

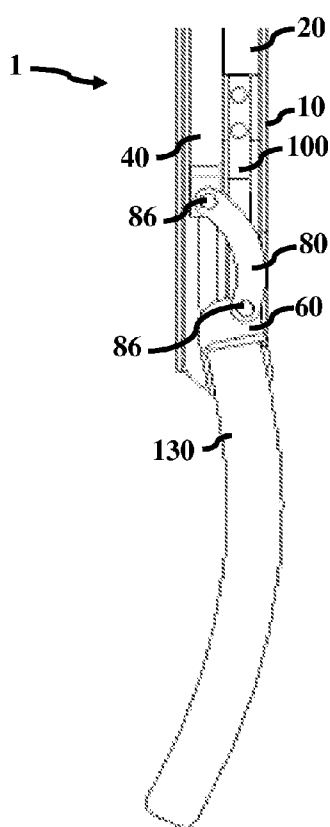


- (51) International Patent Classification:
A61B 17/88 (2006.01) A61B 17/34 (2006.01)
A61B 17/90 (2006.01)
- (21) International Application Number:
PCT/US2012/032140
- (22) International Filing Date:
4 April 2012 (04.04.2012)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
13/086,507 14 April 2011 (14.04.2011) US
- (71) Applicant (for all designated States except US): CUS-
TOM SPINE, INC. [US/US]; 1140 Parsippany Blvd.,
Suite 201, Parsippany, NJ 07054 (US).
- (72) Inventors: OH, YoungHoon; 12 Gabriel Drive, Montville,
NJ 07045 (US). SICHLER, Kevin; 66 Cobane Ter., West
Orange, NJ 07052 (US). ABDELGANY, Mahmoud, F.;
40 Fleetwood Drive, Rockaway, NJ 07866 (US).
- (74) Agent: RAHMAN, Mohammad, S.; Rahman LLC, 10025
Governor Warfield Parkway, Suite 110, Columbia, MD
21044 (US).
- (81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,

[Continued on next page]

(54) Title: PIVOTING INSERTION APPARATUS AND METHOD

FIG. 2



(57) Abstract: A pivoting insertion apparatus and method includes a main body comprising a shaft including a longitudinal channel cavity and a forked end coupled to the shaft; an actuator seated within the channel cavity; a hinge joint including a hinge joint main body coupled to the main body and a pair of arms coupled to the hinge joint main body; an outer sleeve including an outer shell surrounding a cavity that loosely contains the main body, actuator, and a portion of the hinge joint; a member housing including a member housing body that includes a main cavity housing the longitudinal member and a pair of arms coupled to the member housing body; and a linkage component including a first end coupled to the forked end of the actuator and a second end coupled to at least one of the member housing arms.



HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT,

LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:

6 December 2012

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/032140**A. CLASSIFICATION OF SUBJECT MATTER*****A61B 17/88(2006.01)i, A61B 17/90(2006.01)i, A61B 17/34(2006.01)i***

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 17/88; A61F 2/00; A61F 2/44; A61B 19/00; A61B 17/00; A61B 17/58

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: spinal, pivoting insertion, implant

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2007-0225726 A1 (DYE, JUSTIN et al.) 27 September 2007 See abstract; figs. 5C, 5D; paragraphs 53, 71; claims 1, 2.	1-22
A	US 2010-0094422 A1 (HANSELL, NOAH et al.) 15 April 2010 See abstract; figs. 6, 10; paragraph 40, claim 1.	1-22
A	US 2009-0198246 A1 (LIM, ROY et al.) 06 August 2009 See abstract; fig. 7; paragraph 39; claim 1.	1-22
A	US 2008-0065082 A1 (CHANG, NARISSA et al.) 13 March 2008 See abstract; fig. 1A; paragraphs 57, 58; claim 1.	1-22
A	US 2008-0140085 A1 (GATELY, NICHOLAS V. et al.) 12 June 2008 See abstract; fig. 9; paragraph 48; claim 7.	1-22

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"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

"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

"&" document member of the same patent family

Date of the actual completion of the international search

28 SEPTEMBER 2012 (28.09.2012)

Date of mailing of the international search report

28 SEPTEMBER 2012 (28.09.2012)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
189 Cheongsu-ro, Seo-gu, Daejeon Metropolitan
City, 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KANG, HEE GOK

Telephone No. 82-42-481-8264



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/032140

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007-0225726 A1	27.09.2007	US 7976549 B2	12.07.2011
US 2010-0094422 A1	15.04.2010	EP 2364114 A1	14.09.2011
		JP 2012-505068 A	01.03.2012
		US 8147554 B2	03.04.2012
		WO 2010-045231 A1	22.04.2010
US 2009-0198246 A1	06.08.2009	AT 470413 T	15.06.2010
		CA 2604953 A1	26.10.2006
		DE 602006014824 D1	22.07.2010
		EP 1887990 A1	20.02.2008
		EP 1887990 B1	09.06.2010
		EP 2062555 A1	27.05.2009
		JP 04685927 B2	18.05.2011
		JP 2008-536582 A	11.09.2008
		KR 10-2008-0009113 A	24.01.2008
		US 2006-0235426 A1	19.10.2006
		US 7575580 B2	18.08.2009
		US 8231633 B2	31.07.2012
		WO 2006-113562 A1	26.10.2006
US 2008-0065082 A1	13.03.2008	None	
US 2008-0140085 A1	12.06.2008	None	