(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 31 May 2001 (31.05.2001)

PCT

(10) International Publication Number WO 01/37744 A3

(51) International Patent Classification7: A61B 17/16, 17/17, 17/58, 17/88

(21) International Application Number: PCT/US00/42268

(22) International Filing Date:

22 November 2000 (22.11.2000)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

09/448,361

23 November 1999 (23.11,1999)

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(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, 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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

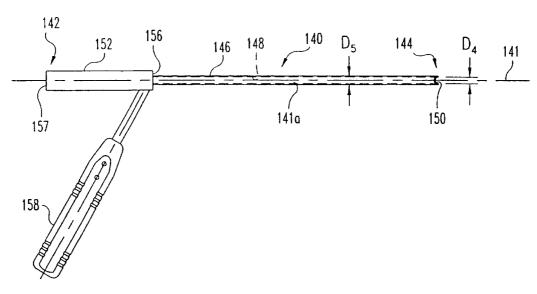
Published:

with international search report

(88) Date of publication of the international search report: 6 June 2002

[Continued on next page]

(54) Title: SURGICAL SCREW DELIVERY SYSTEM AND METHOD



(57) Abstract: A screw delivery system and method are disclosed for use in a variety of surgical indications. The screw delivery system generally comprises an outer cannula (100), a guide (140), and various interventional devices such as bone drill bits (160) and taps (200) as well as an implant driver (260) for inserting a screw. The method disclosed varies by indication, but is ordinarily intended for use as a minimally invasive procedure which is a combination of percutaneous and open techniques wherein a small midline incision is made over a surgical site and the screw delivery system provides a percutaneous portal through an incision distant from the small midline incision over the surgical site.





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

onal Application No PCT/US 00/42268

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 A61B17/16 A61E A61B17/17 A61B17/58 A61B17/88 According to International Patent Classification (IPC) or to both national classification and IPC Minimum documentation searched (classification system followed by classification symbols) IPC 7 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 Relevant to claim No. Category Citation of document, with indication, where appropriate, of the relevant passages 1-4.X US 4 872 451 A (WOLF EUGENE M ET AL) 9-15,19,10 October 1989 (1989-10-10) 20 abstract; figures 1-3 column 1, line 57 -column 2, line 20 column 3, line 8-13 5,8,16 Υ column 3, line 25-30 WO 95 35180 A (STARK JOHN G) 5,8,16 Υ 28 December 1995 (1995-12-28) 11-13 Α abstract; figures 5,6,9 page 3, line 22-25 page 4, line 29-34 page 8, line 23-27 page 12, line 32 -page 13, line 13 page 13, line 19-22 page 15, line 10-12 -/--Patent family members are listed in annex. Further documents are listed in the continuation of box C. lχ ° 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 *A* document defining the general state of the art which is not considered to be of particular relevance invention "E" earlier document but published on or after the international "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to filing date involve an inventive step when the document is taken alone 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) "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 docu-O document referring to an oral disclosure, use, exhibition or ments, such combination being obvious to a person skilled in the art. other means "P" document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 20/09/2001 12 September 2001 Name and mailing address of the ISA Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,

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INT"RNATIONAL SEARCH REPORT

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C.(Continua	ItiON) DOCUMENTS CONSIDERED TO BE RELEVANT			
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
А	WO 99 52446 A (RODTS GERALD E JR ;SDGI HOLDINGS INC (US); ESTES BRADLEY T (US); H) 21 October 1999 (1999-10-21) abstract; figures 21-25 page 18, line 8-27 page 20, line 6-18	2-5,8		
А	US 5 364 399 A (SHERMAN MICHAEL C ET AL) 15 November 1994 (1994-11-15) abstract; figure 10 column 10, line 5-15	2		

1

INTRNATIONAL SEARCH REPORT

information on patent family members

Inte onal Application No
PCT/US 00/42268

					,,	
Patent document cited in search report		Publication date		Patent family member(s)	F	Publication date
US 4872451	Α	10-10-1989	NONE			
WO 9535180	Α	28-12-1995	AU	2944495	A 1	5-01-1996
			WO	9535180	A1 2	8-12-1995
WO 9952446	A	21-10-1999	US			5-06-2001
			ΑU	3488099		1-11-1999
			AU	3551899		1-11-1999
			AU	3744699		1-11-1999
			EP	1069862		4-01-2001
			EP	1069864		4-01-2001
			WO	9952446		1-10-1999
			WO	9952447		1-10-1999
			WO	9952453		1-10-1999
			US	6197033		6-03-2001
			US 	2001012942	A1 U	9-08-2001
US 5364399	Α	15-11-1994	AU	692147		4-06-1998
			ΑU	6094894		9-08-1994
			CA	2154470		8-08-1994
			CN	1119411		7-03-1996
			EP	1106144		3-06-2001
			EP	0683646		9-11-1995
			JP	8506502	-	6-07-1996
			TR	28594		1-11-1996
			WO	9417744		8-08-1994
			US	5423826		3-06-1995
			ZA	9400777	A 0	8-09-1994