

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
15 January 2009 (15.01.2009)

PCT

(10) International Publication Number
WO 2009/009415 A3

(51) International Patent Classification:
A61F 2/44 (2006.01)

(21) International Application Number:
PCT/US2008/069141

(22) International Filing Date:
3 July 2008 (03.07.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/774,584 7 July 2007 (07.07.2007) US
12/118,503 9 May 2008 (09.05.2008) US

(71) Applicant (for all designated States except US): JMEA CORPORATION [US/US]; 1 Research Court, Suite 450, Rockville, MD 20850 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SACK, James, A. [US/US]; c/o JMEA Corporation, 1 Research Court, Suite 450, Rockville, MD 20850 (US). BHATNAGAR, Mohit, K. [US/US]; c/o JMEA Corporation, 1 Research Court, Suite 450, Rockville, MD 20850 (US). YEH, Jack, Y. [US/US]; c/o JMEA Corporation, 1 Research Court, Suite 450, Rockville, MD 20850 (US).

(74) Agents: LEE, Michael, S. et al.; Plumsea Law Group, LLC, 10411 Motor City Drive, Suite 320, Bethesda, MD 20817 (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, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, 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))

(88) Date of publication of the international search report:
30 December 2009

(54) Title: DISK FUSION IMPLANT

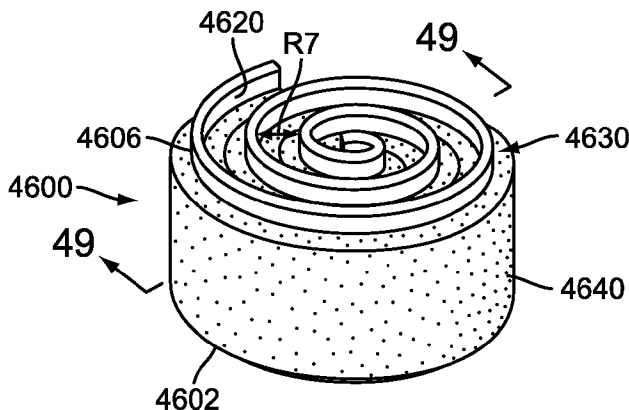


FIG. 48

(57) Abstract: An implant strip is disclosed. In some cases, the prosthesis can take the form of an implant strip that may be implanted through the use of a surgical procedure that minimizes incision sizes and may be considered less invasive than typical spinal implant procedures. The implant strip includes provisions for implantation, including teeth, spacing provisions and various shapes.



WO 2009/009415 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 08/69141

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - A61F 2/44 (2009.01)
USPC - 623/17.16
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 - A61F 2/44 (2009.01)
USPC - 623/17.16

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
IPC - A61F 2/30 (2009.01)
USPC - 623/17.11, 17.13

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST (DB=PGPB,USPT,USOC,EPAB,JPAB); Google Scholar
Search Terms - strip, ribbon, implant, taper, wedge, convex, concave, spiral, coil, helix, height

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2007/0123986 A1 (SCHALLER) 31 May 2007 (31.05.2007) entire document, especially, para [0138], [0205]; Fig 5, 44, 45	1, 3-4 ----- 2, 5-8
Y	US 2002/0107573 A1 (STEINBERG) 08 August 2002 (08.08.2002) para [0394]	2
Y	US 2007/0093906 A1 (HUDGINS et al.) 26 April 2007 (26.04.2007) para [0034]; Fig 9	5-8
A	US 6,660,037 B1 (HUSSON et al.) 09 Decemeber 2003 (09.12.2003) entire document	1-8
A	US 5,919,235 A (HUSSON et al.) 06 July 1999 (06.07.1999) entire document	1-8

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier application or patent but published on or after the international filing date	"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
"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)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 03 August 2009 (03.08.2009)	Date of mailing of the international search report 12 AUG 2009
--	--

Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774
---	--

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 08/69141

Box No. 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 No. 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:

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

Group I: claims 1-8 directed to a spinal prosthesis

Group II: claims 9-14, 20-22, 25, 26 directed to a spinal prosthesis

Group III: claims 15-19 directed to a spinal prosthesis

Group IV: claims 23, 24, 27-32 directed to a spinal prosthesis

---Continued in Supplemental Box---

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 additional fees, this Authority did not invite payment of additional fees.
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.:
Claims 1-8

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 08/69141

----Continued from Box III----

The groups of inventions above do not related to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The special technical feature of the Group I claims is an implant strip coil having two different axial heights, which is not present in the claims of Groups II-IV.

The special technical feature of the Group II claims is an implant strip having two coils separated by a spacer portion, which is not present in the claims of Groups I or III-IV.

The special technical feature of the Group III claims is an implant strip having an edge comprising a plurality of teeth, which is not present in the claims of Groups I-II or IV.

The special technical feature of the Group IV claims is an implant strip transforms from a first shape to a second coil shape during implantation, which is not present in the claims of Groups I-III.

Groups I, II, III, IV share the technical feature of a spinal implant strip that is coiled into place in the joint between two vertebrae. This generic feature does not avoid the prior art, as evinced by US 5,716,416 A to Lin which teaches an example of an implant strip that is injected into the vertebral joint in a coiled fashion (col 2, ln 27 to col 3, ln 67).

Therefore, the listed inventions lack unity of invention under PCT Rule 13 because they do not share a same or corresponding special technical feature.