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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))

[Continued on next page]

(54) Title: SPOOL INTERVERTEBRAL DISTRACTION DEVICE AND METHOD

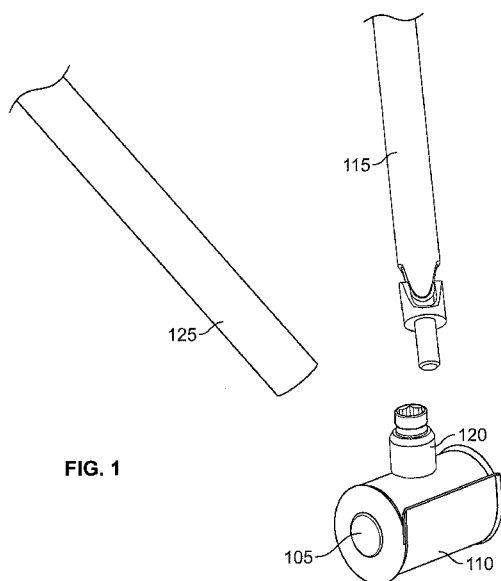


FIG. 1

(57) Abstract: An intervertebral disc space distraction system includes a spool core (105) sized to be percutaneously positioned within a portion of a disc space between adjacent vertebral bodies, the spool core having a first diameter. The system further includes an elongate film (110) removably attached to the spool core, wherein the elongate film can be wound around the spool core to increase the first diameter of the spool core.



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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2009/035887

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61B17/88 A61F2/44 A61F2/46

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 A61F

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	WO 02/24121 A (SDGI HOLDINGS INC [US]; MCKAY WILLIAM F [US]) 28 March 2002 (2002-03-28) page 1, lines 11-16 page 5, line 4 - page 6, line 7 page 7, lines 17-24 page 14, line 26 - page 19, line 3 page 21, line 20 - page 22, line 23 page 32, line 24 - page 33, line 15 figures 1-6,14,15	1-3, 9-11,14, 15,30-32
Y	-----	4,33
X	US 3 707 006 A (BOKROS JACK C ET AL) 26 December 1972 (1972-12-26) column 12, line 43 - column 13, line 35 column 16, line 59 - column 17, line 2 figure 6 ----- -/--	1-3,30

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 document 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 another 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

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2005/077288 A (DEPUY SPINE INC [US]; MAHONEY MICHAEL [US]; DZIEDZIC SARA [US]; BIRKME) 25 August 2005 (2005-08-25) page 18, lines 13-26 figures 27-29	4
A	-----	1-3
Y	FR 2 885 032 A (SDGI HOLDINGS INC [US]) 3 November 2006 (2006-11-03) page 3, lines 10-17 figure 1	33
A	-----	30-32
A	WO 03/028587 A (REX MEDICAL LP [US]) 10 April 2003 (2003-04-10) page 8, line 3 - page 10, line 5 figures 5-7C	1-3, 9, 30-32

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/035887

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.: 19-29
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 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:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.
2. As all searchable claims could be searched without effort justifying an 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.:

see annex

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-4, 9-11, 14, 15, 30-33

A system of the type claimed comprising a spool core delivery member wherein the distal attachment end of the spool core delivery member comprises a flexible component.

2. claims: 5-8

A system of the type claimed comprising a film delivery member comprising an internal passageway sized to receive and percutaneously deliver the elongate film to the disc space.

3. claims: 12, 13

A system of the type claimed wherein the elongate film removably attaches to the spool core via at least one intermediary element.

4. claim: 16

A system of the type claimed wherein the elongate film comprises at least one perimeter edge having an alignment structure that assists in alignment of the elongate film wound around the spool core.

5. claims: 17, 18

A system of the type claimed comprising a locking member that engages the spool core and the elongate film wound around the spool core to lock the elongate film in a wound state around the spool core.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2009/035887

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0224121	A	28-03-2002	AU 9282601 A	02-04-2002
			AU 2001292826 B2	28-09-2006
			CA 2422710 A1	28-03-2002
			EP 1328217 A2	23-07-2003
			JP 2004508888 T	25-03-2004
US 3707006	A	26-12-1972	AT 322090 B	12-05-1975
			CA 988252 A1	04-05-1976
			CH 533982 A	28-02-1973
			DE 2142820 A1	02-03-1972
			FR 2105998 A5	28-04-1972
			GB 1340436 A	12-12-1973
			JP 57006943 B	08-02-1982
			NO 129832 B	04-06-1974
			SE 389265 B	01-11-1976
WO 2005077288	A	25-08-2005	AU 2005212352 A1	25-08-2005
			CA 2555876 A1	25-08-2005
			EP 1713408 A1	25-10-2006
			JP 2007521886 T	09-08-2007
			US 2007276406 A1	29-11-2007
FR 2885032	A	03-11-2006	US 2007005088 A1	04-01-2007
WO 03028587	A	10-04-2003	AU 2002334655 B2	05-06-2008
			CA 2460766 A1	10-04-2003
			EP 1432371 A2	30-06-2004
			JP 2005504584 T	17-02-2005
			US 2003199979 A1	23-10-2003
			US 2008009944 A1	10-01-2008