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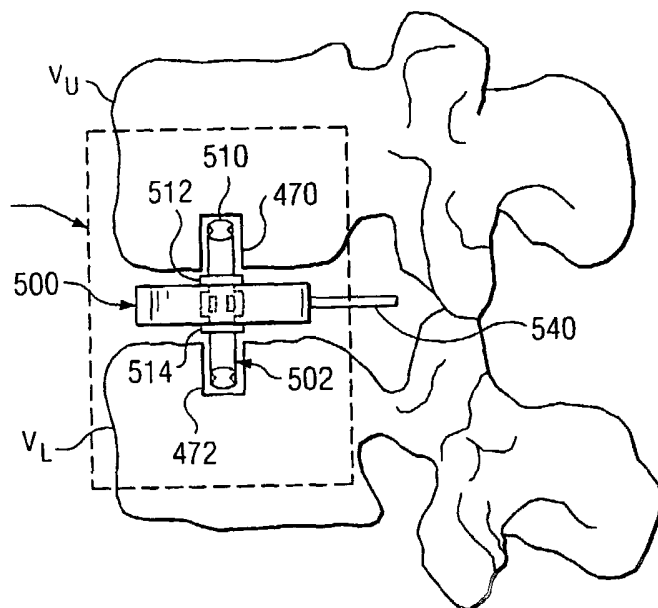
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- (71) Applicant (for all designated States except US): SDGI HOLDINGS, INC. [US/US]; 300 Delaware Avenue, Suite 508, Wilmington, DE 19801 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): EISERMANN, Lukas [US/US]; 42 Riverview Drive West, Number 301, Memphis, TN 38103 (US).
- (74) Agents: REVIS, Paul, A. et al.; 710 Medtronic Parkway MS LC340, Minneapolis, MN 55432 (US).
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(54) Title: INSTRUMENT AND METHOD FOR MILLING A PATH INTO BONE



(57) Abstract: An instrument and method for cutting a path in bone are provided. The instrument includes a curved guide member (500) defining a curved opening (504) extending therein, and a bit member (510) positioned within the opening (504) of the guide member (500). The bit member is adapted to move within the opening of the guide member to cut a path in bone.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/004110

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 A61B17/16 A61B17/17 A61F2/44

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 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

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/058944 A1 (MICHELSON GARY K) 16 May 2002 (2002-05-16) claims 1-5,14,24,27; figures 1b,2,4,8-18 paragraph [0052]	1
A	----- US 6 083 228 A (MICHELSON GARY K) 4 July 2000 (2000-07-04) figures 16-23 column 11, line 55 - column 12, line 27	1
A	----- US 6 413 278 B1 (MARCHOSKY J ALEXANDER) 2 July 2002 (2002-07-02) figures 7-11,19-24 column 8, line 47 - column 9, line 19 column 11, line 57 - line 60 -----	1

Further documents are listed in the continuation of box C. Patent family members are listed in annex.

* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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.</p> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search 5 August 2004	Date of mailing of the international search report 03.01 2005
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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 <p style="text-align: center;">Stach, R</p>
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/004110

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002058944 A1	16-05-2002	US 2004162563 A1	19-08-2004
		US 2002050422 A1	02-05-2002

US 6083228 A	04-07-2000	AU 760882 B2	22-05-2003
		AU 4554299 A	30-12-1999
		CA 2334543 A1	16-12-1999
		EP 1083829 A1	21-03-2001
		JP 2002518067 T	25-06-2002
		WO 9963891 A1	16-12-1999
		US 2003130662 A1	10-07-2003
		US 2003187448 A1	02-10-2003
		US 6537279 B1	25-03-2003
		US 6517544 B1	11-02-2003

US 6413278 B1	02-07-2002	WO 9949818 A1	07-10-1999
		US 2002138145 A1	26-09-2002
		AU 741664 B2	06-12-2001
		AU 2973299 A	18-10-1999
		CA 2326351 A1	07-10-1999
		EP 1066001 A1	10-01-2001
		ZA 9902225 A	19-12-2000

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2004/004110

Box II Observations where certain claims were found unsearchable (Continuation of item 2 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. Claims Nos.: 19-22
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 III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International 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. 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

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. claim: 1

A system for simultaneously removing portions of proximate endplates of adjacent vertebral bodies, the system comprising:
a guide member defining an extended opening extending therein, the guide member being configured to fit in a disc space;
a bit member positioned within the opening of the guide member, the bit member including a superior cutting portion for cutting the end plate of a superior vertebral body, and an inferior cutting portion for cutting the end plate of an inferior vertebral body;
a rotatable element operatively connected to the bit member to impart rotational movement to the superior and inferior cutting portions, and operatively connected to the guide member for moving the bit member along at least a portion of the extended opening.
(problem: reducing the time needed for cutting pathes in two adjacent vertebrae)

2. claims: 2-18

An instrument for cutting a path in bone, comprising a non-linear guide member defining a non-linear opening extending therein, and a bit member positioned within the opening of the guide member, the bit member being adapted to move within the opening of the guide member to cut a path in bone.
(problem: cutting a well defined non-linear path into bone)
