#### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

### (19) World Intellectual Property Organization

International Bureau



## 

(43) International Publication Date 3 October 2002 (03.10.2002)

**PCT** 

# (10) International Publication Number WO 2002/076311 A3

(51) International Patent Classification<sup>7</sup>: A61B 17/34,

(21) International Application Number:

PCT/US2002/008068

(22) International Filing Date: 18 March 2002 (18.03.2002)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

09/815,693

23 March 2001 (23.03.2001) US

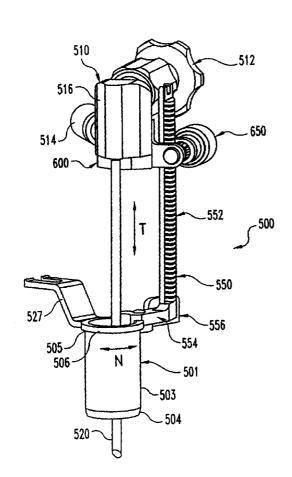
- (71) Applicant: SDGI HOLDINGS, INC. [US/US]; 300 Delaware Avenue Suite 508, Wilmington, DE 19801 (US).
- (72) Inventors: ROEHM, Thomas, E., III; 410 Highway 59, Braden, TN 38010 (US). NULL, William, B.; 5827 Eagleston Drive, Olive Branch, MS 38665 (US). FOLEY, Kevin,

T.; 2877 Keasler Circle, West, Germantown, TN 38139 (US). **SMITH, Maurice**; 9285 Oak Knoll Cove, Cordova, TN 38018 (US).

- (74) Agents: WARMBOLD, David, A. et al.; Medtronic Sofamor Danek, 710 Medtronic Parkway LC340, Minneapolis, MN 55432 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, 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, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,

[Continued on next page]

(54) Title: DEVICES AND METHODS FOR PERCUTANEOUS SURGERY



(57) Abstract: Methods and devices for performing surgery in a patient are provided. A cannula provides a working channel for access to a location in the patient. A clamp assembly is removably engaged to the cannula. The clamp assembly allows use of an endoscopic viewing system or can be removed to allow use of a microscopic viewing system in order to view the surgical site in the patient through the working channel. The clamp assembly includes a viewing element mounting portion having a length along which an endoscopic viewing element can be selectively positioned.

### WO 2002/076311 A3



GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

### Published:

with international search report

(88) Date of publication of the international search report: 26 February 2004

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

Interpretional Application No PC1/US 02/08068

A. CLASSI IPC 7	FICATION OF SUBJECT MATTER A61B17/34 A61B19/00						
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)  I PC 7 A61B							
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched							
Electronic d	ata base consulted during the international search (name of data ba	se and, where practical, search terms used)					
EPO-Internal							
C. DOCUMENTS CONSIDERED TO BE RELEVANT							
Category °	Citation of document, with indication, where appropriate, of the rel	evant passages	Relevant to claim No.				
Culcyony	Citation of account, managed and appropriate of	- · · · · · · · · · · · · · · · · · · ·					
Υ	WO 00 18306 A (SDGI HOLDINGS INC KEVIN T (US); CLAYTON JOHN B (US 6 April 2000 (2000-04-06) abstract; figure 27	;FOLEY ); SMITH)	1-16				
Υ	DE 299 16 026 U (AESCULAP AG & CO 18 November 1999 (1999-11-18) abstract; figure 1	1-16					
Α	DE 31 08 766 A (GMS GES MED SOND) 23 September 1982 (1982-09-23) abstract; figure 1	ENTECH)	2-4				
X,P	WO 01 54560 A (ENDIUS INC) 2 August 2001 (2001-08-02) abstract; figure 10		1-5				
		•					
Further documents are listed in the continuation of box C.    X   Patent family members are listed in annex.							
° Special cat	egories of cited documents:	"T" later document published after the inter-	national filling date				
"A" document defining the general state of the art which is not considered to be of particular relevance or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention							
"E" earlier document but published on or after the international "X" document of particular relevance; the claimed invention							
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication data of another  "another cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention							
citation or other special reason (as specified)  "O" document referring to an oral disclosure, use, exhibition or  cannot be considered to involve an inventive step when the document is combined with one or more other such docu-							
	nt published prior to the international filing date but	ments, such combination being obvious in the art.  "&" document member of the same patent fa					
later than the priority date claimed  Date of the actual completion of the international search		Date of mailing of the international sear					
22 July 2002		0 4. 10. 02					
Name and m	ailing address of the ISA	Authorized officer					
	European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rljswijk						
	Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	MOERS, R					

### INTERNATIONAL SEARCH REPORT

formation on patent family members

International Application No PC1/US 02/08068

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 0018306	Α	06-04-2000	US AU EP JP WO	6152871 A 6055399 A 1115341 A1 2002525156 T 0018306 A1	28-11-2000 17-04-2000 18-07-2001 13-08-2002 06-04-2000
DE 29916026	U	18-11-1999	DE	29916026 U1	18-11-1999
DE 3108766	Α	23-09-1982	DE	3108766 A1	23-09-1982
WO 0154560	Α	02-08-2001	US AU WO	6361488 B1 3115201 A 0154560 A2	26-03-2002 07-08-2001 02-08-2001

### INTERNATIONAL SEARCH REPORT



Box I	Observations where certain claims were found unsearchable (Continuation of item 1 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. X	Claims Nos.: 33-36 because they relate to subject matter not required to be searched by this Authority, namely:  Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery				
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 II	Observations where unity of invention is lacking (Continuation of item 2 of first sheet)				
This Inte	ornational 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. X	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.:  1-16				
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: 1-16

Device for use in spinal surgery comprising: a cannula; a clamp assembly engageable to said cannula and having a viewing element mounting portion; and a viewing element engageable at various positions along said mounting portion.

### 2. Claims: 17-21

Device for supporting a viewing element comprising: a cannula; and a clamp assembly configured to apply a clamping force to the inner and outer surface of said cannula for releasable engagement and including a viewing element mounting portion.

#### 3. Claims: 22-26

Device for performing surgery comprising: a cannula; a clamp assembly engageable to the proximal end of said cannula and having a viewing element mounting portion; and a viewing element supported by said clamp assembly.

### 4. Claims: 27-32

Kit for use in percutaneous surgery comprising: a cannula; a clamp assembly engageable to said cannula; a viewing element supported by said clamp assembly having an optics cannula; and a microscope.