

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
17 November 2005 (17.11.2005)

PCT

(10) International Publication Number
WO 2005/107610 A3

(51) International Patent Classification:
A61B 17/10 (2006.01)

(21) International Application Number:
PCT/US2005/014788

(22) International Filing Date: 28 April 2005 (28.04.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/837,827 3 May 2004 (03.05.2004) US

(71) Applicant (for all designated States except US): **EDRICH VASCULAR DEVICES, INC.** [US/US]; 95 Madison Avenue, Suite 103, Morristown, NJ 07960 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **EDOGA, John, K.** [US/US]; 1040 D Long Beach Boulevard, North Beach, NJ 08009 (US). **RICHARD, Thierry** [FR/US]; 912 Sterling Drive, Florham Park, NJ 07932 (US).

(74) Agents: **CHARNEY, Scott, E.** et al.; Lerner, David, Lit-tenberg, Krumholz & Mentlik, LLP, 600 South Avenue West, Westfield, NJ 07090 (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, 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, 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).

Declarations under Rule 4.17:

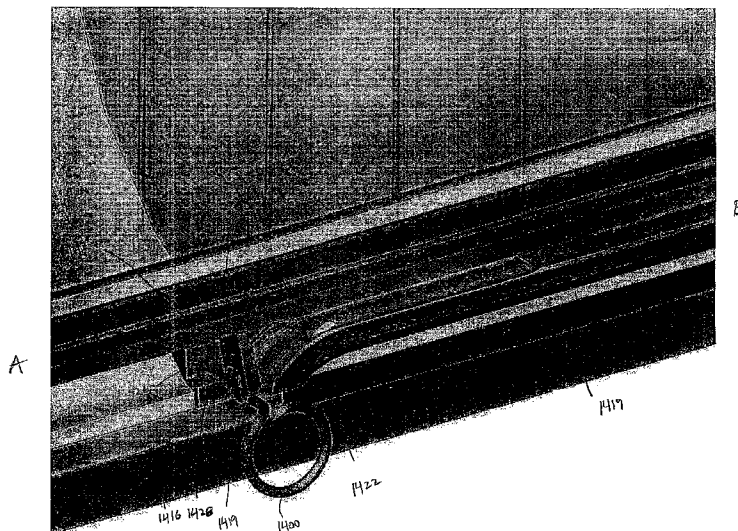
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

- with international search report

[Continued on next page]

(54) Title: ENDOVASCULAR STAPLER



(57) Abstract: An endovascular stapler (100) for securing an endograft (164) to a vessel is disclosed. The stapler (100) includes a staple housing (114) adapted for storing at least one staple (1400) therein, the staple housing (114) having an exit area (158) for discharging of the at least one staple (1400) therethrough, an actuating assembly adapted for discharging the at least one staple (1400) through the exit area, and a displacement mechanism in operative association with the staple housing (114) near the exit area (158). The displacement member is operative for pushing the exit area (158) against the endograft (164) when discharging the at least one staple (1400). The displacement member forms a plurality of opposed loops (1403, 1405) connected by a central element (1406) upon discharge.

WO 2005/107610 A3



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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.

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

5 July 2007

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/14788

A. CLASSIFICATION OF SUBJECT MATTER

IPC: A61B 17/10(2006.01)
A61B 17/068(2006.01)

USPC: 227/19,175.1,178.1:606/142,205

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. : 227/19,175.1,178.1:606/142,205

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 --- Y	US 6,830,174 B2 (HILLSTEAD et al.) 14 December 2004 (14.12.2004) see entire document.	1-6,19-23,37- 39,40,42,46,50-52 ----- 7-16, 24-31,40-42,44- 45,47,52-63
Y	US 4,669,469 A (GIFFORD, III et al.) 02 June 1987 (02.06.1987) see entire document.	7-16,24-31,40-42,44- 45,47,52-63
A	US 5,431,323 A (SMITH et al.) 11 July 1995 (11.07.1995) see entire document.	1-65
A	US 5,245, 156 A (ROTHFUSS et al.) 21 September 1993 (21.09.1993) see entire document.	1-65

☐ 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	
"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

03 October 2006 (03.10.2006)

Date of mailing of the international search report

15 MAY 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

Rinaldi Rada

Telephone No. (571) 272-4050

