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[Continued on next page]

(54) Title: SYSTEM, METHOD, AND APPARATUS FOR LOCATING A FEMORAL NECK GUIDE WIRE

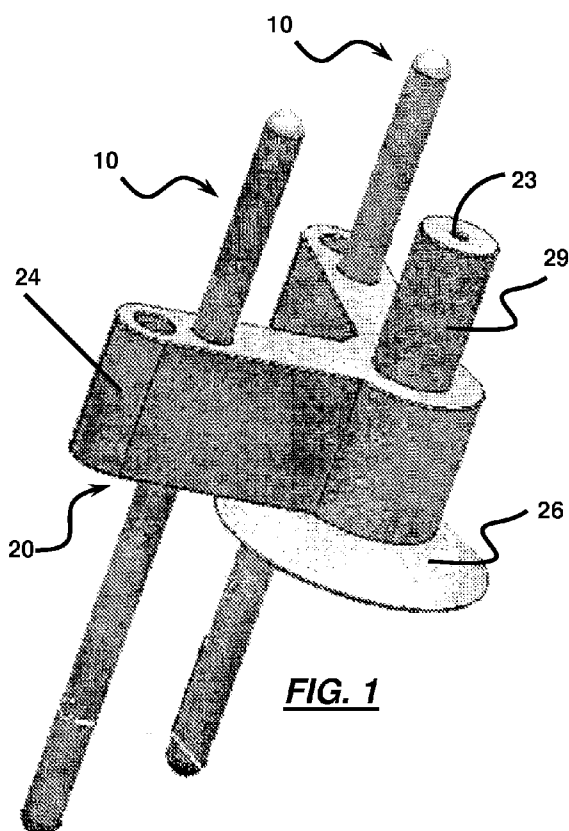


FIG. 1

(57) Abstract: A pin alignment guide may be placed on an end of a bone for guiding a pin along a central axis of the bone. The bone has a length extending away from the end of the bone. A body may be configured to overlie the end of the bone. The body may have a contact surface configured to contact the bone and a guide surface configured to guide a pin into the bone. A rod portion may be configured to extend along the length of the bone away from the end of the bone. An extension may be configured to attach to the body and extend away from the body, the extension further configured to couple to the rod portion, such that the rod portion may be aligned along the length of the bone thereby positioning the guide surface of the body to guide the pin.



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, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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A. CLASSIFICATION OF SUBJECT MATTER*A61B 17/90(2006.01)i, A61B 17/74(2006.01)i, A61B 17/88(2006.01)i, A61B 17/68(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)

A61B 17/90; A61F 5/04; A61B 17/58; A61B 17/17; A61B 17/56

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: guide pin, alignment, hip resurfacing, arthroplasty, femoral

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2008-0021479 A1 (BRAD PENENBERG) 24 January 2008 See Abstract; Fig.4; Paragraphs 29-30; Claim 1	1-4
A	US 2005-0113841 A1 (MICHAEL SHELDON et al.) 26 May 2005 See Abstract; Fig.1; Paragraphs 38-40; Claim 1	1-4
A	US 2005-0033290 A1 (NEVELOS JAMES et al.) 10 February 2005 See Abstract; Figs. 4, 12; Paragraphs 11-15	1-4
A	US 6595999 B2 (MARCHIONE; ANDREAS et al.) 22 July 2003 See Abstract; Figs.1, 5-7; Col.3 Line 34-Col.4 Line 56	1-4
A	US 4574794 A1 (COOKE; THEODORE D. et al.) 11 March 1986 See Col. 2 Line36-Col.3 Line 12; Claim 1	1-4



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 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

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INTERNATIONAL SEARCH REPORTInternational application No.
PCT/US2010/026418**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:

1. ☒ Claims Nos.: 13
because they relate to subject matter not required to be searched by this Authority, namely:
Claim 13 relates to a method for placing a pin through an end of a bone and along a central axis of the bone, which is a surgical method to place a pin along a central axis of the bone. The subject matter of claim 13, therefore, falls into the category of methods for treatment of the human body by surgery [Article 17(2)(a)(i), Rule 39.1(iv) PCT].
2. ☒ Claims Nos.: 9
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:
Claim 9 is in reference to claims that are multiple dependent claims, which are not subjected to the meaningful search in accordance with the second and the third sentence of Rule 6.4 (a). Meaningful search for the subject matter of said claims therefore requires undue burden [Article 17(2)(a)(ii)].
3. ☒ Claims Nos.: 5-8, 10-12
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:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers 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.:

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 SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/026418

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2008-0021479 A1	24.01.2008	None	
US 2005-0113841 A1	26.05.2005	AU 2004-292996 A1 AU 2004-292996 B2 BR P10416213A CN 1882285 A JP 2007-512097 T WO 2005-051209 A1	09.06.2005 25.09.2008 26.12.2006 20.12.2006 17.05.2007 09.06.2005
US 2005-0033290 A1	10.02.2005	AT 354316 T DE 602004004830 D1 DE 602004004830 T2 EP 1477120 A1 EP 1477120 B1 GB 0310869 D0 GB 2401550 A GB 2401550 B US 2010-0152742 A1 US 7695476 B2	15.03.2007 05.04.2007 31.10.2007 17.11.2004 21.02.2007 18.06.2003 17.11.2004 20.04.2005 17.06.2010 13.04.2010
US 6595999 B2	22.07.2003	AT 330565 T AU 2002-37037 A1 AU 2002-37037 B2 DE 50110247 D1 EP 1252868 A1 EP 1252868 B1 US 2002-0193801 A1	15.07.2006 31.10.2002 24.02.2005 03.08.2006 30.10.2002 21.06.2006 19.12.2002
US 4574794 A1	11.03.1986	None	