# (19) World Intellectual Property **Organization**

International Bureau





(43) International Publication Date 11 August 2005 (11.08.2005)

**PCT** 

## (10) International Publication Number WO 2005/072634 A3

(51) International Patent Classification<sup>7</sup>: A61B 18/14, 18/12

(21) International Application Number:

PCT/GB2005/000066

(22) International Filing Date: 12 January 2005 (12.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 10/770,133 2 February 2004 (02.02.2004) US

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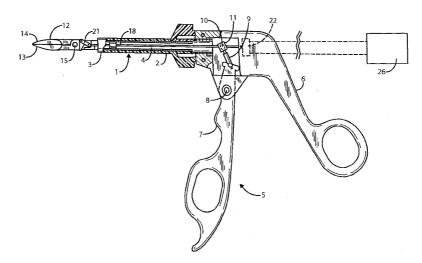
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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, 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, 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,

[Continued on next page]

(54) Title: AN ELECTROSURGICAL INSTRUMENT



(57) Abstract: A bipolar electrosurgical instrument comprises a handle (5), a body (1) joined to the handle, and a jaw assembly (12) joined to the body and arranged such that manipulation of the handle allows first and second opposed jaws (14 and 13) of the jaw assembly to be opened and closed with respect to one another. The first jaw (14) has at least a first coagulating electrode, and the second jaw (13) has at least a second coagulating electrode and a cutting electrode (16) separated from the second coagulating electrode by an insulating member (17). The instrument is manipulated at the surgical site such that the jaws (14 and 13) of the jaw assembly (12) are open with respect to one another, with the cutting electrode (16) and at least one of the first and second coagulating electrodes contacting tissue at the surgical site. A radio frequency electrosurgical signal is supplied between the cutting electrode (16) and the at least one coagulating electrode, and the electrosurgical instrument is moved while maintaining the jaws (13, 14) in their open position so as to cut tissue at the surgical site.

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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).

#### Published:

— with international search report

(88) Date of publication of the international search report: 24 November 2005

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.

Inte lai Application No PCT/GB2005/000066

A. CLASSIF	CATION OF SUB	JECT MATTER
TPC 7	A61B18/14	A61B18/12

According to International Patent Classification (IPC) or to both national classification and IPC

### B. FIELDS SEARCHED

 $\begin{array}{ll} \mbox{Minimum documentation searched (classification system followed by classification symbols)} \\ \mbox{IPC 7} & \mbox{A61B} \end{array}$ 

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. DOCUM	NTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 287 788 A (GYRUS MEDICAL LIMITED) 5 March 2003 (2003-03-05) paragraph '0021! paragraph '0024! - paragraph '0029!; figures 3-5	1-5
<b>X</b>	US 2003/139741 A1 (GOBLE COLIN CHARLES OWEN ET AL) 24 July 2003 (2003-07-24) paragraph '0087!; figures 5-11 paragraph '0096! - paragraph '0104!; figure 15 paragraph '0119! - paragraph '0124!; figures 21,22	1-5
	-/	

χ Further documents are listed in the continuation of box C.	χ Patent family members are listed in annex.
"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 confilet 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 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  18 August 2005	Date of mailing of the international search report  0 2. 09. 2005
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 Filali, S

