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

(19) World Intellectual Property Organization International Bureau

AIPO OMPI

(43) International Publication Date 19 May 2011 (19.05.2011)

(10) International Publication Number WO 2011/060434 A3

(51) International Patent Classification: A61F 2/30 (2006.01) A61F 2/42 (2006.01) A61F 2/38 (2006.01)

(21) International Application Number:

PCT/US2010/056878

(22) International Filing Date:

16 November 2010 (16.11.2010)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/281,362 16 November 2009 (16.11.2009) US 61/261,575 16 November 2009 (16.11.2009) US

- (71) Applicant (for all designated States except US): NEW YORK SOCIETY FOR THE RUPTURED AND CRIPPLED MAINTAINING THE HOSPITAL FOR SPECIAL SURGERY [US/US]; 535 East 70th Street, New York, NY 10021 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): LIPMAN, Joseph, D. [US/US]; 165 West 91st Street, Apt. 7G, New York, NY 10024 (US). BARTEL, Donald, L. [US/US]; 10 Quarry Road, Ithaca, NY 14850 (US). WRIGHT, Timothy, M. [US/US]; 85 East End Avenue, Apt. 9C, New York, NY 10028 (US).

- (74) Agents: ELLIS, Edward J. et al.; Leason Ellis LLP, 81 Main Street, Suite 503, White Plains, NY 10601 (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, CL, 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, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, 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, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

[Continued on next page]

(54) Title: PROSTHETIC CONDYLAR JOINTS WITH ARTICULATING BEARING SURFACES HAVING A TRANSLATING CONTACT POINT DURING ROTATION THEREOF

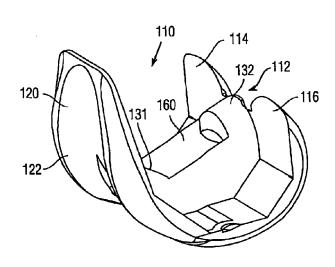


Fig. 1

(57) Abstract: A prosthetic joint according to the present invention includes a first implant component for attachment to a first bone and a second implant component for attachment to a second bone. The first implant component has a condylar portion that includes first and second condylar bearing surfaces and similarly, the second implant component has bearing surfaces that receive and are complementary to the first and second condylar bearing surfaces. Each of the first and second condylar bearing surfaces and each of the bearing surfaces of the second implant component has a cross-section in a coronal plane that exhibits two different radii and a contact point is established between the first and second condylar bearing surfaces and the bearing surfaces of the second implant component. The bearing surfaces of the respective implant components are configured such that varus and valgus rotation of the first implant component relative to the second implant component causes the contact point to move outwardly.





 before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report: 20 October 2011

INTERNATIONAL SEARCH REPORT

International application No. PCT/US2010/056878

A. CLASSIFICATION OF SUBJECT MATTER

A61F 2/30(2006.01)i, A61F 2/38(2006.01)i, A61F 2/42(2006.01)i

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)
A61F 2/30; A61F 2/38

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) eKOMPASS(KIPO internal) & Keywords: femoral, tibial, knee, joint, implant, prosthesis, radius, insert, varus and valgus.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 05871546 A (COLLERAN; DENNIS P. et al.) 16 February 1999 See the whole document.	1-27
A	US 06039764 A (POTTENGER; LAWRENCE A. et al.) 21 March 2000 See the whole document.	1-27
A	US 05330534 A (HERRINGTON; STEPHEN M. et al.) 19 July 1994 See the whole document.	1-27
А	WO 96-23460 A1 (NEW YORK SOCIETY FOR THE RUPTURED AND CRIPPLED MAINTAINING T HE HOSPITAL FOR SPECIAL SURGERY) 08 August 1996 See the whole document.	1-27
A	US 2004-0143339 A1 (AXELSON; STUART L. et al.) 22 July 2004 See the whole document.	1-27
A	US 05326361 A (HOLLISTER; ANNE) 05 July 1994 See the whole document.	1-27

	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 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 citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other
- "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 mailing of the international search report

Date of the actual completion of the international search

30 AUGUST 2011 (30.08.2011)

04 ATTOTION 0044 (04 00 0

31 AUGUST 2011 (31.08.2011)

Name and mailing address of the ISA/KR



Korean Intellectual Property Office Government Complex-Daejeon, 189 Cheongsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

