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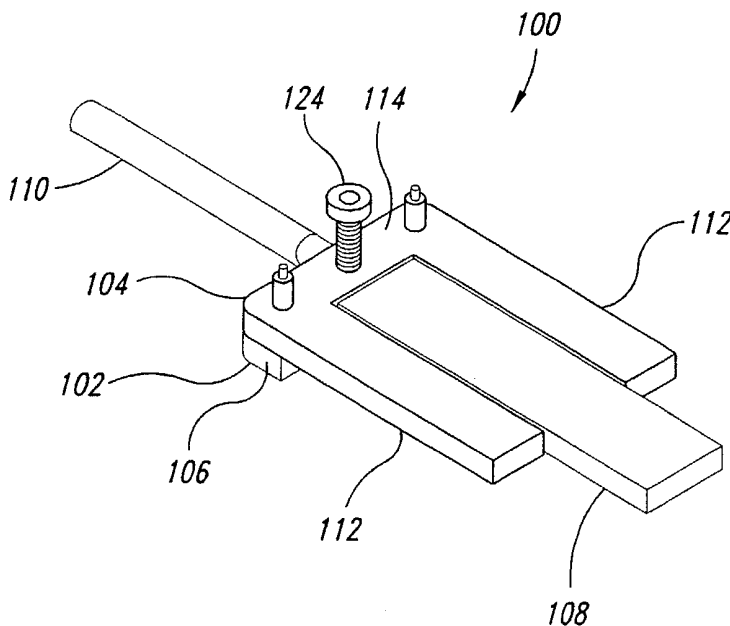
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(54) Title: INSTRUMENTS AND METHODS FOR USE IN PERFORMING KNEE SURGERY



(57) Abstract: A system and method for aligning a patient's leg, for establishing the ultimate alignment of the leg prior to making a horizontal femoral cut or a horizontal tibial cut, for preparing the distal femur for receiving a femoral implant, and for making the horizontal, femoral and tibial cuts. The system and method incorporate a spacer, a cutting guide, and a template. The spacer is insertable between a distal femur and a proximal tibia to rotate the tibia with respect to the femur into the desired alignment. The cutting guide is engageable with the spacer, and can be fixed to the proximal tibia and the distal femur. The cutting guide has openings sized and shaped to guide a surgical saw to make the horizontal femoral cut and the horizontal tibial cut. The template is shaped to closely conform with the distal femur to allow the leg to be extended and to allow the procedure to be performed without dislocating a patella. Through one method of the present invention, the

practitioner can select the desired ultimate alignment of the leg prior to making the horizontal, tibial and femoral cuts. As a result, when a replacement knee is implanted, the leg will be in the desired alignment.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/19221

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61B17/15 A61B17/02 A61F2/46

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 7 A61B 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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 809 969 A (HOWMEDICA) 3 December 1997 (1997-12-03) abstract; figures 6,8 column 7, line 1-5,53-56 ---	1-19, 23-33
X	US 5 669 914 A (ECKHOFF DONALD G) 23 September 1997 (1997-09-23) abstract; figures 1,3,4 column 3, line 21-23 column 8, line 40-45 column 10, line 26-28 ---	1-19, 23-33
X	FR 2 648 699 A (MATCO) 28 December 1990 (1990-12-28) abstract; figures 1,2 ---	1-13, 16-19, 23-33
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Further documents are listed in the continuation of box C. Patent family members are listed in 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 May 2002	Date of mailing of the international search report 17. 05. 02
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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 Macaire, S
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INTERNATIONAL SEARCH REPORT

International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 524 766 A (PETERSEN THOMAS D) 25 June 1985 (1985-06-25) abstract; figures 9-15 ----	37-44
X	EP 0 714 645 A (JOHNSON & JOHNSON PROFESSIONAL) 5 June 1996 (1996-06-05) abstract; figures 1,2A,2B,3 column 5, line 19-24 ----	45,46, 48,49 47,50,51
Y	US 5 464 406 A (BROWN DAVID R ET AL) 7 November 1995 (1995-11-07) abstract; figures 2,19,20 column 4, line 41-49 column 5, line 46-51 ----	47,51
A	WO 96 13233 A (INTERMEDICS ORTHOPEDICS INC) 9 May 1996 (1996-05-09) abstract; figure 1 page 5, line 3-7 ----	50
Y	WO 98 32384 A (BURSTEIN ALBERT H ;LIPMAN JOSEPH (US); ROBIE BRUCE (US); RYALLS JO) 30 July 1998 (1998-07-30) abstract; figures 5,6,8-10 page 3, line 21-34 page 8, line 14-22 ----	53-57, 60-65
Y	US 6 080 196 A (BERTIN KIM C) 27 June 2000 (2000-06-27) abstract; figures 1,2 -----	58,59

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 01/19221

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. 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 II Observations where unity of invention is lacking (Continuation of item 2 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 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.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. Claims: 1-44

A spacer with two elongated members coupled to a cutting guide for the femur and the tibia.

1.1. Claims: 1-19,23-29

A spacer with a shaft projecting in order to fix an alignment rod.

1.2. Claims: 20-22,34-44

A spacer for the tibia and the femur combined with a cutting guide having an opening oriented to make a cut in the femur and an opening oriented to make a cut in the tibia.

1.3. Claims: 30-33

A plurality of spacers combined in a kit.

2. Claims: 45-52

A prosthetic implant.

3. Claims: 53-65

A template fixed to a femur.

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/19221

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
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