(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
26 February 2004 (26.02.2004)

PCT

(10) International Publication Number
WO 2004/016157 A3

(51) International Patent Classification[7]: A61B 17/00

(21) International Application Number:
PCT/US2003/025631

(22) International Filing Date: 13 August 2003 (13.08.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/222,208 16 August 2002 (16.08.2002) US

(71) Applicant *(for all designated States except US)*: **THE REGENTS OF THE UNIVERSITY OF CALIFORNIA** [US/US]; 1111 Franklin Street, 12th Floor, Oakland, CA 94607-5200 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **STOLLER, Marshall, L.** [US/US]; 50 Lopez Avenue, San Francisco, CA 94116 (US). **MENG, Maxwell, V.** [US/US]; 155 20th Avenue, #3, San Francisco, CA 94121 (US).

(74) Agents: **QUINE, Jonathan, Alan** et al.; Quine Intellectual Property Law Group, P.C., P.O. Box 458, Alameda, CA 94501 (US).

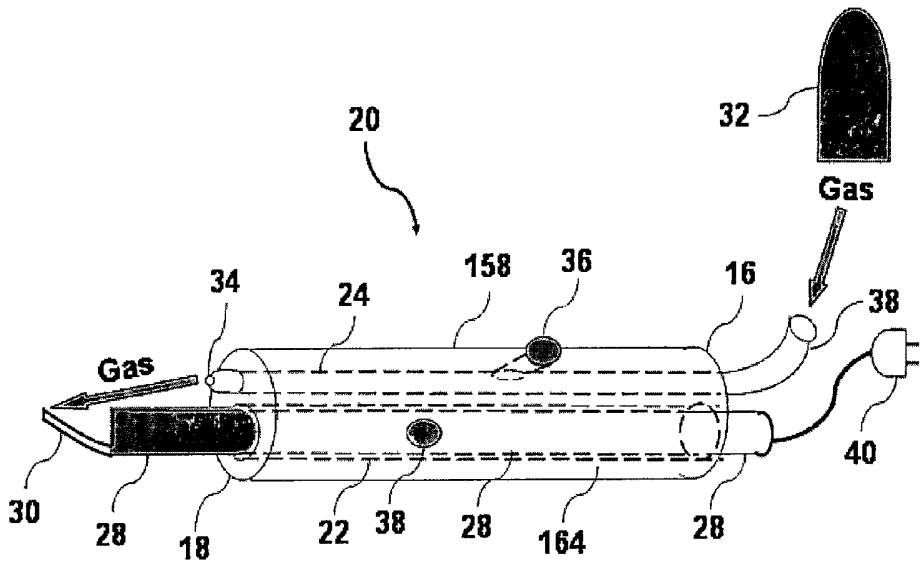
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (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 patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

[Continued on next page]

(54) **Title:** DEVICE FOR IMPROVED VISUALIZATION OF OPERATIVE SITES DURING SURGERY



(57) **Abstract:** This invention provides a novel surgical device well suited to use in laparoscopic or other (e.g. open surgical) procedures. In certain embodiments, the device comprises a surgical probe, including a handle comprising at least one channel passing through the handle; and at least one conduit passing through the handle, where wherein at least one effector element is inserted into or through the channel, which effector element effects one or more surgical functions; and where the conduit comprises a distal conduit port that directs gas out of the conduit to substantially remove debris and/or fluid from a surface disposed proximal to the effector and/or from the effector element.

WO 2004/016157 A3

— *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:
13 May 2004

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/US03/25631

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61B 17/00
US CL : 606/1

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. : 606/1-52

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 5,085,657 A (Ben-Simhon) 4 February 1992 (4.02.1992), entire document.	1-125
Y	US 5,401,272 A (Perkins) 28 March 1995 (28.03.1995), entire document.	1-125
X	US 5,449,356 A (Walbrink et al.) 12 September 1995 (12.09.1995), entire document.	1-125
Y	US 6,017,338 A (Brucker et al.) 25 January 2000 (25.01.2000), entire document.	1-125
Y	US 6,053,937 A (Edwards et al.) 25 April 2000 (25.04.2000), entire document.	1-125

☐ 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
06 December 2003 (06.12.2003)

Date of mailing of the international search report
18 MAR 2004

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
Linda C Dvorak

Telephone No. 703 308 0858

Form PCT/ISA/210 (second sheet) (July 1998)