(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 8 May 2003 (08.05.2003)

PCT

US

(10) International Publication Number WO 03/037166 A3

(51) International Patent Classification⁷: A61B 17/58

(21) International Application Number: PCT/US02/34706

(22) International Filing Date: 29 October 2002 (29.10.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/336,002 1 November 2001 (01.11.2001)

(71) Applicants and

(72) Inventors: BOYD, Lawrence, M. [US/US]; 25 Birnham Lane, Durham, NC 27707 (US). UPTON, Maureen, L. [US/US]; 1805 White Pine Drive, Durham, NC 27705 (US).

(74) Agent: BECK, Michael, D.; Maginot, Moore & Bowman, Suite 3000, 111 Monument Circle, Indianapolis, IN 46204 (US).

(81) Designated States (national): AU, CA, CN, JP, US, ZA.

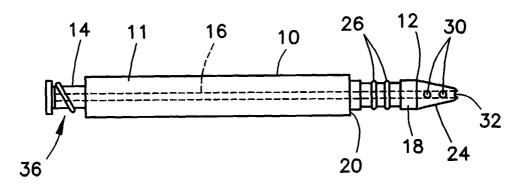
(84) Designated States (regional): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR).

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
- (88) Date of publication of the international search report: 11 December 2003

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.

(54) Title: DEVICES AND METHODS FOR THE RESTORATION OF A SPINAL DISC



(57) Abstract: A system and method is provided for maintaining a proper intervertebral disc height during the replacement or augmentation of the spinal disc. In one embodiment, a cannulated distractor (10) is used to distract the adjacent vertebrae and maintain a proper disc space height. The cannulated distractor (10) is fluidly connected to a source of fluent material for injection into the disc space. The distraction includes a distraction tip (18) resident within the disc space that includes a central lumen and a number of openings communicating with the lumen (16) to dispense the fluent material within the disc space.





INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/34706

A CT A	CONTRACTOR OF CUIP PEOP 14 APPEND		
A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : A61B 17/58			
IPC(7) : A61B 17/58 US CL : 606/92			
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)			
U.S.: 606/92,93,94,95,99,61,90; 604/500,506,164.11,38; 623/17.11,17.16,17.12,17.15			
Documentation reasoned other than minimum documentation as the supplier of the			
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched			
Electronic data has completed during the impact of			
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where a	innropriate of the relevant passages	Relevant to claim No.
X,P	US 6,436,143 B1 (ROSS et al) 20 August 2002 (20.	08 2002) see entire document	
	20 0, 100,1 10 21 (1000 0t al) 20 /14gast 2002 (20.	oo.2002), see chine document.	1-15,21-32
Y,P			16-20
ŕ			10-20
Α	US 6,248,110 B1 (REILEY et al.) 19 June 2001(19	06 2001) see entire document	1 22
		.00.2001), see chare document.	1-32
A.P	A,P US 6,375,659 B1 (ERBE et al.) 23 April 2002 (23.04.2002), see entire document.		1-32
		1-32	
A,P US 6,395,034 B1 (SUDDABY) 28 May 2002 (28.05.2002), see entire document.		1 22	
25 5,555,557 bi (5555/151) 25 Way 2002 (20.05.2002), see chare document.		1-32	
A US 5,562,736 A (RAY et al.) 08 October 1996 (08.10.1996), see entire document.		1-32	
55 5,552,755 17 (2212 St al.) 65 Settore: 1556 (65.16.1556), see chaire document.		1-32	
A,P US 6,383,190 B1 (PREISSMAN) 07 May 2002 (07.05.2002), see entire docum		.05.2002), see entire document	1-32
		oo.2002), see chare document.	1-32
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 prior			national filing date or priority
"A" document	defining the general state of the art which is not considered to be	date and not in conflict with the applica	tion but cited to understand the
	lar relevance	principle or theory underlying the inver	ition
	to decrease the second	"X" document of particular relevance; the ci	laimed invention cannot be
"E" earlier app	plication or patent published on or after the international filing date	considered novel or cannot be considered when the document is taken alone	ed to involve an inventive step
"L" document	which may throw doubts on priority claim(s) or which is cited to	when the document is taken alone	
establish t	he publication date of another citation or other special reason (as	"Y" document of particular relevance; the cl	laimed invention cannot be
specified)		considered to involve an inventive step	
"O" document	referring to an oral disclosure, use, exhibition or other means	combined with one or more other such a being obvious to a person skilled in the	
"P" document	published prior to the intermetional Cline days have been about		
"P" document published prior to the international filing date but later than the priority date claimed "&		"&" document member of the same patent fa	mily
Date of the actual completion of the international scarcit		Date of mailing of the international search report	
	003 (07.10.2003)	23 OCT 2003	
Name and mailing address of the ISA/US Algebraic officer			
	Stop PCT, Attn: ISA/US	MASH A	
Commissioner for Patents P.O. Box 1450		Pedro Philogene	
Alexandria, Virginia 22313-1450		Telephone No. (703) 308-2252	
Facsimile No. (703)305-3230			
	· · · · · · · · · · · · · · · · · · ·	L	j