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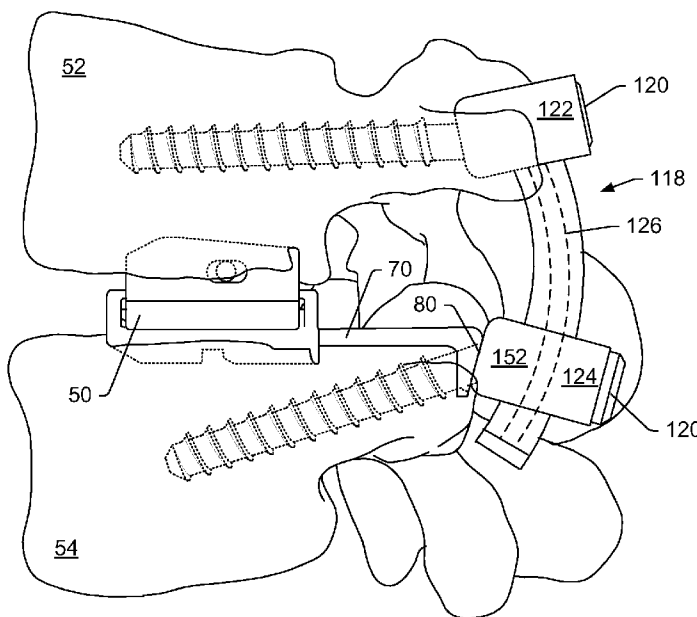
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[Continued on next page]

(54) Title: ARTIFICIAL FUNCTIONAL SPINAL UNIT SYSTEM AND METHOD FOR USE



(57) Abstract: A stabilization system for a human spine is provided comprising at least two dynamic interbody devices (50', 50') and at least one dynamic posterior stabilization system (118). In some embodiments the stabilization system comprises a pair of dynamic interbody devices and a pair of dynamic posterior stabilization systems. The dynamic interbody devices may work in conjunction with the dynamic posterior stabilization systems to allow for movement of vertebrae coupled to the stabilization system. The dynamic posterior stabilization systems may provide resistance to movement that mimics the resistance provided by a normal functional spinal unit. In some embodiments, a bridge (70) may couple a dynamic interbody device to a dynamic posterior stabilization system.



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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/US2007/063595

**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. A61B17/70      A61F2/30      A61F2/44

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 A61B

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 2003/055427 A1 (GRAF HENRY [FR]) 20 March 2003 (2003-03-20)  abstract paragraph [0032] - paragraph [0066] figures 7-10	1-16, 22-37, 42-49, 51-58, 60, 63-77, 83-91, 122
A	US 6 692 495 B1 (ZACOUTO FRED [FR]) 17 February 2004 (2004-02-17) abstract column 8, line 62 - column 9, line 34 figure 17	

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.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search  <b>8 August 2007</b>	Date of mailing of the international search report  <b>12/11/2007</b>
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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  <b>Storer, John</b>
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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2007/063595

## 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.: 17-21, 38-41, 61, 62, 78-82, 92-103, 123  
because they relate to subject matter not required to be searched by this Authority, namely:  
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery
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.:

see additional sheet(s)

### 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: 1-16,22-37,42-60,63-77,83-91,122

A bone stabilization system for a human spine, comprising:  
a dynamic posterior stabilization system configured to couple to a first vertebra and a second vertebra; and  
a dynamic interbody device configured to be positioned between the first vertebra and the second vertebra.

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## 2. claims: 104-121

A dynamic interbody device for a human spine, comprising:  
a first member configured to couple to a first vertebra, the first member having a curved surface;  
a second member configured to couple to a second vertebra and the first member, the second member having a curved surface complementary to the curved surface of the first member to allow for movement of the first vertebra relative to the second vertebra during use;  
and a bridge coupled to the second member, the bridge configured to couple the dynamic interbody device to a posterior stabilization system.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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