

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
3 August 2006 (03.08.2006)

PCT

(10) International Publication Number  
**WO 2006/081375 A3**

- (51) **International Patent Classification:**  
A61B 17/70 (2006.01) A61B 17/88 (2006.01)
- (21) **International Application Number:**  
PCT/US2006/002828
- (22) **International Filing Date:** 26 January 2006 (26.01.2006)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**  
11/236,339 27 January 2005 (27.01.2005) US
- (71) **Applicant (for all designated States except US):** SDGI HOLDINGS, INC. [US/US]; 300 Delaware Avenue Suite 508, Wilmington, Delaware 19801 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** BRUMFIELD, David, L. [US/US]; 9290 Forrest Wind Drive, Collierville, Tennessee 38017 (US). MILLER, Keith [US/US]; 7348 Bellville Drive, Germantown, Tennessee 38139 (US).
- (74) **Agent:** WILLIS, Thomas, L. Jr.; MS LC340, 710 Medtronic Parkway, Minneapolis, Minnesota 55432, (US).
- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,

GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

**Published:**

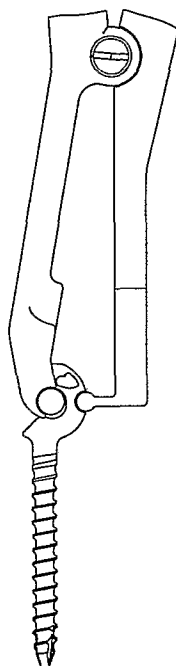
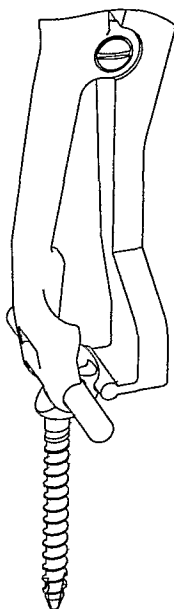
- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) **Date of publication of the international search report:**  
19 April 2007

[Continued on next page]

(54) **Title:** REDUCING INSTRUMENT FOR SPINAL SURGERY

CLOSED POSITION



CYLINDRICAL FEATURE ON INSTRUMENT  
ENGAGES WITH GROOVE ON IMPLANT

(57) **Abstract:** An instrument is provided for use in orthopedic surgery for reduction of a connecting member such as a spinal rod toward an implant such as a bone screw. An embodiment of the instrument includes handle portions that are pivotable relative to each other and biased apart, and arm portions pivotable relative to each other and to the handle portions. Distal portions of the arm portions, which are offset from the arm portions, provide structure for engaging a connecting member and an implant. Squeezing the handle portions force the distal portions of the arm portions together, forcing together the connecting member and the implant. A toothed bar and pawl may be provided to retain the instrument in a squeezed state.

WO 2006/081375 A3



---

*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**

International application No  
PCT/US2006/002828

**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. A61B17/70 A61B17/88

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)  
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, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2002/095153 A1 (JONES ROBERT J [US] ET AL) 18 July 2002 (2002-07-18)  paragraph [0048] - paragraph [0049] paragraph [0053] - paragraph [0054]	1-5, 8-10, 12-18
Y	US 2004/147936 A1 (ROSENBERG WILLIAM S [US] ET AL) 29 July 2004 (2004-07-29)  paragraph [0044]	1-5, 8-10, 12-18
Y	US 6 440 133 B1 (BEALE JEFFREY W [US] ET AL) 27 August 2002 (2002-08-27) column 9, line 62 - column 10, line 5	3,4
Y	WO 93/11715 A (JBS SA [FR]) 24 June 1993 (1993-06-24) page 19, line 27 - line 29; figure 19	8,9,17, 18

Further documents are listed in the continuation of Box C.       See patent family 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>* &amp; * document member of the same patent family</p>
--	--

Date of the actual completion of the international search  2 February 2007	Date of mailing of the international search report  12/02/2007
--	--

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  Angeli, Markus
---	--

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2006/002828

## 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.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
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.:

### 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: 1-7,10-16

A rod reduction instrument directed to second arm with a distal cross piece having a tab portion for providing a further supporting surface for an orthopedic rod.

---

2. claims: 8,9,17,18

A rod reduction instrument directed to a second arm having a U-shaped portion being angled for bringing the rod into proximity of the first arm and implant, respectively.

---

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2006/002828

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2002095153	A1	18-07-2002	NONE	
US 2004147936	A1	29-07-2004	WO 2004069034 A2	19-08-2004
US 6440133	B1	27-08-2002	CA 2452759 A1	16-01-2003
			EP 1401343 A1	31-03-2004
			JP 2004531354 T	14-10-2004
			WO 03003928 A1	16-01-2003
			US 2003009168 A1	09-01-2003
WO 9311715	A	24-06-1993	AT 151254 T	15-04-1997
			AU 3356193 A	19-07-1993
			DE 69218925 D1	15-05-1997
			DE 69218925 T2	17-07-1997
			EP 0571619 A1	01-12-1993
			ES 2101297 T3	01-07-1997
			FR 2684866 A1	18-06-1993
			JP 3307428 B2	24-07-2002
			JP 5212055 A	24-08-1993