

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
10 May 2007 (10.05.2007)

PCT

(10) International Publication Number
WO 2007/053022 A3

- (51) International Patent Classification:
A61F 2/30 (2006.01) B22C 9/00 (2006.01)
- (21) International Application Number:
PCT/NL2006/050281
- (22) International Filing Date:
7 November 2006 (07.11.2006)
- (25) Filing Language: Dutch
- (26) Publication Language: English
- (30) Priority Data:
1030364 7 November 2005 (07.11.2005) NL
- (71) Applicant (for all designated States except US): FT INNOVATIONS (FTI) B.V. [NL/NL]; Braamsluipe 1, NL-5831 PW Boxmeer (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): WEINANS, Hermanus, Hendricus [NL/NL]; Eikenlaan 2, NL-3972 AS Driebergen-Rijssenburg (NL). VERHAAR, Johannes, Albertus, Nicolaas [NL/NL]; Schouw 33, NL-2991

DK Barendrecht (NL). LEERKAMP, Peter [NL/NL]; Braamsluipe 1, NL-5831 PW Boxmeer (NL). MEUZELAAR, Bob [NL/NL]; Groesbeekseweg 228, NL-6523 PG Nijmegen (NL).

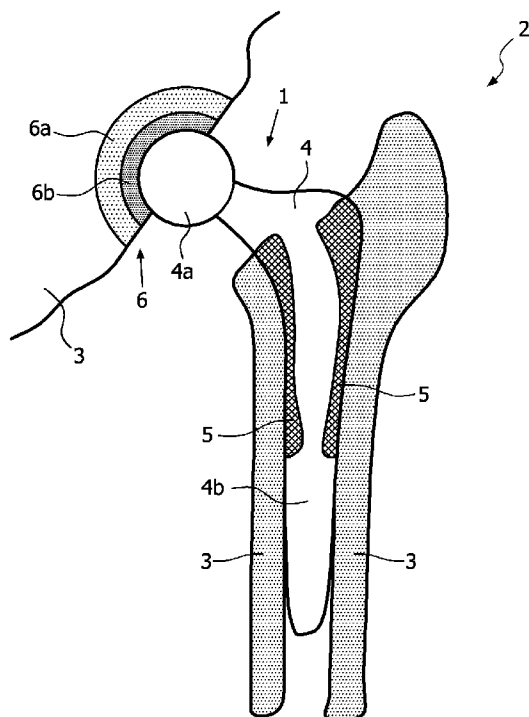
(74) Agent: VAN DEN HEUVEL, Henricus, Theodorus; Patentwerk B.V., P.O. Box 1514, NL-5200 BN 's-hertogenbosch (NL).

(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, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, 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,

[Continued on next page]

(54) Title: IMPLANT AND METHOD FOR MANUFACTURING SUCH AN IMPLANT



(57) Abstract: In the case of people with a worn or otherwise damaged hip an implant can be arranged surgically. The average lifespan of these implants amounts at the moment to about 15 to 20 years. This means that many people must usually undergo a second, relatively serious operation, wherein the implant is replaced. The lifespan of the second implant is generally shorter than the lifespan of the first implant. In addition, bone loss occurs in the detaching process. A third operation to replace a worn second implant is generally relatively difficult, and sometimes even impossible. The invention relates to an improved implant. The invention also relates to a method for manufacturing such an implant.

WO 2007/053022 A3



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, LV, 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).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

Declaration under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

Published:

— *with international search report*

(88) Date of publication of the international search report:
16 August 2007

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.

INTERNATIONAL SEARCH REPORT

International application No
PCT/NL2006/050281A. CLASSIFICATION OF SUBJECT MATTER
INV. A61F2/30 B22C9/00

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

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.
X Y	WO 97/38649 A (BROZIAT) 23 October 1997 (1997-10-23) page 2, line 1 - line 33 page 11, line 15 - page 15, line 25; claims 1,12,18; figures 1-8	1-4, 12-16 5-8,10, 11
X	WO 92/21302 A (LUCOCER AKTIEBOLAG) 10 December 1992 (1992-12-10) abstract; claims 1,5,6; figures 1-7	1,2,4,8, 9
Y	EP 0 672 395 A (JOHNSON & JOHNSON PROFESSIONAL) 20 September 1995 (1995-09-20) abstract	5,8
A	column 15, line 46 - line 48; claim 2; figures ----- -/--	12

 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 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 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 the actual completion of the international search

