## (19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 19 July 2007 (19.07.2007)

(51) International Patent Classification: A61B 5/02 (2006.01)

(21) International Application Number:

PCT/US2007/000162

**(22) International Filing Date:** 3 January 2007 (03.01.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/756,006 4 January 2006 (04.01.2006)

(71) Applicant (for all designated States except US): MASS-ACHUSETTS INSTITUTE OF TECHNOLOGY [US/US]; ROOM NE25-230, 5 CAMBRIDGE CENTER, Kendall Square, Cambridge, MA 02142 (US).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): COHEN, Richard, J. [US/US]; 4 Monadnock Road, Chestnut Hill, MA 02467 (US). SCHORI, Baruch [US/US]; ROOM NE25-230, Cambridge, MA (US). MADRAS, Peter, Nathan [US/US]; Newton, MA (US).
- (74) Agent: PASTERNACK, Sam; CHOATE, HALL & STEWART, Two International Place, Boston, MA 02110 (US).

(10) International Publication Number WO 2007/081741 A3

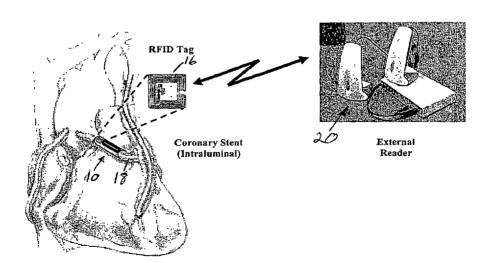
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, 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: 8 November 2007

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: IMPLANTABLE WIRELESS FLUID FLOW MONITORING SYSTEM



(57) Abstract: Fluid flow monitoring system. Structure for implantation in association with vascular tissue is provided. Fluid flow monitoring apparatus is supported on the structure to generate a signal related to fluid flow. A wireless transmitter supported on the structure transmits the signal outside the body. A reader external to the body is provided for wirelessly energizing the monitoring apparatus and transmitter and for receiving the transmitted signal. The external reader also displays fluid flow velocity and/or rate.



## INTERNATIONAL SEARCH REPORT

International application No. PCT/US07/00162

A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - A61B 5/02 (2007.01) USPC - 600/505 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 5/02 (2007.01) USPC - 600/505, 481, 504		
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 a	ppropriate, of the relevant passages	Relevant to claim No.
X US 6,053,873 A (GOVARI et al) 25 April 2000 (25.04.	US 6,053,873 A (GOVARI et al) 25 April 2000 (25.04.2000) entire document	
Y US 2005/0165317 A1 (TURNER et al) 28 July 2005 (28.07.2005) entire document		4, 11-13
Y US 2004/0176672 A1 (SILVER et al) 09 September 2	US 2004/0176672 A1 (SILVER et al) 09 September 2004 (09.09.2004) entire document	
Further documents are listed in the continuation of Box C.		
* Special categories of cited documents:  "A" document defining the general state of the art which is not considered to be of particular relevance  "T" later document published after the interm date and not in conflict with the application the principle or theory underlying the intermediate.		cation but cited to understand invention
"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 another citation or other	"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	
special reason (as specified)  "O" document referring to an oral disclosure, use, exhibition or other means	"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	
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family	
Date of the actual completion of the international search 31 July 2007	Date of mailing of the international search report  11 SEP 2007	
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 Facsimile No. 571-273-3201	Blaine R. Copenheaver  PCT Helpdesk: 571-272-4300  PCT OSP: 571-272-7774	