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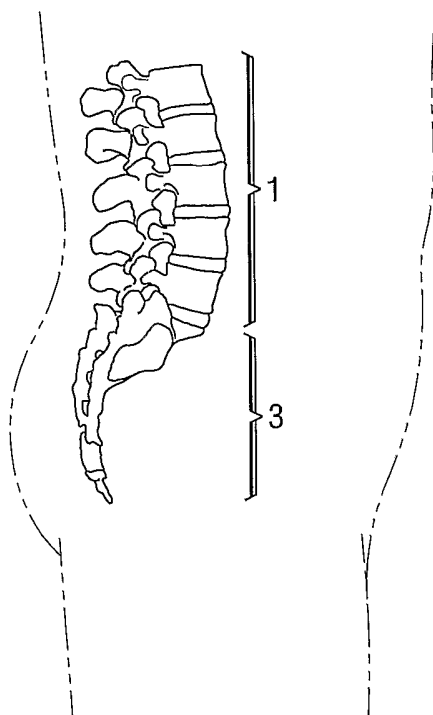
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**Declarations under Rule 4.17:**

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, 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, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM,

[Continued on next page]

(54) Title: SUPPORT STRUCTURE DEVICE AND METHOD



(57) Abstract: An artificial vertebral joint (100) is interposed between a superior vertebra and an inferior vertebra. The artificial vertebral joint comprises a rostral joint component having a first surface adapted for engagement with an endplate of the superior vertebra, a first anterior articulation surface (122), and a support tab (111) adapted for extending from the first surface and for engaging a portion of the endplate. The portion of the endplate extends from the first surface to a posterior edge of the endplate. The joint further comprises a caudal joint component having a second surface adapted for engagement with an endplate of the inferior vertebra and a spacer component (118) adapted for interposition between the rostral joint component and the caudal joint component.

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- PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations

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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/US2005/000586A. CLASSIFICATION OF SUBJECT MATTER  
A61F2/44 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

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          | WO 00/04851 A (SPINAL DYNAMICS CORPORATION; BRYAN, VINCENT; KUNZLER, ALEX) 3 February 2000 (2000-02-03)<br>figures<br>page 4, line 5 - page 5, line 15 | 1-6, 11, 13           |
| Y          |  | 7, 8                  |
| A          |  | 16, 18, 20, 22, 24    |
| X          | US 6 113 637 A (GILL ET AL)<br>5 September 2000 (2000-09-05)<br>figures 1-10<br>column 5, line 1 - column 6, line 30                                   | 1-6, 9-13             |
| A          |  | 14-20, 24             |

☒ 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

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

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\*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

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\*&amp;\* document member of the same patent family

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## INTERNATIONAL SEARCH REPORT

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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. |
|------------|--|-----------------------|
| Y          | US 6 572 653 B1 (SIMONSON RUSH E)<br>3 June 2003 (2003-06-03)<br>figures<br>column 4, line 5 - line 28<br>column 7, line 2 - line 12                       | 7,8                   |
| A          | -----  | 1,2,13                |
| A          | US 2003/004572 A1 (GOBLE E. MARLOWE ET AL)<br>2 January 2003 (2003-01-02)<br>claims 1-7; figures 3,4,11-32   | 14,21,<br>22,24       |
| A          | US 2003/055427 A1 (GRAF HENRY)<br>20 March 2003 (2003-03-20)<br>figures<br>paragraphs '0016! - '0021!, '0032! -<br>'0043!                                  |                       |
| P,X        | -----<br>WO 2004/034935 A (LINK SPINE GROUP, INC;<br>KELLER, ARNOLD) 29 April 2004 (2004-04-29)<br>claim 1; figures<br>page 15, line 11 - line 19<br>----- | 1-5,9-13              |

**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

An artificial vertebral joint for interposition between a superior vertebra and an inferior vertebra, the artificial vertebral joint comprising:  
a rostral joint component comprising a first surface adapted for engagement with an endplate of the superior vertebra, a first anterior articulation surface, and a support tab adapted for extending from the first surface and for engaging a portion of the endplate wherein the portion extends from the first surface to a posterior edge of the endplate;  
a caudal joint component comprising a second surface adapted for engagement with an endplate of the inferior vertebra;  
and  
a spacer component adapted for interposition between the rostral joint component and the caudal joint component wherein the first surface comprises separate left and right halves and the support tab comprises a left support tab and a right support tab, wherein the left support tab is adapted for extending from the left half and engaging a portion of the endplate between the left half and the posterior edge of the endplate, and wherein the right support tab is adapted for extending from the right half and engaging a portion of the endplate between the right half and the posterior edge of the endplate.

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## 2. claims: 14-24

An artificial spinal joint for creating a portion of a coupling between a superior vertebra and an inferior vertebra comprising:  
an anterior joint replacement component;  
a bridge coupled to the anterior joint replacement and extending posteriorly from the anterior joint replacement beyond one or both generally cylindrical body portions of the superior and inferior vertebrae;  
a posterior joint replacement component coupled to the bridge; and  
a support tab coupled to the anterior joint replacement component and engaging a posterior surface of the generally cylindrical body portion of the superior vertebra.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No  
PCT/US2005/000586

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date         |
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