(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 27 June 2002 (27.06.2002)

PCT

(10) International Publication Number WO 02/049704 A3

(51) International Patent Classification⁷: A61M 25/01

(21) International Application Number: PCT/US01/50505

(22) International Filing Date:

20 December 2001 (20.12.2001)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

09/748,089

21 December 2000 (21.12.2000) U

(71) Applicant: ADVANCED CARDIOVASCULAR SYSTEMS, INC. [US/US]; 3200 Lakeside Drive, Santa Clara, CA 95054-2807 (US).

- (72) Inventors: ANDERSON, David, M.; 43086 Manchester Court, Temecula, CA 92592 (US). BIAGTAN, Emmanuel, C.; 43001 Manchester Court, Temecula, CA 92592 (US). CORNISH, Wayne, E.; 1650 Scooter Lane, Fallbrook, CA 92028 (US). WONG, Sharon, Y.; 2378 35th Avenue, San Francisco, CA 94116 (US).
- (74) Agents: FENG, Paul, Y. et al.; Fulwider Patton Lee & Utecht, LLP, Howard Hughes Center, 6060 Center Drive, Tenth Floor, Los Angeles, CA 90045 (US).

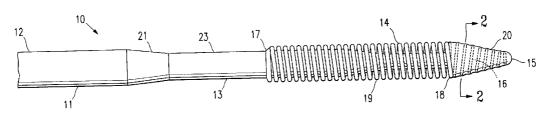
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, 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, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 10 October 2002

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.

(54) Title: GUIDEWIRE WITH TAPERED DISTAL COIL



(57) Abstract: A guidewire having a flexible coil with a tapered distal tip. Preferably, the flexible coil has a polymer coating at least at its tapered distal portion. The polymer coating may comprise polyurethanes or other suitable polymers. The guidewires of the invention provide desirable performance characteristics, particularly when used to cross relatively tight lesions such as chronic total occlusions.

INTERNATIONAL SEARCH REPORT

Internation Application No PCT/US 01/50505

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT						
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.				
Х	US 4 748 986 A (MORRISON DAVID W ET AL) 7 June 1988 (1988-06-07) column 1, line 59 -column 4, line 31; figure 4	1,8,9, 12-16				
Y	US 3 973 556 A (FLEISCHHACKER JR JOSEPH F ET AL) 10 August 1976 (1976-08-10) column 2, line 17 - line 34 column 3, line 4 column 4, line 3 - line 25	1–16				
Y	US 5 001 825 A (HALPERN DAVID S) 26 March 1991 (1991-03-26) column 2, line 59 -column 3, line 38; figure 2/	1,3,12, 13,16				

Further documents are listed in the continuation of box C.	Patent family members are listed in annex.		
"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 clted 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 2 August 2002	Date of mailing of the international search report 20/08/2002		
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Authorized officer Péru, L		

INTERNATIONAL SEARCH REPORT

Internation Application No
PCT/US 01/50505

C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 884 579 A (ENGELSON ERIK T) 5 December 1989 (1989-12-05) column 2, line 10 - line 12 column 4, line 50 column 5, line 60 - line 66	4-6
	column 6, line 58 - line 61	
Υ	US 5 107 852 A (DAVIDSON DANIEL F ET AL) 28 April 1992 (1992-04-28) column 2, line 57; claim 1	7
Y	US 4 619 274 A (MORRISON DAVID W) 28 October 1986 (1986-10-28) column 1, line 66 -column 3, line 27; figures 2-8	8-11
Y	US 5 259 393 A (CORSO JR PHILIP P ET AL) 9 November 1993 (1993-11-09) column 1, line 63 - line 67 column 3, line 58 - line 60	14,15

INTERNATIONAL SEARCH REPORT

Information on patent family members

Internation Application No
PCT/US 01/50505

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 4748986	Α	07-06-1988	NONE		
US 3973556	Α	10-08-1976	NONE		
US 5001825	Α	26-03-1991	NONE		
US 4884579	Α	05-12-1989	AT	110972 T	15-09-1994
			ΑU	624383 B2	11-06-1992
			AU	3554389 A	24-11-1989
			CA	1307987 A1	29-09-1992
			DE	8916214 U1	16-02-1995
			DE	68918092 D1	13-10-1994
			DE	68918092 T2	12-01-1995
			EP	0411040 A1	06-02-1991
			JP	3505168 T	14-11-1991
			JP	5081272 B	12-11-1993
			WO	8910088 A1	02-11-1989
US 5107852	Α	28-04-1992	CA	2083593 A1	03-10-1991
			EP	0523088 A1	20-01-1993
			WO	9115251 A1	17-10-1991
US 4619274	Α	28-10-1986	CA	1265011 A1	30-01-1990
			DE	3670001 D1	10-05-1990
			EP	0200430 A1	05-11-1986
			JP	1898963 C	23-01-1995
			JP	6011339 B	16-02-1994
			JP	62000363 A	06-01-1987
US 5259393	Α	09-11-1993	NONE		