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

(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 4 September 2008 (04.09.2008)

(51) International Patent Classification: A61B 1/00 (2006.01)

(21) International Application Number:

PCT/US2008/055172

(22) International Filing Date:

27 February 2008 (27.02.2008)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/891,881

27 February 2007 (27.02.2007)

(71) **Applicant** (for all designated States except US): CARNEGIE MELLON UNIVERSITY 5000 Forbes Avenue, Pittsburgh, Pennsylvania 15213 (US).

- (72) Inventors; and
- (75) Inventors/Applicants (for US only): ZUBIATE, Brett [US/US]; 1600 Robin Court, Pittsburgh, Pennsylvania 15237 (US). **DEGANI, Amir** [US/US]; 5535 Hobart Street, Pittsburgh, Pennsylvania 15217 (US). CHOSET,

WO 2008/106541 A3 Howie [US/US]; 102 Meadow Heights Drive, Pittsburgh,

(10) International Publication Number

Pennsylvania 15215 (US). (74) Agent: SINGER, James M.; Pepper Hamilton LLP, One

- Mellon Center, 500 Grant Street, Pittsburgh, PA 15219
- (81) **Designated States** (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FT, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: SYSTEM FOR RELEASABLY ATTACHING A DISPOSABLE DEVICE TO A DURABLE DEVICE

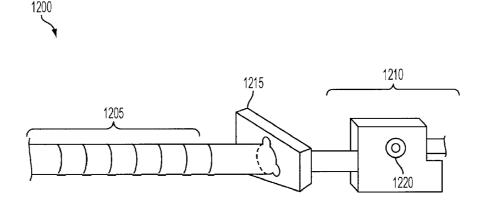


FIG. 12A

(57) Abstract: A system for releasably attaching a steerable disposable multi-linked device to a durable device may include a disposable portion and a durable portion. The disposable portion may include a connecting member connected to the disposable portion and the durable portion and a steerable multi-linked device. The steerable multi-linked device may include a first link, a plurality of intermediate links, a second link movably coupled to a second one of the intermediate links, and a cable which passes through the first link and intermediate links and extends beyond a first end of the first link. A first one of the intermediate links may be movably coupled to the first link. The durable portion may include an axial member which defines an opening therethrough and a feeder mechanism.



Published:

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

16 October 2008

— with international search report

INTERNATIONAL SEARCH REPORT

International application No

				PCT/US 08/55172	
A CLASSIFICATION OF SUBJECT MATTER IPC(8) - A61B 1/00 (2008.04) USPC - 600/136 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) IPC(8) A61B 1/00 (2008 04) USPC 600/136					
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched USPC 600/101,114,132,136-144,149					
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Electronic Databases Searched PubWEST(USPT,PGPB, EPAB,JPAB), Google Patents, Google, WIPO database Search terms Disposable, steerable, flexible, segmented, disposable segment, tethered endoscope, sheath, screw, feeder mechanism, links, axial, detach from housing, mounted, base, steerable device, disposable endoscope, etc					
C DOCUMENTS CONSIDERED TO BE RELEVANT					
Category*	Citation of document, with indication, where appropriate, ol the relevant passages				Relevant to claim No
Y	US 2006/0058582 A1 (Maahs et al) 16 March 2006 (16 03 2006). para [0009], para [0037]-[0040], para [0048]				1-10
Y	US 7,087,013 B2 (Belson et al) 08 August 2006 (08 08 2006), col 5, ln 43-47, col 6, ln 35-46, col 9, ln 1-3, 10-15, col 13. ln 4-9				1-10
Υ	US 6,960,163 B2 (Ewers et al.) 0.1 November 2005 (01 11 2005), col. 26, ln 22-26, col. 28, ln 61-67, col. 30, ln 23-39				7-10
D Further documents are listed in the continuation of Box C					
* Special categories of cited documents "T" later document published after the international filing d,ite or p. "A" document defining the general state of the art which is not considered lobe of particular relevance "T" later document published after the international filing d,ite or p. date and not in conflict with the application but cited to under the principle or theory undeilying the invention					ation but cited to understand
"E" earlier a filing d	rlier application or patent but published on or after the international "X" ing date		document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive slep when the document is taken alone		
cited to special	document which may throw doubts on priority claim(s) or which is cited to establish the publication dale of another citation or other special reason (as specified) document referring to an oral disclosure, use, exhibition or other		document of particular lelevance the claimed invention cannol be considered to involve an inventive slep when the document is combined with one or more other such documents such combination		
means					

"&" document member of the same patent family

Authorized officer

PCT Halpdθsk 571-272-4300

PCTOSP 571-272-7774

Date of mailing of the international search report

0 1 AUG 2008

Lee W Young

P O Box 1450. Alexandria. Virginia 22313-1450 Facsimile No 571-273-3201 Form PCT/ISA/210 (second sheet) (April 2007)

Name and mailing address of the ISA/US

the priority date claimed

29 July 2008 (29 07 2008)

"O" document referring to an oral disclosure, use, exhibition or other document published prior to the international filing date but later than

Date of the actual completion of the international search

Mail Stop PCT, Attn ISA/US, Commissioner for Patents