

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 June 2011 (09.06.2011)

PCT

(10) International Publication Number
WO 2011/069154 A3

(51) International Patent Classification:

A61M 25/02 (2006.01) A61L 27/06 (2006.01)
A61M 25/04 (2006.01) A61F 2/06 (2006.01)

(21) International Application Number:

PCT/US2010/059086

(22) International Filing Date:

6 December 2010 (06.12.2010)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/283,492 5 December 2009 (05.12.2009) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,

[Continued on next page]

(54) Title: DELIVERY SYSTEM, METHOD, AND ANCHOR FOR MEDICAL IMPLANT PLACEMENT

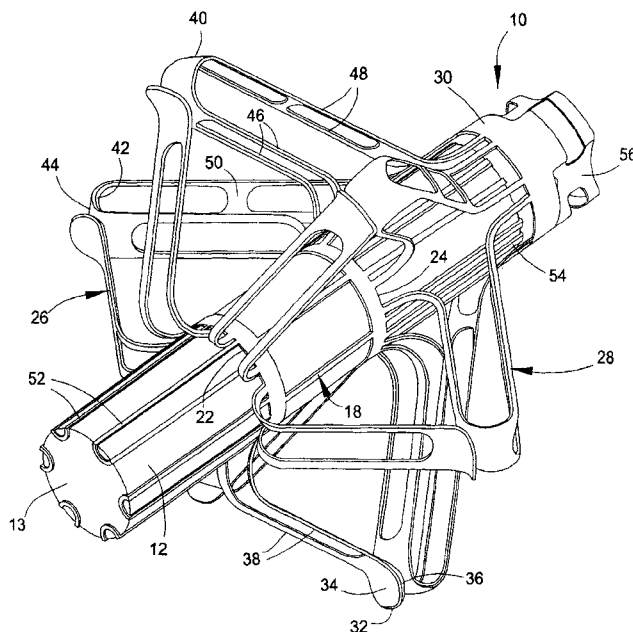


FIG. 1

(57) Abstract: An anchor (10) for a medical implant (12), methods of manufacturing the anchor (10), and procedures for placing a medical implant (12), such as for diagnosing, monitoring and/or treating cardiovascular diseases. The anchor (10) has a base portion (18) with first and second longitudinal ends (22,24) and a cage (20) therebetween. The anchor (10) further has flexible arms (26), flexible legs (28), features (52,54) for securing the medical implant (12) within the cage (20) of the base portion (18), and a coupler portion (30) connected to and spaced apart from the second longitudinal end (24) of the base portion (18). The anchor (10) is adapted to have a deployed configuration in which the arms (26) and legs (28) radially project away from the base portion (18), the arms (26) axially project toward the second longitudinal end (24) of the base portion (18), and the legs (28) axially project toward the first longitudinal end (22) of the base portion (18). Convex surfaces (36,44) of the arms (26) and legs (28) are adapted to clamp the anchor (10) to a wall (102).

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SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

— *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))*

Published:

— *with international search report (Art. 21(3))*

(88) Date of publication of the international search report:

27 October 2011

A. CLASSIFICATION OF SUBJECT MATTER*A61M 25/02(2006.01)i, A61M 25/04(2006.01)i, A61L 27/06(2006.01)i, A61F 2/06(2006.01)i*

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 25/02; A61B 5/04; A61B 5/02; A61B 19/00; A61B 5/07; A61N 1/00; A61B 5/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: implant,anchor,catheter,heart

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007-0179583 A1 (GOETZINGER) 02 August 2007	1,7,11-12,14-21 ,24-27
A	See the abstract; claims 1, 3, 13, 23, 28, 39, and 42; paragraph 9; and figs 1 and 12.	2-6,8-10,13,22-23
A	US 2002-0077555 A1 (SCHWARTZ) 20 June 2002 See claims 1-3 and 6-8; paragraphs 27-29 and 97-98; and figs. 1 and 12.	1-27
A	US 2004-0116992 A1 (WARDLE et al.) 17 June 2004 See claims 1 and 33; paragraphs 14-16 and 60-62; and figs.1-2 and 17-21.	1-27
A	US 2009-0005656 A1 (NAJAFI et al.) 01 January 2009 See the abstract; claims 14-17; paragraphs 49-50; and figs.12-15.	1-27