7 June 2007

Date of mailing of the international search report

19/06/2007

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

Klein, Christophe

INTERNATIONAL SEARCH REPORT

International application No
PCT/NL2006/050281

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 571 185 A (SCHUG) 5 November 1996 (1996-11-05)	6
A	abstract; claims 1,3; figures -----	12
Y	US 4 158 684 A (KLAWITTER) 19 June 1979 (1979-06-19)	7
A	column 3, line 11 - line 19; claim 1 -----	8,12
Y	WO 98/46169 A (LIMBER) 22 October 1998 (1998-10-22)	10,11
	page 30, line 9 - line 20; figure 5 -----	
A	US 4 600 546 A (GRUNDEI) 15 July 1986 (1986-07-15)	12
	column 1 -----	
A	EP 0 506 123 A (ASAHI TEC CORPORATION) 30 September 1992 (1992-09-30)	12
	column 8, line 1 - line 43; claim 6 -----	
A	US 4 781 721 A (GRUNDEI) 1 November 1988 (1988-11-01)	12
	claim 1 -----	
A	EP 0 838 286 A (JOHNSON & JOHNSON PROFESSIONAL) 29 April 1998 (1998-04-29)	12
	the whole document -----	
A	DE 39 17 033 C (AHLERS) 2 August 1990 (1990-08-02)	

A	US 5 271 736 A (PICHA) 21 December 1993 (1993-12-21)	

A	DE 101 20 330 A (MÜNDER) 21 November 2002 (2002-11-21)	

A	DE 195 45 470 A (HONL) 31 July 1997 (1997-07-31)	

A	WO 95/11639 A (HOWMEDICA) 4 May 1995 (1995-05-04)	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/NL2006/050281

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9738649	A	23-10-1997	AT 193971 T	15-07-2000
			DE 19614949 A1	23-10-1997
			EP 0898469 A1	03-03-1999
WO 9221302	A	10-12-1992	AU 1908192 A	08-01-1993
			SE 468502 B	01-02-1993
			SE 9101677 A	04-12-1992
EP 0672395	A	20-09-1995	AT 204448 T	15-09-2001
			CA 2142636 A1	19-08-1995
			DE 69522247 D1	27-09-2001
			DE 69522247 T2	16-05-2002
			DK 672395 T3	08-10-2001
			ES 2159605 T3	16-10-2001
			JP 7299085 A	14-11-1995
			US 5687788 A	18-11-1997
			US 5658334 A	19-08-1997
			US 5571185	A
AU 2755292 A	21-05-1993			
CA 2097712 A1	13-04-1993			
DE 4133877 C1	19-05-1993			
WO 9307835 A1	29-04-1993			
EP 0562082 A1	29-09-1993			
JP 6503990 T	12-05-1994			
US 4158684	A	19-06-1979	NONE	
WO 9846169	A	22-10-1998	AU 7229798 A	11-11-1998
			CA 2286706 A1	22-10-1998
			EP 0977524 A1	09-02-2000
			JP 2001519704 T	23-10-2001
US 4600546	A	15-07-1986	CH 658987 A5	31-12-1986
			DE 3224265 A1	05-01-1984
			FR 2529078 A1	30-12-1983
			GB 2125331 A	07-03-1984
			JP 1486324 C	14-03-1989
			JP 59008957 A	18-01-1984
			JP 63034744 B	12-07-1988
EP 0506123	A	30-09-1992	NONE	
US 4781721	A	01-11-1988	CH 660122 A5	31-03-1987
			DE 3106917 A1	25-11-1982
			DE 8105177 U1	12-01-1984
			FR 2500297 A1	27-08-1982
			GB 2093701 A	08-09-1982
			JP 57148943 A	14-09-1982
EP 0838286	A	29-04-1998	DE 69715126 D1	10-10-2002
			DE 69715126 T2	15-05-2003
			JP 10128496 A	19-05-1998
			US 5906234 A	25-05-1999
DE 3917033	C	02-08-1990	EP 0399163 A1	28-11-1990
			JP 2703386 B2	26-01-1998
			JP 3029649 A	07-02-1991

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/NL2006/050281

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 3917033	C	SU 1838025 A3 US 5042560 A	30-08-1993 27-08-1991
US 5271736	A	21-12-1993	NONE
DE 10120330	A	21-11-2002	NONE
DE 19545470	A	31-07-1997	NONE
WO 9511639	A	04-05-1995	AT 187055 T 15-12-1999 AU 686221 B2 05-02-1998 AU 7545694 A 22-05-1995 CA 2172250 A1 04-05-1995 DE 9490333 U1 01-08-1996 DE 69421935 D1 05-01-2000 DE 69421935 T2 20-07-2000 EP 0725606 A1 14-08-1996 JP 2984375 B2 29-11-1999 JP 8510944 T 19-11-1996 US 5524695 A 11-06-1996