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US

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- with international search report (Art. 21(3))
- (88) Date of publication of the international search report:

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(54) Title: METHODS AND APPARATUS FOR DELIVERING AND POSITIONING SHEET-LIKE MATERIALS

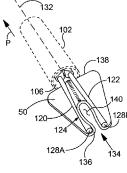


FIG. 9C

(57) Abstract: An implant delivery system (60) for delivering a sheet-like implant (50) is disclosed. The device includes an implant spreader assembly (124) disposed proximate the distal end of a delivery shaft. The implant spreader assembly includes a first arm (120) and a second arm (122). The arms are coupled to the delivery shaft such that the first arm and second arm are moveable between a closed position and an open position. When the first and second arms are in the closed position, the arms extend generally in the longitudinal direction. When pivoting to the open position the distal end of each arm travels in a generally transverse direction to spread a sheet-like implant.





### INTERNATIONAL SEARCH REPORT

International application No PCT/US2012/025067

A. CLASSIFICATION OF SUBJECT MATTER INV. A61F2/00 A61B17/00

ADD. A61F2/08

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)

A61F 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 practicable, search terms used)

EPO-Internal, WPI Data

| C. DOCUMENTS CONSIDERED TO BE RELEVANT   |   |  |  |  |
|--|---|--|--|--|
| Citation of document, with indication, where appropriate, of the relevant passages                       | Relevant to claim No.   |  |  |  |
| EP 0 557 963 A1 (UNITED STATES SURGICAL CORP [US]) 1 September 1993 (1993-09-01)                         | 1-7,<br>10-18   |  |  |  |
| column 4, line 42 - line 44<br>figures 2,3   | 8,9   |  |  |  |
| WO 2005/016389 A2 (JACKSON KELLY [US])<br>24 February 2005 (2005-02-24)<br>paragraph [0035]; figures 1,2 | 8,9   |  |  |  |
| WO 2011/128903 A2 (DUDAI MOSHE [IL])<br>20 October 2011 (2011-10-20)<br>figures 12b,14e                  | 1   |  |  |  |
| US 2009/156986 A1 (TRENHAILE SCOTT [US])<br>18 June 2009 (2009-06-18)<br>figure 15                       | 1-18  |  |  |  |
| -/   |   |  |  |  |
|  | Citation of document, with indication, where appropriate, of the relevant passages  EP 0 557 963 A1 (UNITED STATES SURGICAL CORP [US]) 1 September 1993 (1993-09-01) column 4, line 42 - line 44 figures 2,3  W0 2005/016389 A2 (JACKSON KELLY [US]) 24 February 2005 (2005-02-24) paragraph [0035]; figures 1,2  W0 2011/128903 A2 (DUDAI MOSHE [IL]) 20 October 2011 (2011-10-20) figures 12b,14e  US 2009/156986 A1 (TRENHAILE SCOTT [US]) 18 June 2009 (2009-06-18) figure 15 |  |  |  |

| X Further documents are listed in the continuation of Box C.   | X See patent family annex.  |  |
|--|---|--|
| "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 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 | "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 |  |
| the priority date claimed  Date of the actual completion of the international search   | "&" document member of the same patent family  Date of mailing of the international search report   |  |
| 7 September 2012   | 17/09/2012  |  |
| Name and mailing address of the ISA/  European Patent Office, P.B. 5818 Patentlaan 2  NL - 2280 HV Rijswijk  Tel. (+31-70) 340-2040,  Fax: (+31-70) 340-3016   | Authorized officer Franz, Volker  |  |

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# **INTERNATIONAL SEARCH REPORT**

International application No
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|-----------|--|----------------------------|--|
| Category* | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No.      |  |
| 4         | WO 2007/030676 A2 (UNIV SOUTH FLORIDA<br>[US]; HENDERSON ERIC ROSS [US])<br>15 March 2007 (2007-03-15)<br>figures 1a,1c  | 1-18                       |  |
|           | 15 March 2007 (2007-03-15)   |                            |  |
|           | figures la,ic  |                            |  |
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International application No. PCT/US2012/025067

# **INTERNATIONAL SEARCH REPORT**

| 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. X Claims Nos.: 19, 20 because they relate to subject matter not required to be searched by this Authority, namely:  The subject-matter of claims 19 and 20 relates to a method of treatment of the   |
| human body because the step of placing an implant inside a cavity in the shoulder involves a surgical step. Thus, according to Article 34.4(a)(i) and Rule 67.1(iv), no preliminary opinion will be established for those claims.                 |
| 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:   |
|   |
|   |
|   |
| 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 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.:  |
| 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**

Information on patent family members

International application No
PCT/US2012/025067

| Patent document cited in search report | Publication<br>date | Patent family<br>member(s)                     | Publication<br>date                    |
|--|---------------------|--|--|
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| WO 2011128903 A2                       | 20-10-2011          | NONE   |  |
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|  |                     |  |  |