 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 application or patent 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 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

30 AUGUST 2011 (30.08.2011)

Date of mailing of the international search report

30 AUGUST 2011 (30.08.2011)

Name and mailing address of the ISA/KR


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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.: 28-40
because they relate to subject matter not required to be searched by this Authority, namely:
Claims 28-40 pertain to methods for treatment of the human body by therapy or surgery, and thus relate to a subject matter which this international Searching Authority is not required to search under Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT.
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:

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 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.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/059086

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007-0179583 A1	02.08.2007	US 2005-0065589 A1	24.03.2005
		US 2008-0051863 A1	28.02.2008
		US 7317951 B2	08.01.2008
		US 7634319 B2	15.12.2009
		US 7860579 B2	28.12.2010
US 2002-0077555 A1	20.06.2002	AT 307526 T	15.11.2005
		AU 2001-97074 A1	20.06.2002
		AU 2001-97074 B2	06.01.2005
		AU 2002-40657 A1	12.12.2002
		AU 2002-40657 B2	22.06.2006
		AU 2002-40657 C	12.12.2002
		AU 2002-40659 A1	12.12.2002
		AU 2002-40659 B2	30.06.2005
		AU 2002-40659 C	12.12.2002
		AU 4065902 A	12.12.2002
		AU 782006 C	09.02.2006
		AU 784804 C	18.01.2007
		CA 2365207 A1	18.06.2002
		CA 2389061 A1	08.12.2002
		CA 2389637 A1	08.12.2002
		DE 60206837 D1	01.12.2005
		DE 60206837 T2	27.07.2006
		EP 1216655 A1	26.06.2002
		EP 1216655 B1	22.02.2006
		EP 1264572 A1	11.12.2002
		EP 1264572 B1	17.08.2005
		EP 1266606 A2	18.12.2002
		EP 1266606 A3	07.05.2003
		EP 1266606 B1	26.10.2005
		ES 2252394 T3	16.05.2006
		HK 1050623 A1	12.05.2006
		JP 03971177 B2	05.09.2007
		JP 04267259 B2	27.02.2009
		JP 2002-360523 A	17.12.2002
		JP 2003-019136 A	21.01.2003
		JP 2003-061917 A	04.03.2003
		KR 10-0858637 B1	17.09.2008
		KR 10-0862173 B1	09.10.2008
KR 10-0889697 B1	24.03.2009		
KR 10-2002-0093609 A	16.12.2002		
US 2002-0077554 A1	20.06.2002		
US 2002-0077556 A1	20.06.2002		
US 2006-0161171 A1	20.07.2006		
US 6652464 B2	25.11.2003		
US 6746404 B2	08.06.2004		
US 6783499 B2	31.08.2004		
US 7229415 B2	12.06.2007		

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/059086

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2004-0116992 A1	17.06.2004	AU 2003-276999 A1	19.04.2004
		AU 2003-276999 A8	19.04.2004
		EP 1549394 A2	06.07.2005
		EP 1549394 A4	09.09.2009
		JP 2006-500991 A	12.01.2006
		US 2005-0288596 A1	29.12.2005
		US 2005-0288604 A1	29.12.2005
		US 2005-0288722 A1	29.12.2005
		US 2007-0106328 A1	10.05.2007
		US 7149587 B2	12.12.2006
		US 7509169 B2	24.03.2009
		US 7890186 B2	15.02.2011
		WO 2004-028348 A2	08.04.2004
		WO 2004-028348 A3	17.06.2004
		US 2009-0005656 A1	01.01.2009
US 2008-0269573 A1	30.10.2008		
WO 2008-134706 A1	06.11.2008		
WO 2009-006249 A1	08.01.2009		