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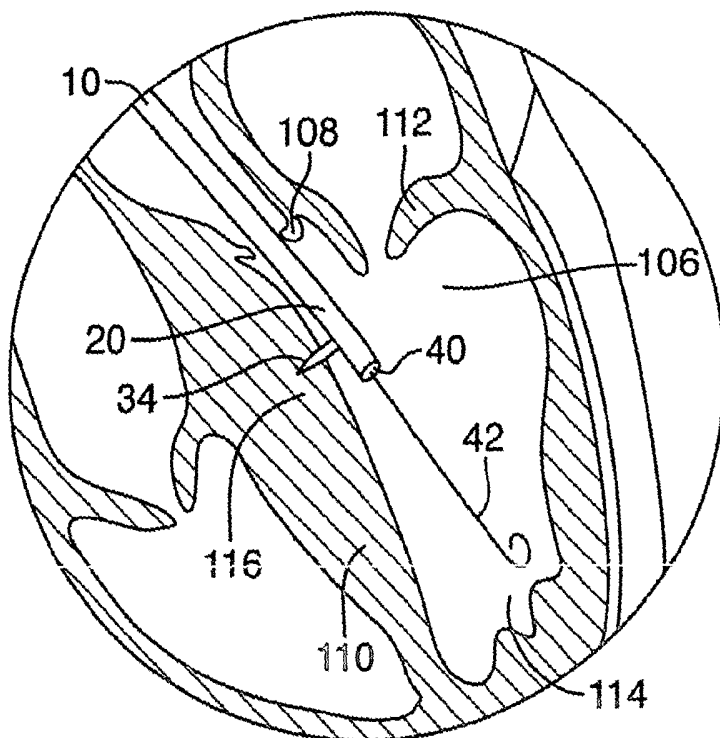
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[Continued on next page]

(54) Title: SIDE-EXIT CATHETER AND METHOD FOR ITS USE



(57) Abstract: Disclosed is a device for delivering a therapeutic or diagnostic agent to an anatomic position, such as a heart. The device includes a flexible catheter having a proximal end and a distal end, a guide wire lumen that extends longitudinally through the catheter, and a delivery lumen that extends longitudinally at least partially through the catheter. The delivery lumen communicates with a side port adjacent a distal end of the catheter, through which side port a therapeutic or diagnostic agent may be delivered. The device also may include a guide wire, and the catheter may be advanced along the guide wire via the guide wire lumen. The device also may include a secondary catheter capable of sliding through the delivery lumen and capable of delivering a liquid, solid, or radiant agent to a desired anatomic location; thus, the secondary catheter may be considered a delivery catheter. The device may be used to deliver a therapeutic agent to a particular body location in a subject suffering

a disease. In certain embodiments, the device may be used to deliver an ablative agent to the heart of a subject suffering hypertrophic cardiomyopathy.



WO 03/013641 A3



European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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6 November 2003

Declaration under Rule 4.17:

— *of inventorship (Rule 4.17(iv)) for US only*

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.

Published:

— *with international search report*

INTERNATIONAL SEARCH REPORT

 International Application No
 PCT/US 02/25494

 A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 A61M25/01

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)

IPC 7 A61M

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

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 713 363 A (TAJIK ABDUL JAMIL ET AL) 3 February 1998 (1998-02-03) column 4, line 26 - line 56 column 6, line 60 - column 7, line 17; figures	1-5,7-21
X	WO 01 45785 A (ADVANCED CARDIOVASCULAR SYSTEM) 28 June 2001 (2001-06-28) abstract; figures	1-5,7, 11,12
X	US 4 774 949 A (FOGARTY THOMAS J) 4 October 1988 (1988-10-04)	1-3,7-9
A	column 2, line 55 - line 64; figures -/--	11-14,18



Further documents are listed in the continuation of box C.



Patent family members are listed in 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

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 02/25494

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 053 911 A (RYAN TIMOTHY J ET AL) 25 April 2000 (2000-04-25) cited in the application column 5, line 56 -column 7, line 4; figures -----	1-3,5,6, 8,10,11, 18,20,21

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 02/25494**Box I Observations where certain claims were found unsearchable (Continuation of item 1 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.: 22-37
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 II Observations where unity of invention is lacking (Continuation of item 2 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/US 02/25494

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