



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification⁶ : A61M 25/01</p>	<p>A3</p>	<p>(11) International Publication Number: WO 99/62584</p> <p>(43) International Publication Date: 9 December 1999 (09.12.99)</p>
<p>(21) International Application Number: PCT/US99/12675</p> <p>(22) International Filing Date: 4 June 1999 (04.06.99)</p> <p>(30) Priority Data: 09/092,254 5 June 1998 (05.06.98) US</p> <p>(71) Applicant: THEROX, INC. [US/US]; 2400 Michaelson Drive, Irvine, CA 92612-1310 (US).</p> <p>(72) Inventors: DIVINO, Vincent, Jr.; 24436 Muela, Mission Viejo, CA 92692 (US). MERRITT, John; 222 Barcelona, San Clemente, CA 92672 (US). FOERSTER, Seth, A.; 758 Via Otono, San Clemente, CA 92672 (US). HOMET, William, C.; 31608 Calle La Purisma, San Juan Capistrano, CA 92675 (US). ZALESKY, Paul, J.; 20292 Harpoon Circle, Huntington Beach, CA 92646 (US).</p> <p>(74) Agent: FLETCHER, Michael, G.; Fletcher, Yoder & Van Someren, P.O. Box 692289, Houston, TX 77269-2289 (US).</p>		<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report.</i></p> <p>(88) Date of publication of the international search report: 10 February 2000 (10.02.00)</p>
<p>(54) Title: FLUID DELIVERING GUIDE WIRE</p>		
<p>(57) Abstract</p> <p>The present invention is a device for insertion into a human or animal body, in a preferred embodiment a perfusion guidewire capable of delivering perfusion fluids to a vascular site while at the same time exhibiting handling characteristics associated with existing non-perfusion guidewires. Preferred embodiments include a perfusion guidewire which closely matches the dimensions and physical characteristics of standard guidewires. Preferred embodiments also permit high pressure perfusion of oxygen-supersaturated solutions, and include a diffuser segment which divides the flow and reduces fluid velocity, thereby providing an atraumatic, non-cavitating, bubble-free delivery to the patient. The invention also encompasses the attachment of a core wire within a tubular housing to provide superior characteristics to such guidewires, balloon catheters and similar devices.</p>		

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 99/12675

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 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 6 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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 49447 A (THEROX INC ;UNIV WAYNE STATE (US)) 31 December 1997 (1997-12-31)	1-10,13, 14, 16-18, 21-23, 26-29, 31-35
Y	* The Whole Document *	11,12, 15,20,36
A		24,25
Y	--- WO 97 11735 A (INTERVENTIONAL INNOVATIONS COR) 3 April 1997 (1997-04-03) abstract; figures 1-3 ---	11,20,36
Y	--- US 5 067 489 A (LIND) 26 November 1991 (1991-11-26) abstract; figures 1,2 ---	12
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

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- *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.
- *Z* document member of the same patent family

Date of the actual completion of the international search

27 August 1999

Date of mailing of the international search report

07.12.1999

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/12675

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 490 459 A (KENDALL & CO) 17 June 1992 (1992-06-17) abstract; figures 2,3 ---	15
A	US 5 322 508 A (VIERA) 21 June 1994 (1994-06-21) ---	
A	US 5 376 083 A (MISCHE) 27 December 1994 (1994-12-27) ---	
A	US 5 569 197 A (FORMAN ET AL.) 29 October 1996 (1996-10-29) -----	

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 99/ 12675

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.:
because they relate to subject matter not required to be searched by this Authority, namely:

- 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.- Claims 1-36: A fluid delivering guidewire
- 2.- Claims 37-41: A method for securing a corewire within a tube

- 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.:

1-36

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 99/12675

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