

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 October 2008 (09.10.2008)

PCT

(10) International Publication Number
WO 2008/121555 A3

- (51) **International Patent Classification:**
A61B 17/16 (2006.01)
- (21) **International Application Number:**
PCT/US2008/057421
- (22) **International Filing Date:** 19 March 2008 (19.03.2008)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
60/909,240 30 March 2007 (30.03.2007) US
11/853,082 11 September 2007 (11.09.2007) US
- (71) **Applicant (for all designated States except US):** **INNOVATIVE IMPLANT TECHNOLOGY, LLC** [US/US]; 1825 Main Street, Weston, FL 33326 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** **GORDILS WALLIS, Antonio, Jose** [VE/VE]; Santa Fe Norte, Avenida Felipe Guevara Rojas, 5ta Mochi Caracas (VE). **LITKE, Ronald, G., Jr.** [US/US]; 29 Westwood Drive, Danbury, CT 06811 (US). **CALLAHAN, Robert, T., Jr.** [US/US]; 34 Celentano Drive, Naugatuck, CT 06770 (US). **RIEMER, Edward** [US/US]; 137 Bungay Road, Seymour, CT 06483 (US). **HERNANDEZ, Ernesto** [US/US]; 2670 Riviera Manor, Weston, FL 33332 (US).
- (74) **Agents:** **GORDON, David, P.** et al; Gordon & Jacobson, RC, 60 Long Ridge Road, Suite 407, Stamford, CT 06902 (US).
- (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).
- 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:**
27 November 2008

(54) **Title:** MAXILLARY BONE CUTTING SYSTEM, KIT, AND METHOD OF USING THE SAME

(57) **Abstract:** A device includes a tubular element, and a cutter spring-biased relative to the tubular element. In an unloaded configuration the cutter is displaced relative to the tubular element by a displacement distance, and when the cutter is in a loaded configuration the displacement distance is reduced. A first structure is longitudinally fixed relative to the cutter and rotationally engaged relative to the tubular element. A length of the first structure extends proximally in the unloaded configuration. A second structure is longitudinally displaceable relative to the first structure. In the loaded configuration, a driver engages and rotates both the first and second structures, and thus the tubular element and cutter together. Once the cutter breaks through the bone, the cutter spring-biased into the unloaded configuration, resulting in disengagement of the first structure from the driver to prevent rotation of either the tubular element or the cutter.



WO 2008/121555 A3

INTERNATIONAL SEARCH REPORT

International application No

PCT/US 08/57421

A CLASSIFICATION OF SUBJECT MATTER IPC(8) - A61 B 17/16 (2008.04) USPC - 606/80 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) USPC - 606/80													
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched USPC - 606/80, \$ Search Terms Below													
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) PubWEST (USPT, PGPB, EPAB, JPAB), google com Search Terms Used bone, bones, saw, cutter, cutting, sawing, maxillary, separator, separating, subantral, piston, load, spring, rotation, rotating, rotatabonally, rotate													
C DOCUMENTS CONSIDERED TO BE RELEVANT <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>US 5,653,712 A (Stern) 05 August 1997 (05 08 1997) entire document, especially Abstract, col 4, ln 55-60, col 8, ln 3-38, col 9, ln 13-55, col 10, ln 36-56, col 11, ln 4-65, col 12, ln 15-46, col 13, ln 1-4</td> <td>1-12</td> </tr> <tr> <td>Y</td> <td>US 6,908,469 B2 (Sellers et al) 21 June 2005 (21 06 2005) entire document, especially Abstract, col 4, ln 45-64, col 6, ln 9-22, col 16, ln 50-60</td> <td>13-30</td> </tr> <tr> <td>Y</td> <td>US 2006/0084034 A1 (Hochman et al) 20 April 2006 (20 04 2006) entire document, especially Abstract</td> <td>18, 19</td> </tr> </tbody> </table>		Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No	X	US 5,653,712 A (Stern) 05 August 1997 (05 08 1997) entire document, especially Abstract, col 4, ln 55-60, col 8, ln 3-38, col 9, ln 13-55, col 10, ln 36-56, col 11, ln 4-65, col 12, ln 15-46, col 13, ln 1-4	1-12	Y	US 6,908,469 B2 (Sellers et al) 21 June 2005 (21 06 2005) entire document, especially Abstract, col 4, ln 45-64, col 6, ln 9-22, col 16, ln 50-60	13-30	Y	US 2006/0084034 A1 (Hochman et al) 20 April 2006 (20 04 2006) entire document, especially Abstract	18, 19
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No											
X	US 5,653,712 A (Stern) 05 August 1997 (05 08 1997) entire document, especially Abstract, col 4, ln 55-60, col 8, ln 3-38, col 9, ln 13-55, col 10, ln 36-56, col 11, ln 4-65, col 12, ln 15-46, col 13, ln 1-4	1-12											
Y	US 6,908,469 B2 (Sellers et al) 21 June 2005 (21 06 2005) entire document, especially Abstract, col 4, ln 45-64, col 6, ln 9-22, col 16, ln 50-60	13-30											
Y	US 2006/0084034 A1 (Hochman et al) 20 April 2006 (20 04 2006) entire document, especially Abstract	18, 19											
<input type="checkbox"/> Further documents are listed in the continuation of Box C													
D <table border="0"> <tr> <td>* Special categories of cited documents</td> <td>"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</td> </tr> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"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</td> </tr> <tr> <td>"E" earlier application or patent but published on or after the international filing date</td> <td>"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</td> </tr> <tr> <td>"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)</td> <td>"&" document member of the same patent family</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td></td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>		* Special categories of cited documents	"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	"A" document defining the general state of the art which is not considered to be of particular relevance	"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	"E" earlier application or patent but published on or after the international filing date	"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	"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)	"&" document member of the same patent family	"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	
* Special categories of cited documents	"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												
"A" document defining the general state of the art which is not considered to be of particular relevance	"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												
"E" earlier application or patent but published on or after the international filing date	"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												
"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)	"&" document member of the same patent family												
"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													
Date of the actual completion of the international search 03 September 2008 (03 09 2008)	Date of mailing of the international search report 17 SEP 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 Lee W Young PCT Helpdesfc 571-272-4300 PCTOSP 571-272-7774												