

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
13 April 2006 (13.04.2006)

PCT

(10) International Publication Number
WO 2006/039145 A3

(51) International Patent Classification:
A61N 1/362 (2006.01)

(21) International Application Number:
PCT/US2005/033577

(22) International Filing Date:
20 September 2005 (20.09.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/956,973 1 October 2004 (01.10.2004) US

(71) Applicant and

(72) Inventor: STAMOS, Thomas, S. [US/US]; 1441 Schoetler Road, Chesterfield, MO 63017 (US).

(74) Agent: CHERVITZ, David, H.; Polster, Lieder, Woodruff & Lucchesi, L.C., 12412 Powerscourt Drive, Suite 200, St. Louis, MO 63131 (US).

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

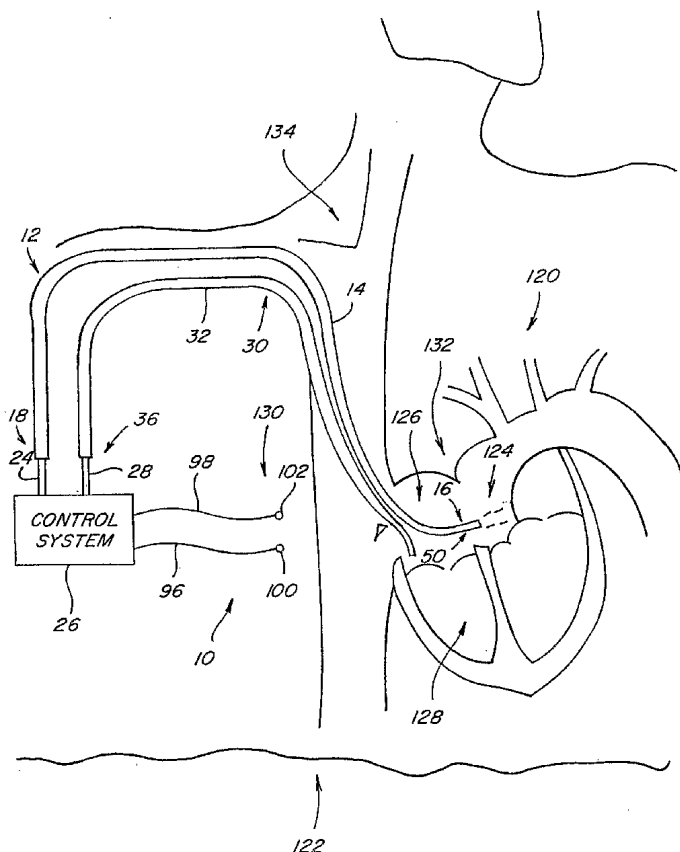
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:
9 April 2009

(54) Title: DEVICE FOR DRAINING THE CORONARY SINUS



(57) Abstract: A device for draining a coronary sinus comprises a first catheter having a distal end, a proximal end, and a passage there through, the distal end adapted to be placed in a coronary sinus, a second catheter having a distal end, a proximal end, and a passage there through, the distal end adapted to be placed in a right side of a heart, and a control system for receiving signals indicative of a coronary sinus needing to be drained of blood, the control system comprising a pump for pumping blood from a coronary sinus through the first catheter to the second catheter into a right side of a heart.

WO 2006/039145 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/33577

A. CLASSIFICATION OF SUBJECT MATTER

IPC: **A61N 1/362**(2006.01)

USPC: 600/17

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)

U.S. : 600/16,17; 623/3.1,3.26,3.28

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 practicable, 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	USPGPUB 2001/002787 (SHUMLEWITZ et al) 4 October 2001 (04.10.2001), Paragraphs 42-44, Figures 3-4	1-2, 7
---		-----
Y		3-6, 8-16
Y	US 5,425,708 (NASU) 20 June 1995 (20.06.1995) Abstract	4
Y	US 5,609,629 (FEARNOT et al) 11 March 1997 (11.03.1997), Abstract.	5
Y	US 6,117,077 (DEL MAR et al) 12 September 2000 (12.09.2000), column 7, lines 55-65; Figure 6	3,6
Y	US 4,934,996 (MOHL et al) 19 June 1990 (19.06.1990), column 3, lines 61-70	8-16

☐ 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 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

"I" 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

27 May 2008 (27.05.2008)

Date of mailing of the international search report

23 JUN 2008

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US

Commissioner for Patents

P.O. Box 1450

Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Authorized officer

Angela Sykes

Telephone No. (571) 272-3700