Inte nal Application No
PCT/GB2005/000066

		PC1/GB2005/000066
C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
* 1	US 6 270 497 B1 (SEKINO NAOMI ET AL) 7 August 2001 (2001-08-07) column 12, line 35 - column 13, line 46 column 16, line 38 - column 17, line 28 column 18, line 34 - line 51	1-5
X	US 2004/006340 A1 (LATTERELL SCOTT T ET AL) 8 January 2004 (2004-01-08) paragraph '0019! - paragraph '0025! paragraph '0032! figures 1-7	1-3
X	US 6 273 887 B1 (YAMAUCHI KOUJI ET AL) 14 August 2001 (2001-08-14) column 13, line 29 - column 14, line 16; figures 8,9	1-3
χ	DE 42 42 143 A1 (DELMA ELEKTRO- UND MEDIZINISCHE APPARATEBAU GMBH, 78532 TUTTLINGEN; DE) 16 June 1994 (1994-06-16) the whole document	1-3
Υ	US 2002/198525 A1 (SCHULZE DALE R ET AL) 26 December 2002 (2002-12-26) paragraph '0050!; figure 1	6-12
Υ	US 6 334 860 B1 (DORN J&UUML ET AL) 1 January 2002 (2002-01-01) column 5, line 47 - column 6, line 41; figure 2	6-12
A	EP 0 797 959 A (ETHICON ENDO-SURGERY, INC) 1 October 1997 (1997-10-01) figures 4-10	6-12
Α	WO 97/05829 A (CABOT TECHNOLOGY CORPORATION) 20 February 1997 (1997-02-20) page 8, line 21 - page 9, line 14; figures 7-10	6-12

national application No. PCT/GB2005/000066

Box[II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)
1. X Claims Nos.: 13-21 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 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 all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
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.:
Remark on Protest  The additional search fees were accompanied by the applicant's protest.  X  No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-5

Bipolar electrosurgical instrument comprising coagulating/cutting electrodes and a generator comprising sources of RF.

Problem: how to cut and coagulate the tissue simultaneously

2. claims: 6-12

Bipolar electrosurgical instrument comprising coagulating/cutting electrodes wherein the cutting electrode is in the form of a longitudinal rail. Problem: how to held tissues between the jaws

information on patent family members

Inti onal Application No PCT/GB2005/000066

Patent do			Publication date		Patent family member(s)		Publication date
EP 1287788	Α	05-03-2003	EP WO US	1287788 2004078051 2005113820	A2	05-03-2003 16-09-2004 26-05-2005	
				US	2003113820		17-04-2003
				US	2003163123		28-08-2003
			-	ÜS	2003163124		28-08-2003
				US	2004260279		23-12-2004
				US	2003040744	A1	27-02-2003
US 2003	139741	A1	24-07-2003	US	2002052599		02-05-2002
				AU	9580801		15-05-2002
				CA	2426003		10-05-2002
				CN Ep	1473024 1330201		04-02-2004 30-07-2003
				WO	0236028		10-05-2002
				JP	2004512135		22-04-2004
	٠.,			ÜS	2002165531		07-11-2002
US 6270	497	B1	07-08-2001	JP	2000135222	Α	16-05-2000
US 2004	006340	A1	08-01-2004	US	2004049185	<b>A</b> 1	11-03-2004
US 6273	887	B1	14-08-2001	JP	11267132		05-10-1999
				JP	3384750		10-03-2003
				JP	2000070280		07-03-2000
				JP JP	2000116669 2000139943		25-04-2000 23-05-2000
			US	2000139943		01-11-2001	
DE 4242	2143	A1	16-06-1994	NONE			
US 2002	198525	A1	26-12-2002	US	2002099373		25-07-2002
•				US	2004236326		25-11-2004
				EP	1363547		26-11-2003
				WO	02058451		01-08-2002 
US 6334	860	B1	01-01-2002	DE	19858512	C1	25-05-2000
			DE	59910745		11-11-2004	
				WO EP	0036986 1056409		29-06-2000 06-12-2000
EP 0797959	959	 А	01-10-1997	US	5700261	 A	23-12-1997
				ΑU	707928	B2	22-07-1999
				AU	1656197		02-10-1997
				CA	2201064		29-09-1997
				DE	69719581		17-04-2003
				DE	69719581		24-12-2003
			EP JP	0797959 10028693		01-10-1997 03-02-1998	
WO 9705	 582 <b>9</b>	 А	20-02-1997	 AU	6769096		05-03-1997
				WO	9705829		20-02-1997