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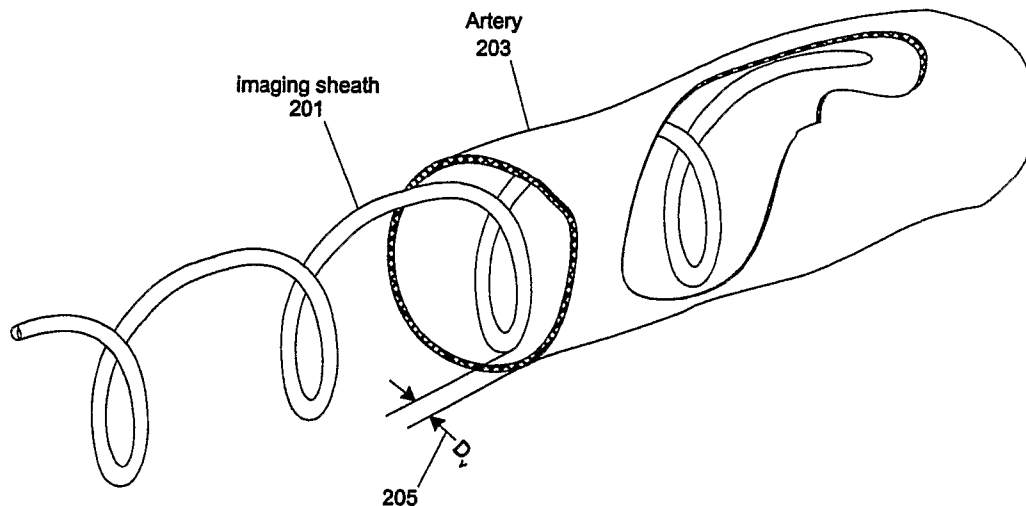
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(54) Title: METHODS AND APPARATUSES FOR POSITIONING WITHIN AN INTERNAL CHANNEL



(57) Abstract: Methods and apparatuses for positioning medical devices onto (or close to) a desired portion of the interior wall of an internal channel, such as for scan imaging, for photodynamic therapy and/or for optical temperature measurement. In one embodiment, a catheter assembly has a distal portion that can be changed from a configuration suitable for traversing the internal channel to another configuration suitable for scan at least a spiral section of the interior wall of an internal channel, such as an artery. In one example, the distal portion spirals into gentle contact with (or close to) a spiral section of the artery wall for Optical Coherence Tomography (OCT) scanning. The spiral radius may be changed through the use of a guidewire, a tendon, a spiral balloon, a tube, or other ways.

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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.

INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
 INV. A61B5/00 A61M25/00 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)
 A61M 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, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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| Y | paragraph [0011] - paragraph [0032] paragraph [0033] - paragraph [0036] figures 1,11 | 20-33, 82-84, 89,90 |
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Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents :

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|---|---|
| *A* document defining the general state of the art which is not considered to be of particular relevance | *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 |
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| *P* document published prior to the international filing date but later than the priority date claimed | |

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International application No

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2005/045509

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.: 61-78
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:

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 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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: Claims 1,2

An elongated assembly comprising a distal portion having an elongated sheath to house a core, a guide structure, the elongated sheath having first an second configuration, the second configuration having a spiral shape wherein the core is to detect a chemical and the elongated sheath is permeable to the chemical.

2. claim: 3

An elongated assembly comprising a distal portion having an elongated sheath to house a core, a guide structure, the elongated sheath having first an second configuration, the second configuration having a spiral shape wherein the core includes a temperature sensor.

3. claims: 4-60,79-96

An elongated assembly comprising a distal portion having an elongated sheath to house a core, a guide structure, the elongated sheath having first an second configuration, the second configuration having a spiral shape wherein the core is capable of a t least one of projecting an optical beam onto a portion of the vessel and receiving a light from a portion of the vessel or wherein the at least portion of the sheath is transparent to allow passage of light.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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