

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
31 March 2005 (31.03.2005)

PCT

(10) International Publication Number
WO 2005/027983 A3

(51) International Patent Classification⁷: **A61B 17/08**

(21) International Application Number:
PCT/US2004/030600

(22) International Filing Date:
17 September 2004 (17.09.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/666,204 17 September 2003 (17.09.2003) US
10/944,149 16 September 2004 (16.09.2004) US

(71) Applicant (for all designated States except US): **GORE ENTERPRISE HOLDINGS, INC.** [US/US]; 551 Paper Mill Road, P.O. Box 9206, Newark, DE 19714-9206 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BAUMAN, Ann, M.** [US/US]; 868 N. Fox Hill Road, Flagstaff, AZ 86004 (US). **BROYLES, Stuart, E.** [US/US]; 605 E. Ponderosa Parkway, Flagstaff, AZ 86001 (US). **CRAWLEY, Jerald,**

M. [US/US]; 3185 S. Debbie, Flagstaff, AZ 86001 (US). **DAUGHERTY, John, R.** [US/US]; 1647 N. Woodhollow Way, Flagstaff, AZ 86004 (US). **PIH, Norman** [US/US]; 4022 E. Fallen Oak Way, Flagstaff, AZ 86004 (US).

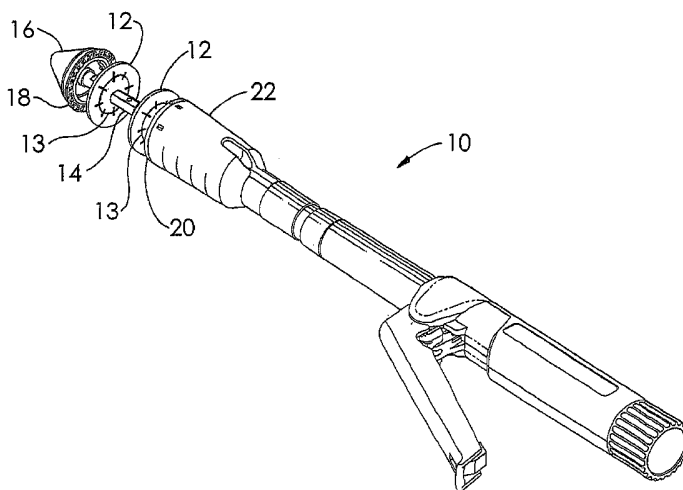
(74) Agents: **HOUSE, Wayne, D.** et al.; W. L. Gore & Associates, Inc., 551 Paper Mill Road, P.O. Box 9206, Newark, DE 19714-9206 (US).

(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, 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, IT, LU, MC, NL, PL, PT, RO, SE, SI,

[Continued on next page]

(54) Title: CIRCULAR STAPLER BUTTRESS



(57) Abstract: A buttress (12) for use with surgical staplers (10) that does not require adhesive to securely fasten the buttress (12) to the stapler (10). The buttress (12) has an adaptive opening through its central region with a diameter smaller than the outer diameter of the stapler anvil (16). Because of relief features built into the buttress (12), the stapler anvil (16) may be pulled through the buttress material without causing permanent alteration of the buttress (12). These relief features may be provided regardless of whether the buttress (12) is made of inelastic or elastic materials. The buttress (12) is generally circular in shape with an outer diameter sized to coincide with the outer diameter of the stapler body staple compression surface (20) and the outer diameter of the anvil compression surface (18) of a circular stapler (10) with which it is used. Prior to surgical use, the buttress (12) is attached to the stapler (10) with disruptable portions extending from outer perimetral areas of the buttress (12).

WO 2005/027983 A3



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

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.

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:

18 August 2005

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/30600

A. CLASSIFICATION OF SUBJECT MATTER
 IPC(7) : A61B 17/08
 US CL : 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)
 U.S. : 606/76, 77, 153, 215, 219, 220; 227/175.1, 179.1, 180.1; 411/531, 544-546, 907; 227/200, 213; 285/423, 424

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 --- Y	US 6,503,259 A (HUXEL et al.) 07 January 2003 (07.01.2003), See entire document.	1-17,20,21,26,31-34,37-46,49-53 ----- 18,19,35,36,47,48
X,P	US 2003/0183671 A1 (MOORADIAN et al.) 02 October 2003 (02.10.2003), see entire document.	1, 22
A	US 5,250,058 A (MILLER et al.) 05 October 1993 (05.10.1993), See entire document.	1-53

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	"T"
"A" document defining the general state of the art which is not considered to be of particular relevance	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: 17 May 2005 (17.05.2005)
 Date of mailing of the international search report: 08 JUN 2005

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. (703) 305-3230
 Authorized officer: Julian W. Woo (Signature), Telephone No. 571-272-2975 (Signature)