

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 March 2006 (09.03.2006)

PCT

(10) International Publication Number
WO 2006/026778 A3

(51) International Patent Classification:
A61F 2/06 (2006.01)

(21) International Application Number:
PCT/US2005/031557

(22) International Filing Date:
1 September 2005 (01.09.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/606,261 1 September 2004 (01.09.2004) US
11/216,554 31 August 2005 (31.08.2005) US

(71) Applicant (for all designated States except US): PST, LLC
[US/US]; 9151 Arvida Lane, Coral Gables, FL 33156 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): BALES, Thomas, O. [US/US]; 9151 Arvida Lane, Coral Gables, FL 33156 (US). SLATER, Charles, R. [US/US]; 2350 SW 26th Avenue, Coral Glabes, FL 33156 (US). JAHRMARKT, Scott, L. [US/US]; 1820 Bay Drive, Miami Beach, FL 33141 (US).

(74) Agent: MAYBACK, Gregory, L.; Feldman Gale, P.A., Miami Center, 19th Floor, 201 South Biscayne Boulevard, Miami, FL 33131-4332 (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, 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).

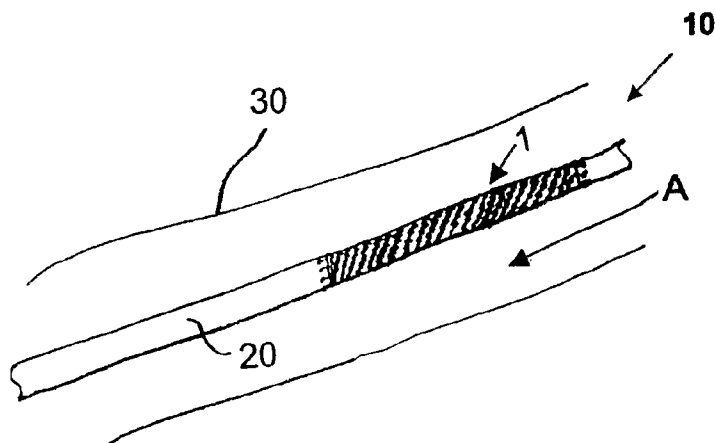
Published:

- with international search report
- 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:
22 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: STENT AND METHOD FOR MANUFACTURING THE STENT



(57) Abstract: A stent includes a stent body (1) with a diameter of between approximately 4 and 12 mm and a length of between approximately 10 and 250 mm. S-shaped struts (5) are disposed helically about the circumference along helical turns. The struts have straight portions (6) and curved portions (7) connecting respectively adjacent ones of the straight portions. Bridges (8,9) connect the struts in adjacent ones of the turns. The bridges include connecting bridges and a given number of sacrificial bridges before being expanded, and the connecting bridges and less than the given number of the sacrificial bridges after being at least partially expanded. A method for manufacturing a helical stent includes the steps of providing a stent body with struts disposed about the circumference thereof in turns and with bridges connecting the struts in adjacent turns. The stent body is expanded and, thereafter, some of the bridges, in particular, sacrificial bridges, are removed.

WO 2006/026778 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/31557

A. CLASSIFICATION OF SUBJECT MATTER
 IPC: **A61F 02/06**

USPC: 623/1.15
 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. : 623/1.15

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.
Y	US 6,042,597 (Kveen et al) 28 March 2000 (28.03.2000), see entire document.	1-20
Y	US 5,868,781 (Killian) 09 February 1999 (09.02.1999), see col. 1, lines 12-18; col. 2, lines 59-62; and col. 3, lines 1-6.	1-20

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	"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 published on or after the international filing date	"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
"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)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 29 June 2007 (29.06.2007)	Date of mailing of the international search report 25 SEP 2007
--	--

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 Alvin J. Stewart <i>Sharon W. Mcneef</i> Telephone No. 571-272-4760
---	--