

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
22 September 2005 (22.09.2005)

PCT

(10) International Publication Number
WO 2005/086942 A3

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

(21) International Application Number:
PCT/US2005/008119

(22) International Filing Date: 11 March 2005 (11.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/552,132 11 March 2004 (11.03.2004) US

(71) Applicant (for all designated States except US): **TRIVASCULAR, INC.** [US/US]; 3660 North Laughlin Road, Santa Rosa, California 95403 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **STEPHENS, W., Patrick** [US/US]; 4754 Bradford Court, Santa Rosa, California 95405 (US). **VINLUAN, Jenine, S.** [US/US]; 20 Pan Abode Court, Santa Rosa, California 95403 (US). **ZACHARIAS, Isaac, J.** [US/US]; 2531 Brookhaven Drive, Santa Rosa, California 95405 (US).

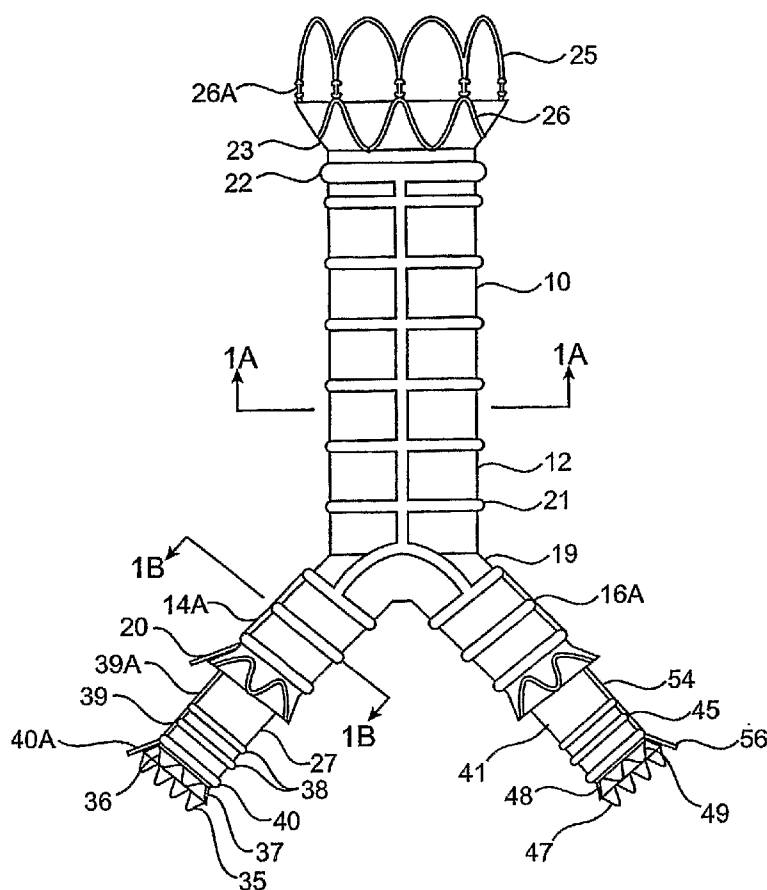
(74) Agents: **WONG, Craig, P.** et al.; TOWNSEND AND TOWNSEND AND CREW LLP, Two Embarcadero Center, 8th Flr., San Francisco, California 94111 (US).

(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, 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,

[Continued on next page]

(54) Title: MODULAR ENDOVASCULAR GRAFT



(57) Abstract: A modular endovascular graft wherein the graft body sections may be secured to each other by a variety of methods, including attachment elements having inflatable circumferential channels that interlock with other inflatable channels, recessed pockets or the like. Embodiments may have inflatable cuffs for sealing against an inside surface of a patient's fluid flow lumen, such as a blood vessel. Embodiments may also include expandable stents secured to and extending from ends of the various graft body sections for mechanically securing the graft, or sections thereof, to the patient's fluid vessels.



SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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

Declaration under Rule 4.17:

— *of inventorship (Rule 4.17(iv))*

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

12 July 2007

Published:

— *with international search report*

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.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/08119

A. CLASSIFICATION OF SUBJECT MATTER

IPC: A61F 2/06(2006.01)

USPC: 623/1.16,1.25,1.36

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. : 623/1.16, 1.25, 1.36, 1.35

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)

Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2001/0027338 A1 (GREENBERG) 04 October 2001 (04.10.2001), see fig.15 and entire specification.	1-3, 5, 11-15, 17-20
---		19
Y	US 5,993,481 A (MARCADE et al) 30 November 1999 (30.11.1999), see col.17, lines 5-10.	
A	US 2002/0052649 A1 (GREENHALGH) 02 May 2002 (02.05.2002), see entire specification.	4, 6-8, 10

☐

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

"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

"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

12 April 2007 (12.04.2007)

Date of filing of the international search report

18 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

Cheryl Miller

Telephone No. (571) 272-4755

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/08119

Continuation of B. FIELDS SEARCHED Item 3:

East database

search terms: hook, loop, velcro, inflatable, seal