(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 18 June 2009 (18.06.2009)

(10) International Publication Number WO 2009/076297 A3

(51) International Patent Classification: *A61F 2/36* (2006.01)

(21) International Application Number:

PCT/US2008/085898

(22) International Filing Date:

8 December 2008 (08.12.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

61/005,990 10 December 2007 (10.12.2007) US 61/007,033 10 December 2007 (10.12.2007) US

(71) Applicant (for all designated States except US): MAKO SURGICAL CORP. [US/US]; 2555 Davie Road, Fort Lauderdale, FL 33317 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): QUAID, Arthur, E. [US/US]; 502 SW 6th Avenue, Fort Lauderdale, FL 33315 (US).

(74) Agent: RAWLINS, Andrew, E.; Foley & Lardner LLP, 3000 K St. NW, Suite 500, Washington, DC 20007 (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, 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, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

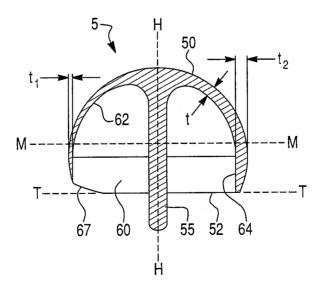
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, 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: 30 July 2009

(54) Title: A PROSTHETIC DEVICE AND SYSTEM FOR PREPARING A BONE TO RECEIVE A PROSTHETIC DEVICE

Fig. 4E



(57) Abstract: A substantially cup configured to operatively engage at to a second bone of the joint. The in

79570/9005 C

(57) **Abstract:** A substantially cup-shaped prosthetic device for a joint is provided. The prosthetic device includes an outer surface configured to operatively engage at least one of a first bone of the joint and a component and an inner surface configured to connect to a second bone of the joint. The inner surface is rotationally asymmetric to minimize intrusion on a vascular region of the second bone.

International application No

PCT/US2008/085898 A. CLASSIFICATION OF SUBJECT MATTER INV. A61F2/36 According to International Patent Classification (IPC) or to both national classification and IPC Minimum documentation searched (classification system followed by classification symbols) **A61F** 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, WPI Data C. DOCUMENTS CONSIDERED TO BE RELEVANT Category Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. US 2003/163202 A1 (LAKIN RYAN C [US]) 1 - 1128 August 2003 (2003-08-28) paragraph [0037]; figures 4-6 X US 2005/256585 A1 (PARK MYUNG-SIK [KR] ET 1-5,11AL) 17 November 2005 (2005-11-17) paragraphs [0027] - [0030]; figures 1,2 DE 101 30 366 A1 (COPF PETER [DE]; HEIN X 1 WERNER [DE]) 21 November 2002 (2002-11-21) paragraph [0032]; figure 4 X US 4 005 495 A (LOCKE HELMUT ET AL) 1,11 1 February 1977 (1977-02-01) figures 1-3 Further documents are listed in the continuation of Box C. See patent family annex. 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 'A' document defining the general state of the art which is not considered to be of particular relevance invention "E" earlier document but published on or after the international "X" document of particular relevance; the claimed invention filing date cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *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) "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 docu-'O' document referring to an oral disclosure, use, exhibition or ments, such combination being obvious to a person skilled in the art. document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 4 March 2009 18/06/2009 Name and mailing address of the ISA/ Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016

Cuiper, Ralf

International application No
PCT/US2008/085898

Category*	Citation of document with indication where a property of	··········	Delevent to atomic to
Jaiegory*	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
(GB 718 935 A (HENRI GEORGES VAN STEENBRUGGHE) 24 November 1954 (1954-11-24) figures 2,3		1,11
			·
		•	
`			
			1

International application No. PCT/US2008/085898

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:
Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
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 alisearchable 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 reportcovers 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.:
see annex
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.

International Application No. PCT/US2008 /085898

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-11

cup-shaped prosthetic device

2. claims: 12-17

robotic system for preparing a bone

Information on patent family members

International application No PCT/US2008/085898

Patent document cited in search report		Publication date	Patent family member(s)			Publication date
US 2003163202	A1	28-08-2003	US	2006241779	A1	26-10-2006
US 2005256585	A1	17-11-2005	KR	20050109291	Α	21-11-2005
DE 10130366	A1	21-11-2002	NONE			
US 4005495	Α	01-02-1977	AT	346468	-====. В	10-11-1978
			СН	602094	A5	31-07-1978
			DE	2535649	A1	24-03-1977
			FR	2320725	A1	11-03-1977
			GB	1560734	Α	06-02-1980
			JP	52022396	Α .	19-02-1977
GB 718935	A	24-11-1954	BE	516826	Α	·
			FR	1063680	Α	05-05-1954
			IT	498150	Λ	29-09-1954