KIM Sang Woo

Authorized officer

Telephone No. 82-42-481-8384



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/056878

EP 0765645 A2 JP 03-875323 B2 31.01.200 JP 09-108249 A 28.04.196 KR 10-0458340 B1 07.02.200 US 06039764 A 21.03.2000 None US 05330534 A 19.07.1994 US 05997577 A 07.12.196 W0 96-23460 A1 08.08.1996 AT 229308 T AU 4777396 A 21.08.1996 AU 4777396 A 21.08.1996 AU 697225 B2 01.10.1996 CA 2210531 A1 08.08.1996 BE 96625334 D1 23.01.200 EP 0806920 A1 19.11.199 ES 2189863 T3 16.07.200 JP 10-513371 A 22.12.199 KR 10-1998-0701639 A 25.06.199 US 2004-0143339 A1 22.07.2004 AU 2004-200185 A1 05.08.200 CA 2455040 A1 21.07.200 DE 602004028536 D1 23.09.200 EP 1440675 A1 28.07.200	US 05871546 A 16.02.1999 AU 1996-65668 B2 08.07.1998 EP 0765645 A2 02.04.1999 JP 03-875323 B2 31.01.2000 JP 09-108249 A 28.04.1999 KR 10-0458340 B1 07.02.2003 US 05039764 A 21.03.2000 None US 05330534 A 19.07.1994 US 05997577 A 07.12.1998 WO 96-23460 A1 08.08.1996 AT 229308 T 15.12.2003 AU 4777396 A 21.08.1999 AU 697225 B2 01.10.1998 GA 2210531 A1 08.08.1996 AU 697225 B2 01.10.1999 GA 2210531 A1 08.08.1996 EP 08062534 D1 23.01.2003 EP 080626334 D1 23.01.2003 EP 080620 A1 19.11.1999 ES 2189963 T3 16.07.2003 JP 10-513371 A 22.12.1999 US 2004-0143339 A1 22.07.2004 AU 2004-200185 A1 05.08.2009 US 2004-0143339 A1 22.07.2004 EP 1440675 A1 23.09.2011 EP 1440675 A1 28.07.2009
EP 0765645 A2	EP 0765645 A2 02.04.1990 JP 03-875323 B2 31.01.2001 JP 09-108249 A 28.04.1990 KR 10-0458340 B1 07.02.2003 US 05039764 A 21.03.2000 None US 05330534 A 19.07.1994 US 05997577 A 07.12.1990 WO 96-23460 A1 08.08.1996 AT 229308 T 15.12.2003 AU 4777396 A 21.08.1990 AU 697225 B2 01.10.1990 GA 2210531 A1 08.08.1996 AU 697225 B2 01.10.1990 GA 2210531 A1 08.08.1990 EP 0806920 A1 19.11.1990 ES 2189863 T3 16.07.2003 JP 10-513371 A 22.12.1990 WS 05702458 A 30.12.1991 US 2004-0143339 A1 22.07.2004 AU 2004-200185 A1 05.08.2004 CA 2455040 A1 21.07.2004 DE 6022004028536 D1 23.09.2014 DE 602004028536 D1 23.09.2014 DE 602004028536 D1 23.09.2014 DE 71440675 A1 28.07.2004 US 05326361 A 05.07.1994 EP 0678011 A1 25.10.1990 US 05326361 A 05.07.1994 EP 0678011 A1 25.10.1990 US 05326346 B2 23.05.1990 US 0533758 A 28.07.1993
US 05330534 A 19.07.1994 US 05997577 A 07.12.199 WO 96-23460 A1 08.08.1996 AT 229308 T 15.12.200 AU 4777396 A 21.08.199 AU 697225 B2 01.10.199 CA 2210531 A1 08.08.199 DE 69625334 D1 23.01.200 EP 0806920 A1 19.11.199 ES 2189863 T3 16.07.200 JP 10-513371 A 22.12.199 KR 10-1998-0701639 A 25.06.199 US 2004-0143339 A1 22.07.2004 AU 2004-200185 A1 05.08.200 CA 2455040 A1 21.07.200 DE 602004028536 D1 23.09.201 EP 1440675 A1 28.07.200 JP 2004-223253 A 12.08.200	US 05330534 A 19.07.1994 US 05997577 A 07.12.1998 WO 