

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
16 March 2006 (16.03.2006)

PCT

(10) International Publication Number
WO 2006/028530 A3

(51) International Patent Classification:

A61B 18/18 (2006.01) A61B 8/00 (2006.01)
A61H 1/00 (2006.01)

(21) International Application Number:

PCT/US2005/018047

(22) International Filing Date: 23 May 2005 (23.05.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

10/868,415 14 June 2004 (14.06.2004) US

(71) Applicant (for all designated States except US):
PIEZOTECH, LLC d/b/a PIEZO TECHNOLOGIES [US/US]; 5460 West 84th Street, Indianapolis, IN 46268 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HADJICOSTIS, Andreas** [US/US]; 247 West Hayden Drive, No. 1616, Carmel, IN 46032 (US). **BROSCH, Jared** [US/US]; 96 Cedar Lane, Cicero, IN 46034 (US). **PHILLIPS, Michael, H.** [US/US]; 9047 Pinecreek Way, Indianapolis, IN 46256 (US).

(74) Agents: **THOMAS, Timothy, N.** et al.; Woodard, Emhardt, Moriarty, McNett & Henry LLP, Bank One Center/Tower, Suite 3700, 111 Monument Circle, Indianapolis, IN 46204 (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, GR, 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, NG, 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.

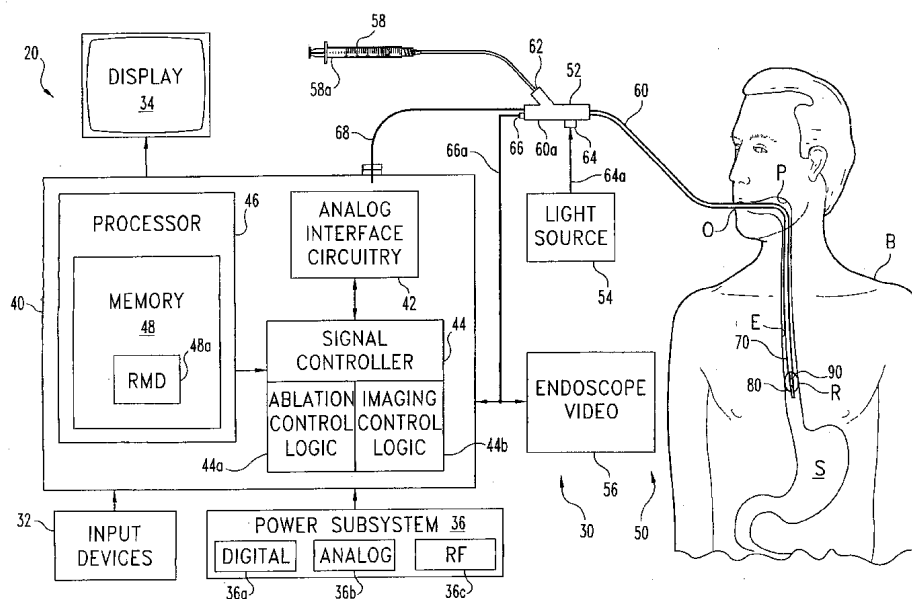
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, 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))

[Continued on next page]

(54) Title: ENDOSCOPIC MEDICAL TREATMENT INVOLVING ACOUSTIC ABLATION



(57) Abstract: In one embodiment, an endoscope has a proximal end portion opposite a distal end portion. A view port is included at the distal end portion to view an internal body region through a passageway of a patient's body. Also located at the distal end portion are one or more piezoelectric elements operable in one mode to determine position of the distal end portion relative to internal body region and operable in a second mode to ablate tissue of the internal body region. The endoscope carries a balloon positioned about the one or more piezoelectric elements to selectively hold the distal end portion in a desired position in the passageway.



- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

- *with international search report*

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

4 June 2009

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/18047

A. CLASSIFICATION OF SUBJECT MATTER

IPC: **A61B 18/18**(2006.01);**A61H 1/00**(2006.01);**A61B 8/00**(2006.01)

USPC: 606/27;601/2;600/439

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. : 606/27,28,41; 601/2,3; 600/439

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.
Y	US 5,630,837 A (CROWLEY) 20 May 1997, whole document, figures	1-5,7,8,10-14,16-20,22-31,33
Y	US 5,409,483 A (CAMPBELL et al) 25 April 1995, Figure 20	1-5,7,8,10-14,16-20,22-31,33
A	US 5,588,432 A (CROWLEY) 31 December 1996, whole document	1-33
A	US 6,514,249 B1 (MAGUIRE et al) 4 February 2003, whole document	1-33



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

21 May 2008 (21.05.2008)

Date of mailing of the international search report

25 JUN 2008

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

Linda Dvorak

Telephone No. (703) 308-0858