic of at least one of a fluid and a non-fluid tissue characterized by an inflatable transducer moving member

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/083644

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2006105121 A	05-10-2006	CN 101511292 A	19-08-2009
		EP 1865870 A2	19-12-2007
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