

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 September 2007 (27.09.2007)

PCT

(10) International Publication Number
WO 2007/109752 A3

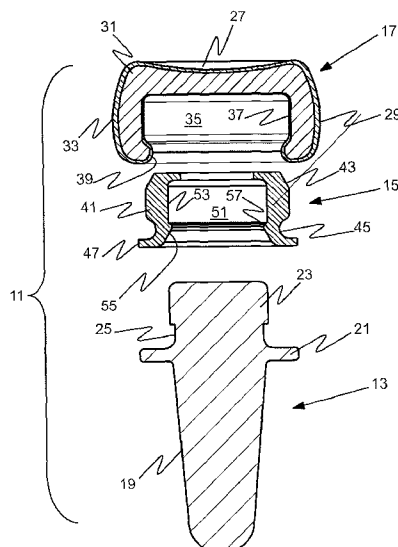
- (51) International Patent Classification:
A61F 2/28 (2006.01)
- (21) International Application Number:
PCT/US2007/064594
- (22) International Filing Date: 22 March 2007 (22.03.2007)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/743,661 22 March 2006 (22.03.2006) US
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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, 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, 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, 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, MT, 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).

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- 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:
14 February 2008

(54) Title: PROSTHETIC IMPLANT AND ASSEMBLY METHOD



(57) Abstract: An orthopedic prosthetic implant comprises a metal alloy stem element (13, 63, 113), which has one end portion (19, 69, 119) constructed to reside in the medullary cavity of a bone and an integral connector (23, 73, 123) at the opposite end to which crystalline brittle head (17, 67, 117), preferably made of pyrocarbon-coated graphite, is joined. The head interfaces with human bone, and its effective joiner to the stem element is achieved through a polymeric insert (15, 65, 115) of proportional shape and design which has selected elastic properties. The design and material of the polymeric insert allow it to be securely received within an interior cavity (35, 77, 131) of the pyrocarbon-coated graphite head and mated to the stem connector in an either rigidly or bi-polar arrangement. The method of joiner allows the construction of composite implants that utilize the most desirable properties of metallic and brittle crystalline materials.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US07/64594

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61F 2/28 (2007.10)

USPC - 623/16.11

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)

IPC(8) - A61F 2/28 (2007.10)

USPC - 623/16.11

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)

PatBase

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,955,916 A (CARIGNAN et al) 11 September 1990 (11.09.1990) entire document	1-22
Y	US 2005/0236741 A1 (ARKENAU et al) 27 October 2005 (27.10.2005) entire document	1-19, 21, 22
Y	EP 1632200 A1 (GRUNDEI et al) 08 March 2006 (08.03.2006) entire document	3-18, 20
Y	US 2005/0033426 A1 (OGILVIE et al) 10 February 2005 (10.02.2005) entire document	19, 20

Further documents are listed in the continuation of Box C.

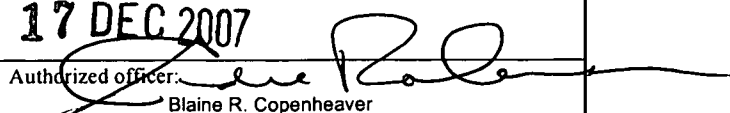
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"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search
13 November 2007

Date of mailing of the international search report
17 DEC 2007

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