

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
26 June 2008 (26.06.2008)

PCT

(10) International Publication Number  
**WO 2008/076800 A3**

- (51) **International Patent Classification:**  
A61B 17/28 (2006.01) A61B 10/06 (2006.01)
- (21) **International Application Number:**  
PCT/US2007/087378
- (22) **International Filing Date:**  
13 December 2007 (13.12.2007)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**  
11/610,803 14 December 2006 (14.12.2006) US
- (71) **Applicant (for all designated States except US):**  
**ETHICON ENDO-SURGERY, INC** [US/US]; 4545  
Creek Road, Cincinnati, OH 45242 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** **NOBIS, Rudolph, H.** [US/US]; 4594 Atrium Court, Mason, OH 45040 (US).  
**NALAGATLA, Anil, K.** [US/US]; 4653 Sarah Drive, Ma-  
son, OH 45040 (US). **CONLON, Sean, P.** [US/US]; 6234C  
North Shadow Hill Way, Loveland, OH 45140 (US).
- (74) **Agents:** **JOHNSON, Philip, S.** et al.; One Johnson &  
Johnson Plaza, New Brunswick, NJ 08933 (US).

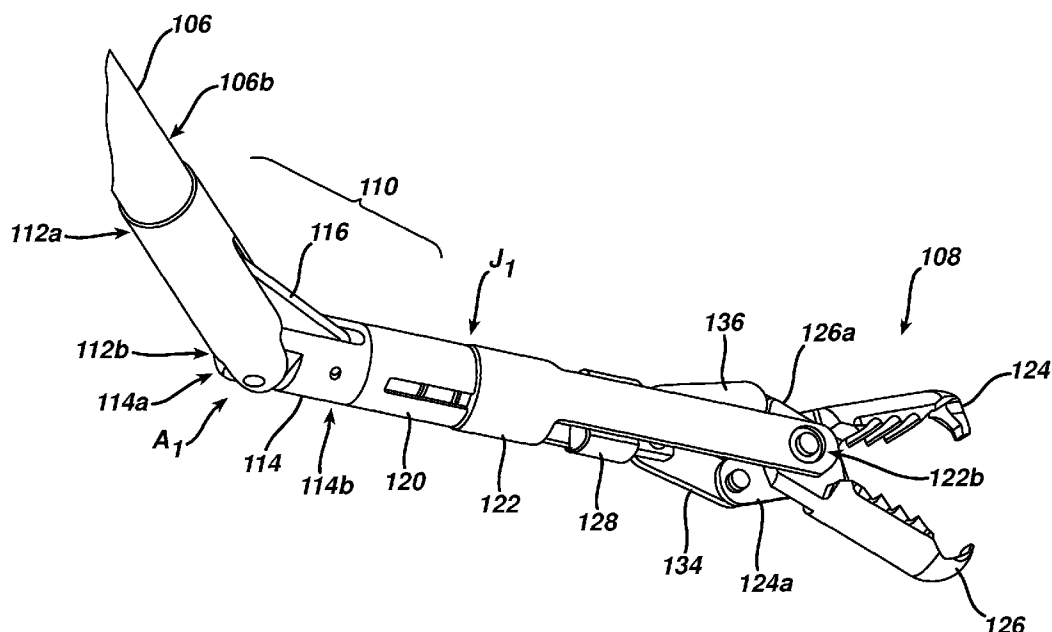
- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, 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, HU, IE, IS, IT, LT, LU, LV, MC, MT, 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).

**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:**  
25 September 2008

(54) **Title:** MANUALLY ARTICULATING DEVICES



(57) **Abstract:** Methods and devices are provided for controlling movement of a working end of a surgical device, and in particular for performing various surgical procedures using an instrument having an end effector that can be articulated relative to an elongate shaft of the device. In certain embodiments, the end effector can also optionally rotate relative to the elongate shaft of the device, and/or the shaft can rotate relative to a handle of the device.

