(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 2 August 2007 (02.08.2007)

(10) International Publication Number WO 2007/087368 A3

(51) International Patent Classification: *A61B 17/08* (2006.01)

(21) International Application Number:

PCT/US2007/001942

(22) International Filing Date: 24 January 2007 (24.01.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

11/340,324 25 January 2006 (25.01.2006) US

(71) Applicant and

(72) Inventor: HEUSER, Richard, R. [US/US]; Phoenix Heart Center, 500 W. Thomas Road, Suite 900, Phoenix, AZ 85013 (US).

(74) Agent: HEUSER, Peter, E.; Kolisch Hartwell, P.C., 520 SW Yamhill St., Suite 200, Portland, OR 97204 (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, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

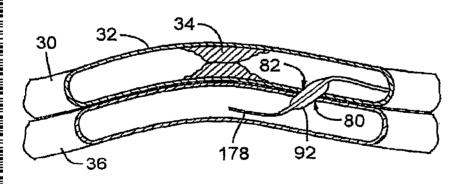
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, 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
- 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:

27 March 2008

(54) Title: CATHETER SYSTEM FOR CONNECTING ADJACENT BLOOD VESSELS



(57) Abstract: A catheter system is provided for creating a fistula between blood vessels, using a first catheter with a piercing tool adjacent its distal end, and a second catheter with a receptor adjacent its distal end The receptor includes an opening and a channel providing a guide surface for receiving the piercing tool The receptor and piercing tool include one or more magnets to draw the piercing tool into the channel of

the receptor The piercing tool and the receptor are provided with a complementary configuration, such as mating conical shapes A third catheter may be provided with a double balloon for use in sealing off the fistula site The piercing tool may be provided on a metal guidewire that includes a lumen with a distal opening The piercing tool may include a base and a needle coupled to the base at a nominal angle of at least about 20-degrees.

WO 2007/087368 A3 III

INTERNATIONAL SEARCH REPORT

International application No. PCT/US07/01942

	<u></u>		
A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - A61B 17/08 (2007.01) USPC - 606/153 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(8) - A61B 17/08 (2007.01) USPC - 606/153			
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) MicroPatent			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category*	Citation of document, with indication, where ap	ppropriate, of the relevant passages	Relevant to claim No.
X	US 6,190,353 B1 (MAKOWER et al) 20 February 2001 (20.02.2001) entire document		19-25
Y			1-18
Y	US 2005/0125011 A1 (SPENCE et al) 09 June 2005 (09.06.2005) entire document		1-18
Y	US 5,591,206 A (MOUFARREGE) 07 January 1997 (07.01.1997) entire document		2, 3, 6, 8, 11, 12, 15, 17
ı			
Further documents are listed in the continuation of Box C.			
* Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand to be of particular relevance * Special categories of cited documents: "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			
"E" earlier application or patent but published on or after the international "X" document of particular relevance; the claimed invention cannot be considered to involve an invention			claimed invention cannot be ered to involve an inventive
cited to establish the publication date of another citation or other "Y" do		step when the document is taken alone "Y" document of particular relevance; the	claimed invention cannot be
"O" docume means	O" document referring to an oral disclosure, use, exhibition or other means oral disclosure, use, exhibition or other means oral disclosure, use, exhibition or other being obvious to a person skilled in the art		
"P" document published prior to the international filing date but later than "&" document member of the same patent family the priority date claimed			
Date of the actual completion of the international search 11 September 2007 Date of mailing of the international search			ch report
Name and mailing address of the ISA/US		Authorized officer:	
Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450		Blaine R. Copenheaver	
1	0. 571-273-3201	PCT Helpdesk: 571-272-4300	