96-23460 A1 08.08.1996 AT 229308 T 15.12.2003 AU 4777396 A 21.08.1999 AU 697225 B2 01.10.1998 CA 2210531 A1 08.08.1999 DE 69625334 D1 23.01.2003 EP 0806920 A1 19.11.1991 ES 2189863 T3 16.07.2003 JP 10-513371 A 22.12.1999 KR 10-1998-0701639 A 25.06.1998 US 2004-0143339 A1 22.07.2004 AU 2004-200185 A1 05.08.2004 CA 2455040 A1 21.07.2004 DE 602004028536 D1 23.09.2014 EP 1440675 A1 28.07.2004 US 05326361 A 05.07.1994 EP 0678011 A1 25.10.1998 US 05326361 A 05.07.1994 EP 0678011 A1 25.10.1998 US 05133758 A 28.07.1998
WO 96-23460 A1 08.08.1996 AT 229308 T AU 4777396 A 21.08.199 AU 697225 B2 01.10.199 CA 2210531 A1 08.08.198 DE 69625334 D1 23.01.200 EP 0806920 A1 19.11.199 ES 2189863 T3 16.07.200 JP 10-513371 A 22.12.199 KR 10-1998-0701639 A 25.06.199 US 2004-0143339 A1 22.07.2004 AU 2004-200185 A1 CA 2455040 A1 21.07.200 DE 602004028536 D1 23.09.200 EP 1440675 A1 28.07.200 JP 2004-223253 A 12.08.200	WO 96-23460 A1 08.08.1996 AT 229308 T AU 4777396 A 21.08.1996 AU 697225 B2 01.10.1996 CA 2210531 A1 08.08.1996 DE 69625334 D1 23.01.2007 EP 0806920 A1 19.11.1997 ES 2189863 T3 16.07,2003 JP 10-513371 A 22.12.1998 KR 10-1998-0701639 A 25.06.1998 US 05702458 A 30.12.1993 US 2004-0143339 A1 22.07.2004 AU 2004-200185 A1 05.08.2004 CA 2455040 A1 21.07.2004 DE 602004028536 D1 23.09.2016 EP 1440675 A1 28.07.2004 US 7160330 B2 US 05326361 A 05.07.1994 EP 0678011 A1 25.10.1998 US 05133758 A 28.07.1998
AU 4777396 A 21.08.199 AU 697225 B2 01.10.199 CA 2210531 A1 08.08.199 DE 69625334 D1 23.01.200 EP 0806920 A1 19.11.199 ES 2189863 T3 16.07.200 JP 10-513371 A 22.12.199 KR 10-1998-0701639 A 25.06.199 US 05702458 A 30.12.199 US 2004-0143339 A1 22.07.2004 AU 2004-200185 A1 05.08.200 CA 2455040 A1 21.07.200 DE 602004028536 D1 23.09.200 EP 1440675 A1 28.07.200 JP 2004-223253 A 12.08.200	AU 4777396 A 21.08.1998 AU 697225 B2 01.10.1998 CA 2210531 A1 08.08.1998 DE 69625334 D1 23.01.2003 EP 0806920 A1 19.11.1993 ES 2189863 T3 16.07.2003 JP 10-513371 A 22.12.1998 KR 10-1998-0701639 A 25.06.1998 US 05702458 A 30.12.1993 US 2004-0143339 A1 22.07.2004 AU 2004-200185 A1 05.08.2004 CA 2455040 A1 21.07.2004 DE 602004028536 D1 23.09.2016 EP 1440675 A1 28.07.2004 US 7160330 E2 09.01.2003 US 05326361 A 05.07.1994 EP 0678011 A1 25.10.1998 US 05133758 A 28.07.1998
CA 2455040 A1 21.07.200 DE 602004028536 D1 23.09.200 EP 1440675 A1 28.07.200 JP 2004-223253 A 12.08.200	CA 2455040 A1 21.07.2004 DE 602004028536 D1 23.09.2010 EP 1440675 A1 28.07.2004 JP 2004-223253 A 12.08.2004 US 7160330 B2 09.01.2003 US 05326361 A 05.07.1994 EP 0678011 A1 25.10.1998 JP 02-654249 B2 23.05.1999 US 05133758 A 28.07.1998
55.55555	JP 02-654249 B2 23.05.1993 US 05133758 A 28.07.1993
JP 02-654249 B2 23.05.199 US 05133758 A 28.07.199	