WO 2008/076800 A3

## INTERNATIONAL SEARCH REPORT

 International application No  
 PCT/US2007/087378

## A. CLASSIFICATION OF SUBJECT MATTER

 INV. A61B17/28  
 ADD. A61B10/06

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)

A61B

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 practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/225323 A1 (NAGASE TORU [JP] ET AL) 11 November 2004 (2004-11-11)	1-5, 8-15, 18-25
Y	paragraph [0064]; figures 1,7,8,17,26 paragraph [0159] - paragraph [0160]	6,16
Y	US 5 549 637 A (CRAINICH LAWRENCE [US]) 27 August 1996 (1996-08-27) column 3, line 34 - line 65; figures 2,4	6,16
X	EP 0 621 009 A (ETHICON INC [US]) 26 October 1994 (1994-10-26) column 4, line 53 - column 5, line 22; figures 1-4,6 column 6, line 39 - column 7, line 30 column 11, line 25 - column 12, line 53 ----- -/--	1,5,9, 15,18



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 document but 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.

\*Z\* document member of the same patent family

Date of the actual completion of the international search

6 May 2008

Date of mailing of the international search report

31/07/2008

Name and mailing address of the ISA/

 European Patent Office, P.B. 5818 Patentlaan 2  
 NL - 2280 HV Rijswijk  
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
 Fax: (+31-70) 340-3016

Authorized officer

Moers, Roelof

## INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/087378

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/033357 A1 (BRAUN MARCUS [DE]) 10 February 2005 (2005-02-10) paragraph [0025] paragraph [0034] - paragraph [0045] -----	1,5,9, 15,18
X	US 5 782 859 A (NICHOLAS DAVID A [US] ET AL) 21 July 1998 (1998-07-21) abstract; figures 1-7 -----	1,15
X	US 2003/109898 A1 (SCHWARZ KNUT M [DE] ET AL) 12 June 2003 (2003-06-12)  abstract; figures 1-5 -----	1-5,8, 10-12, 14,15, 19-24
X	US 5 312 023 A (GREEN DAVID T [US] ET AL) 17 May 1994 (1994-05-17) column 25, line 62 - column 27, line 18; figure 63 -----	1,5,10, 15,22,23
X	US 2006/016853 A1 (RACENET DAVID C [US]) 26 January 2006 (2006-01-26) paragraph [0040]; figure 4 paragraph [0047] -----	1,3,4
A	WO 97/12557 A (KELLEHER BRIAN S [US]) 10 April 1997 (1997-04-10) abstract; figures 1-7 -----	6,16

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2007/087378

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 26-31  
because they relate to subject matter not required to be searched by this Authority, namely:  
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-6, 8-16, 18-25

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-6, 8-16, 18-25

Surgical device having three bar articulation linkage having a rigid or flexible third link.  
---

2. claims: 1, 7; 15, 17

Surgical device having three bar articulation linkage having third link with a cam slot.  
---

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/087378

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2004225323	A1	11-11-2004	JP 2004329624 A	25-11-2004
US 5549637	A	27-08-1996	NONE	
EP 0621009	A	26-10-1994	AT 155989 T	15-08-1997
			AU 6055394 A	27-10-1994
			CA 2121533 A1	21-10-1994
			DE 69404526 D1	04-09-1997
			DE 69404526 T2	18-12-1997
			ES 2105517 T3	16-10-1997
			JP 8206120 A	13-08-1996
US 2005033357	A1	10-02-2005	DE 10324844 A1	23-12-2004
			EP 1484024 A1	08-12-2004
			US 2004260335 A1	23-12-2004
US 5782859	A	21-07-1998	NONE	
US 2003109898	A1	12-06-2003	AT 363235 T	15-06-2007
			AU 7651900 A	10-04-2001
			WO 0117442 A1	15-03-2001
			EP 1235522 A1	04-09-2002
US 5312023	A	17-05-1994	US 5456401 A	10-10-1995
			US 5482197 A	09-01-1996
US 2006016853	A1	26-01-2006	NONE	
WO 9712557	A	10-04-1997	AU 7255896 A	28-04-1997