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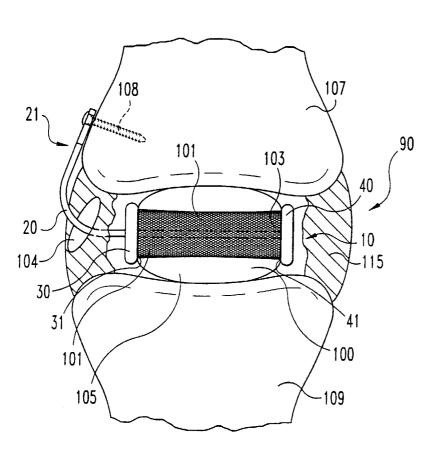
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[Continued on next page]

(54) Title: ANCHORING DEVICES AND IMPLANTS FOR INTERVERTEBRAL DISC AUGMENTATION



(57) Abstract: Devices for anchoring implants spinal in an intervertebral disc space are provided. Spinal implants also provided that are resistant to lateral deformation. The implants may include a flexible peripheral supporting band (101) disposed circumferentially about an elastic body. Methods for anchoring spinal implants and methods for reducing deformation of spinal implants are also provided.

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		ication and IPC	
	S SEARCHED	IF2/44 Autional Patent Classification (IPC) or to both national classification and IPC CHED Island a searched (classification system followed by classification symbols) IF Irched other than minimum documentation to the extent that such documents are included in the fields searched e consulted during the international search (name of data base and, where practical, search terms used) al CONSIDERED TO BE RELEVANT on of document, with indication, where appropriate, of the relevant passages Felevant to claim No. S 5 423 816 A (LIN CHIH I) 3 June 1995 (1995–06–13) olumn 3, paragraph 2; claim 1 0 98 04217 A (ULRICH HEINRICH SCHOENHOEFFER HELMUT (DE)) February 1998 (1998–02–05) bstract; figure 2 R 2 769 827 A (SDM) 3 April 1999 (1999–04–23) bstract; figure 1 S 6 120 503 A (MICHELSON GARY KARLIN) 9 September 2000 (2000–09–19) claim 17 ——/— uments are listed in the continuation of box C: X Patent tamily members are listed in annex. That later document published after the international filing date or priority date and not in conflict with the application but	
IPC 7	A61F	ation symbols)	
Documenta	ation searched other than minimum documentation to the extent tha	t such documents are included in the fields se	earched
Electronic o	data base consulted during the international search (name of data I	base and, where practical, search terms used)
EPO-In	nternal		
C. DOCUM	ENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the	relevant passages	Relevant to claim No.
Х	US 5 423 816 A (LIN CHIH I) 13 June 1995 (1995-06-13) column 3, paragraph 2; claim 1		
Α	WO 98 04217 A (ULRICH HEINRICH ;SCHOENHOEFFER HELMUT (DE)) 5 February 1998 (1998-02-05) abstract; figure 2		1,3
Α	FR 2 769 827 A (SDM) 23 April 1999 (1999-04-23) abstract; figure 1		1,3
A	US 6 120 503 A (MICHELSON GARY No. 19 September 2000 (2000-09-19) claim 17	(ARLIN)	1
		-/	
X Fur	ther documents are listed in the continuation of box C.	X Patent family members are listed	in annex.
"A" docum consi "E" earlier filing "L" docum which citatic "O" docum other "P" docum	ategories of cited documents: ment defining the general state of the art which is not dered to be of particular relevance document but published on or after the international date lent which may throw doubts on priority claim(s) or is cited to establish the publication date of another on or other special reason (as specified) lent referring to an oral disclosure, use, exhibition or means lent published prior to the international filing date but than the priority date claimed		the application but early underlying the staimed invention to be considered to cument is taken alone staimed invention ventive step when the ore other such docupus to a person skilled
	actual completion of the international search	Date of mailing of the international sea	arch report
	23 April 2002	02/05/2002	
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 Korth, C-F	

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In ational Application No
PCT/US 01/32254

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	n) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category ° Ci	itation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 97 37620 A (ALBY ALBERT ;SCIENT X SARL (FR); BENEZECH JACQUES (FR)) 16 October 1997 (1997-10-16) claim 1; figure 1	1
E	Claim 1; figure 1 WO 02 17824 A (SDGI HOLDINGS INC; TRIEU HAI H (US)) 7 March 2002 (2002-03-07) page 13, line 19 page 15, line 22 - line 27 page 16, line 19 page 18, line 20 - line 26 page 19, line 15 - line 28 page 22, line 18 page 15, line 5 - line 11	30-43

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P'TERNATIONAL SEARCH REPORT

Information on patent family members

In. ational Application No
PCT/US 01/32254

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 5423816	Α	13-06-1995	NONE			
WO 9804217	A	05-02-1998	DE WO EP	19630256 A 9804217 A 0923355 A	41	29-01-1998 05-02-1998 23-06-1999
FR 2769827	A	23-04-1999	FR WO	2769827 A 9920208 A		23-04-1999 29-04-1999
US 6120503	А	19-09-2000	US US AU AU CA CN EP JP WO US	6136001 A 6364880 B 706402 B 2129095 A 4473899 A 2186749 A 1148796 A 1197181 A 0752830 A 9511659 T 9526164 A 5772661 A	31 32 4 4 41 41 41 5	24-10-2000 02-04-2002 17-06-1999 17-10-1995 11-11-1999 05-10-1995 30-04-1997 17-04-2002 15-01-1997 25-11-1997 05-10-1998
WO 9737620	A	16-10-1997	FR BR CA EP WO JP US	2747034 A 9710703 A 2250804 A 0891169 A 9737620 A 2000508187 T 6235059 B	\ \1 \1 \1 \1	10-10-1997 17-08-1999 16-10-1997 20-01-1999 16-10-1997 04-07-2000 22-05-2001
WO 0217824	Α	07-03-2002	WO US	0217824 A 2002026244 A		07-03-2002 28-02-2002