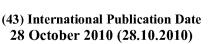
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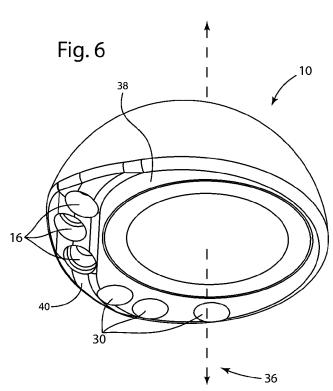
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, 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, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
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[Continued on next page]

(54) Title: ACETABULAR CUP



(57) Abstract: A system and method for placing a prosthetic acetabular cup within an acetabulum are disclosed. The system may comprise an acetabular cup with an eccentric socket. The acetabular cup may be substantially hemispherical with a cup rim and a portion of the cup rim removed defining a relief. The cup may accommodate a concentric liner in an eccentric position. Screw apertures may be present on the periphery of the cup and the screw trajectories may converge toward the dome of the cup. The cup is attached to a tool which is offset relative to the cup because of the substantially eccentric socket. The relief, when the cup is secured to the acetabulum, is positioned substantially anterior and the socket is positioned more posterior to provide a more natural center of rotation of a femoral head within the socket. The first relief reduces impingement of the acetabular cup on soft tissue.





 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))

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International application No. PCT/US2010/030041

A. CLASSIFICATION OF SUBJECT MATTER

A61F 2/34(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 2/34; A61F 2/02; A61F 2/30; A61F 2/31

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:acetabular cup, hip prosthesis, hip joint, implant, screw, aperture, socket, rim, and relief.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
X A	US 5192329 A1 (CHRISTIE; MICHAEL J. et al.) 09 March 1993 See abstract; c. 5, l. 64-c. 7, l. 14; claims 1-19; Figs. 6-9.	10,13,14 1-9,11,12	
X A	US 5928288 A1 (WILSON; STEPHEN F.) 27 July 1999 See abstract; c. 3. 1. 39-c. 4. 1. 64; claims 1-11; Figs. 5-7.	10,13,14 1-9,11,12	
A	EP 0472315 A1 (HOWMEDICA INTERNATIONAL INC.) 26 February 1992 See the whole document.	1-14	
A	US 5458650 A1 (CARRET; JEAN-PAUL et al.) 17 October 1995 See the whole document.	1-14	
A	EP 1681036 A1 (PIERANNUNZII, LUCA MASSIMO CARLO) 19 July 2006 See the whole document.	1-14	
A	EP 1588677 A2 (FINSBURY (DEVELOPMENT) LIMITED) 26 October 2005 See the whole document.	1-14	
A	US 5931870 A1 (CUCKLER; JOHN M. et al.) 03 August 1999 See the whole document.	1-14	

Further documents are listed in the continuation of Box C.



See patent family annex.

- * Special categories of cited documents:
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- O" document referring to an oral disclosure, use, exhibition or other means
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- "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
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- "&" document member of the same patent family

Date of the actual completion of the international search
25 JANUARY 2011 (25.01.2011)

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2010/030041

Box No. II Ob	servations 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:					
because Claim Intern	Nos.: 15-34 e they relate to subject matter not required to be searched by this Authority, namely: as 15-34 pertain to methods for treatment of human body by surgery, thus relate to a subject matter which this national Searching Authority is not required, under Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations the PCT, to search.				
	Nos.: e they relate to parts of the international application that do not comply with the prescribed requirements to such an that no meaningful international search can be carried out, specifically:				
3. Claims because	Nos.: e they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).				
Box No. III Ol	bservations where unity of invention is lacking (Continuation of item 3 of first sheet)				
This Internations	al Searching Authority found multiple inventions in this international application, as follows:				
claims.	equired additional search fees were timely paid by the applicant, this international search report covers all searchable searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment additional fee.				
	some of the required additional search fees were timely paid by the applicant, this international search report covers ose 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 Pr	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.				

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/030041

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5192329 A1	09.03.1993	CA 2104231 A1	08.09.1992
00 3132023 AT	03.00.1330	EP 0574521 A1	13.05.1998
		EP 0809984 A2	03. 12. 1997
		EP 0809985 A2	03. 12. 1997
		JP 03-411275 B2	20.03.2003
		JP 03-657240 B2	08.06.2005
		JP 2003-024352 A	28.01.2003
		KR 10-1994-0700037 A	21.02.1994
		US 5290315 A1	01.03.1994
		US 5370704 A1	06. 12. 1994
		WO 92-15261 A1	17.09.1992
US 5928288 A1	27.07.1999	EP 0956835 A2	17.11.1999
		JP 04-201918 B2	24.12.2008
		JP 11-347054 A	21. 12. 1999
EP 0472315 A1	26.02.1992	AT 112954 T	15.11.1994
	· · · · · · · · · · · · · · · · · · ·	AU 638152 B2	17.06.1993
		AU 8135591 A	13.02.1992
		CA 2048523 A1	09.02.1992
		DE 69104672 D1	24.11.1994
		DE 9109121 U1	10. 10. 1991
		DK 0472315 T3	03.04.1995
		ES 2062689 T3	16. 12. 1994
		GB 9017403 D0	19.09.1990
		IE 64572 B1 IE 912475 A1	23.08.1995 12.02.1992
		JP 02-532773 B2	27.06.1996
		JP 06-070947 A	15.03.1994
		US 5171286 A1	15. 12. 1992
JS 5458650 A1	17. 10. 1995	EP 0617932 A1	05.10.1994
EP 1681036 A1	19.07.2006	IT MI20050038 A1	18.07.2006
EP 1588677 A2	26.10.2005	AT 396670 T	15.06.2008
		DE 602005007098 D1	10.07.2008
		EP 1588669 A1	26.10.2005
		EP 1852072 A2	07.11.2007
		GB 0408791 D0	26.05.2004
		US 2005-0245936 A1	03.11.2005
		US 2006-0052876 A1	09.03.2006
		US 2009-0105709 A1 US 7485148 B2	23.04.2009 03.02.2009
UO F004070 A4	00 00 1000	ALL 4007, 40000, 50	
JS 5931870 A1	03.08.1999	AU 1997-46068 B2	05.07.2001
		CA 2267246 C EP 0948298 A1	12.06.2007 13.10.1999
		JP 04-160636 B2	01.10.1999
		01 0 1 100000 DE	01,10,2000

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/030041

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		JP 2001-501848 A JP 2008-237925 A WO 98-15240 A1	13.02.2001 09.10.2008 16.04.1998