

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
3 May 2007 (03.05.2007)

PCT

(10) International Publication Number  
**WO 2007/048252 A3**

(51) International Patent Classification:  
*A61F 2/44* (2006.01)

(21) International Application Number:  
PCT/CA2006/001769

(22) International Filing Date: 27 October 2006 (27.10.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/730,901 27 October 2005 (27.10.2005) US

(71) Applicant (for all designated States except US): **KINETIC SPINE TECHNOLOGIES INC.** [CA/CA];  
Foothills Hospital, 1403-29th Street N.W., Calgary, Alberta T2N 2T9 (CA).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HURLBERT, R. John** [CA/CA]; 36 Church Ranches Close, Calgary, Alberta T3R 1C1 (CA). **DUPLESSIS, Stephan J.** [CA/CA]; 303 Church Ranches Rise, Calgary, Alberta T3R 1B1

(CA). **SEKHON, Lali** [US/US]; 4140 Sedge Street, Fremont, California 94555 (CA).

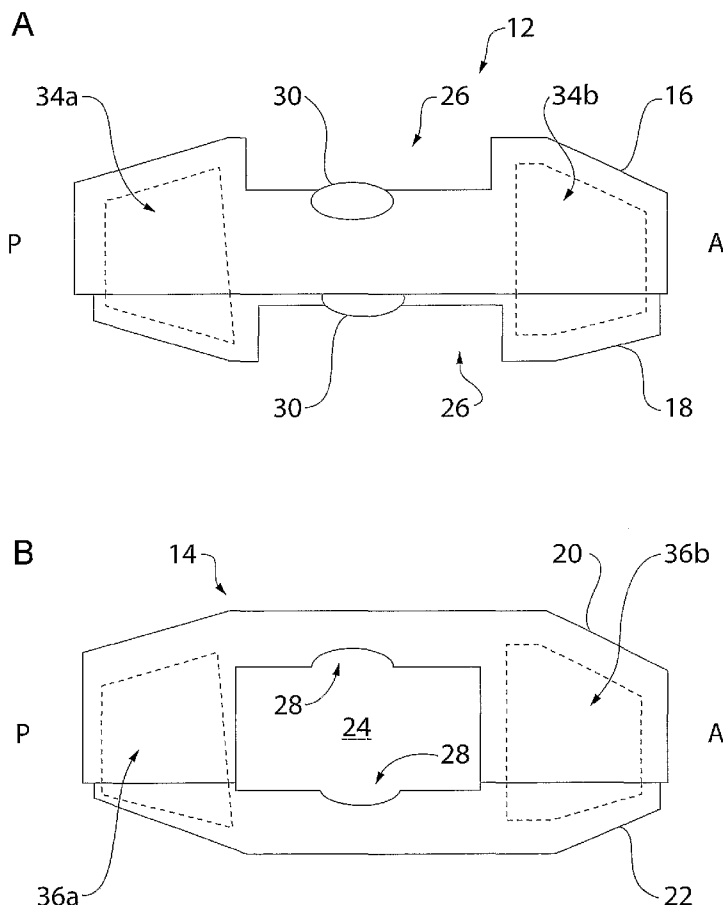
(74) Agent: **CHARI, Santosh K.**; Blake, Cassels & Graydon LLP, 199 Bay Street, Suite 2800, Box 25, Commerce Court West, Toronto, Ontario M5L 1A9 (CA).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): 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, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,

[Continued on next page]

(54) Title: INTERVERTEBRAL IMPLANT



(57) Abstract: An intervertebral implant, or disc prosthesis, comprises a pair of cooperating elements being provided in a generally "X" shaped structure. The elements are comprised of cooperating shells that are maintained separated by a resilient material provided therebetween. The elements allow for rotational and translational movement when implanted.



FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,  
RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:  
8 November 2007

**Published:**

— with international search report

*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/CA2006/001769

## A. CLASSIFICATION OF SUBJECT MATTER

IPC: **A61F 2/44** (2006.01)

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: A61F 2/44 (2006.01)

US Cl.: 623/17-all

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

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

Delphion and Canadian Patent Database: intervertebral disc, prosthesis, implant, inter-engaged, interlock, X-shaped, cross

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6852126 (Ahlgren) 08 February 2005 (08-02-2005) Entire document	1-10
A	US 6488710 (Besselink) 03 December 2002 (03-12-2002) Entire document	1-10
A	US 6395031 (Foley et al.) 28 May 2002 (28-05-2002) Entire document	1-10
A	US 2005/0165487 (Muhamma et al.) 28 July 2005 (28-07-2005) Entire document	1-10

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier application or patent but published on or after the international filing date	"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
"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)	"&" document member of the same patent family
"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	

Date of the actual completion of the international search

02 February 2007

Date of mailing of the international search report

16 February 2007 (16-02-2007)

Name and mailing address of the ISA/CA  
Canadian Intellectual Property Office  
Place du Portage I, C114 - 1st Floor, Box PCT  
50 Victoria Street  
Gatineau, Quebec K1A 0C9  
Facsimile No.: 001-819-953-2476

Authorized officer

Hoan Huynh 819- 934-3467

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.  
**PCT/CA2006/001769**

Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
US6852126	08-02-2005	AU8053801 A EP1357865 A1 US2005149194 A1 WO0205733 A1	30-01-2002 05-11-2003 07-07-2005 24-01-2002
US6488710	03-12-2002	AU5701200 A WO0101895 A1	22-01-2001 11-01-2001
US6395031	28-05-2002	AT276717T T AU1235600 A DE69920494D D1 DE69920494T T2 EP1124512 A1 EP1459711 A1 ES2228172T T3 JP2002528223T T US6193757 B1 US6833006 B2 US2005113920 A1 WO0025706 A1	15-10-2004 22-05-2000 28-10-2004 23-02-2006 22-08-2001 22-09-2004 01-04-2005 03-09-2002 27-02-2001 21-12-2004 26-05-2005 11-05-2000
US2005165487	28-07-2005	NONE	