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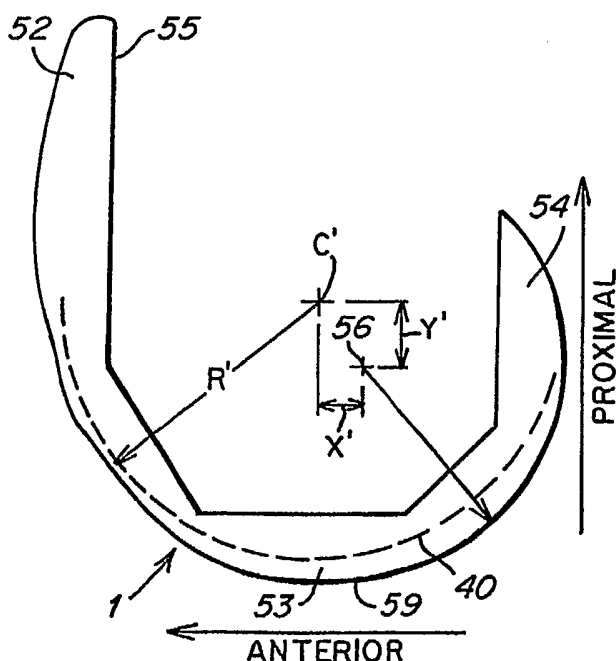
- (74) Agent: **HANIFIN, James, M., Jr.**; Wolf, Greenfield & Sacks, P.C., 600 Atlantic Avenue, Boston, MA 02210 (US).
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**Published:**

- 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

[Continued on next page]

(54) Title: KNEE JOINT PROSTHESIS WITH A FEMORAL COMPONENT WHICH LINKS THE TIBIOFEMORAL AXIS OF ROTATION WITH THE PATELLOFEMORAL AXIS OF ROTATION



(57) Abstract: A femoral component is provided for use in a knee joint prosthesis. The femoral component may be configured to provide one or more desirable kinematic relationships with a tibial component and/or patella so as to mimic the flexion and extension motion of a natural knee joint. The femoral component may be configured so that the patella follows a substantially circular pathway during knee flexion and extension. The femoral component may be configured so that the patella follows a curved patellar path during flexion and extension, and the curved patellar path has an origin located anterior and proximal to the geometrical center axis of the knee. The femoral component may be configured so that the patella follows a curved patellar path that lies in a plane which is parallel to and offset from a plane that extends through the center of the femoral head of a femur and is perpendicular to the geometrical center axis of the knee. The femoral component may be configured so that at least a portion of the patella substantially follows a patellar path in a plane perpendicular to the geometrical center axis of a knee throughout knee flexion.

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23 March 2006

*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/US2004/036524

**A. CLASSIFICATION OF SUBJECT MATTER**  
A61F2/38

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

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 013 103 A (KAUFMAN ET AL) 11 January 2000 (2000-01-11) column 21, line 61 - line 67; figure 57	1
X	FR 2 740 325 A (ROUSSEAU JACQUES MARIE) 30 April 1997 (1997-04-30) abstract	1
X	EP 0 582 514 A (IMPLANTS ORTHOPEDIQUES TOUTES APPLICATIONS, S.A.R.L. DITE:) 9 February 1994 (1994-02-09)	1
A	column 5, line 57 - column 6, line 11; figure 5	14-40
A	EP 0 681 817 A (PICHEL MOURE, CARLOS, MARIA) 15 November 1995 (1995-11-15) abstract	1
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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

27 January 2006

Date of mailing of the international search report

13. 02. 2006

Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US2004/036524

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 824 105 A (RIES ET AL) 20 October 1998 (1998-10-20) abstract	1
A	GB 2 277 034 A (* BRITISH TECHNOLOGY GROUP LIMITED) 19 October 1994 (1994-10-19) page 4, line 11 - line 24; figure 3	14-40
A	FR 2 700 260 A (BOUVET JEAN CLAUDE; GARCIA ALAIN; HUSSON JEAN LOUIS; HY XAVIER; LANDJE) 13 July 1994 (1994-07-13) figure 2	14-40

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2004/036524

## Box 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.:  
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 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 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: 1-13

Femoral component with a patellar path extending along an arc of constant radius.  
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2. claims; 14-40

Femoral component with a patellar path having an origin that is positioned anterior and proximal to the femoral geometric center axis.  
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

National Application No

PCT/US2004/036524

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