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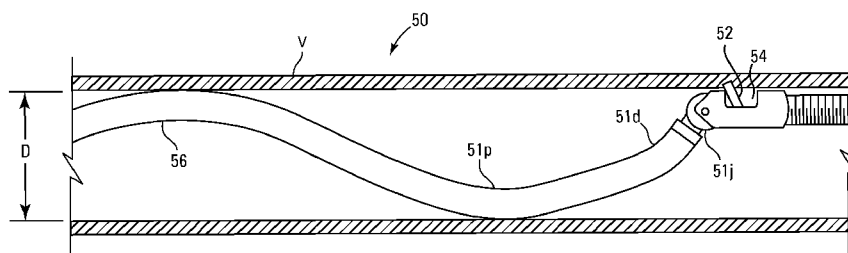
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- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

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(54) Title: DEVICES AND METHODS FOR MANIPULATING A CATHETER SHAFT

Fig. 4B



(57) Abstract: A catheter for performing a procedure at a treatment site in the lumen of a blood vessel. The catheter includes an elongate tubular shaft having a proximal bend, a distal bend and a hinge element. A distal portion of the shaft includes a window extending through the sidewall of the shaft between the hinge element and the distal end of the elongate tubular shaft. A working element is disposed within the lumen of the elongate tubular shaft and is configured for performing the procedure through the window at the treatment site. The bends and hinge element are configured to urge the window against a wall of the vessel at the treatment site.



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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2009/060496

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61B17/3207

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 2005/177068 A1 (SIMPSON JOHN B [US]) 11 August 2005 (2005-08-11) cited in the application paragraph [0010] - paragraph [0015]	1-8, 11-14, 17,32-52
A	US 2007/265647 A1 (BONNETTE MICHAEL JOHN [US] ET AL) 15 November 2007 (2007-11-15) figure 14	1-8, 11-14, 17,32-52
A	US 4 781 186 A (SIMPSON JOHN B [US] ET AL) 1 November 1988 (1988-11-01) the whole document	1-8, 11-14, 17,32-52



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

19 February 2010

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03/05/2010

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/060496

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.: 18-29
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.:
1-8, 11-14, 17, 32-52

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: 1-8, 11-14, 17, 32-52

A catheter having a bend distal end, a hinge and a window extending through the sidewall of the catheter in which a working element is disposed for performing a surgical procedure. The special technical features of this group of claims solve the problem to bring the catheter cutter into contact with the inner wall of a vessel.

2. claims: 9-10, 15-16, 30-31

A device for manipulating the shaft of a catheter. The problem to be solved is to have better steering control for the catheter.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2009/060496

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2005177068	A1	11-08-2005	NONE
US 2007265647	A1	15-11-2007	NONE
US 4781186	A	01-11-1988	NONE