

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
19 August 2004 (19.08.2004)

PCT

(10) International Publication Number
WO 2004/069291 A3

(51) International Patent Classification⁷: **A61B 17/00**,
17/04

(21) International Application Number:
PCT/US2004/003069

(22) International Filing Date: 4 February 2004 (04.02.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/444,935 4 February 2003 (04.02.2003) US

(71) Applicant (for all designated States except US): **LSI SOLUTIONS, INC.** [US/US]; 7796 Victor-Mendon Road, Victor, NY 14564 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **SAUER, Jude, S.** [US/US]; 451 West Bloomfield Road, Pittsford, NY 14534 (US).

(74) Agent: **LUKACHER, Kenneth, J.**; South Winton Court, Suite 304, 3136 Winton Road South, Rochester, NY 14623 (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, 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, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

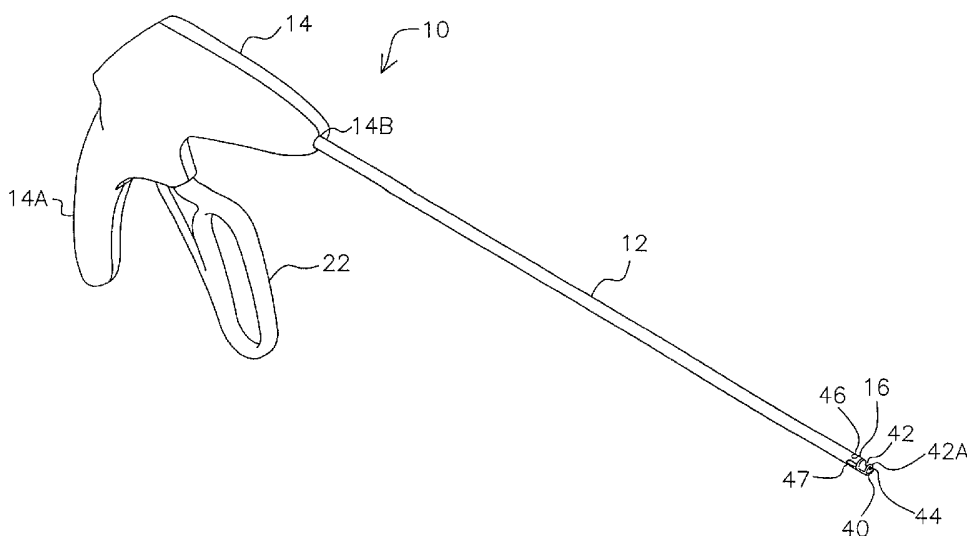
— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

[Continued on next page]

(54) Title: INSTRUMENT FOR ASSISTING IN THE REMOTE PLACEMENT OF TIED SURGICAL KNOTS AND TRIMMING OF SUTURE AWAY FROM THE KNOT AND METHOD OF USE



(57) Abstract: An instrument (10) is provided having a shaft (12) extending to a distal end (16). The distal end (16) has a distal tip member (40) having a cavity (42, 83), and a passageway (44, 80) extending to the cavity through which a first suture end (48A) of a loop of suture (48) extends from a tissue site to facilitate a user looping a second suture end (48B) around the first suture end (48A) between the distal tip member (40) and the tissue site to form a knot (48C). Advancing of the distal tip member (40) while drawing the first suture end (48A) through the passageway (44, 80) pushes the knot (48C) for placement at the tissue site.



WO 2004/069291 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:

21 April 2005

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/03069

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61B 17/00,17/04

US CL : 606/139,144,148

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. : 606/139,144,148,228

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	US 5,792,151 A (HECK et al) 11 April 1998 (11.04.1998), See entire document.	1-8,10,18-22
A	US 6,152,934 A (HARPER et al) 28 November 2000 (28.11.2000), See entire document.	
A	US 5,846,254 A (SCHULZE et al) 08 December 1998 (08.12.1998).	

☐ 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

07 December 2004 (07.12.2004)

Date of mailing of the international search report

18 FEB 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

Anh Tuan T. Nguyen

Telephone No. 703-308-0858