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A61L 31/00 (2006.01)
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(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, BN, 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, 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, PA, 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.

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Declarations under Rule 4.17:

— as to the identity of the inventor (Rule 4.1 7(i))

[Continued on nextpage]

(54) Title: TISSUE THICKNESS COMPENSATOR COMPRISING STRUCTURE TO PRODUCE A RESILIENT LOAD

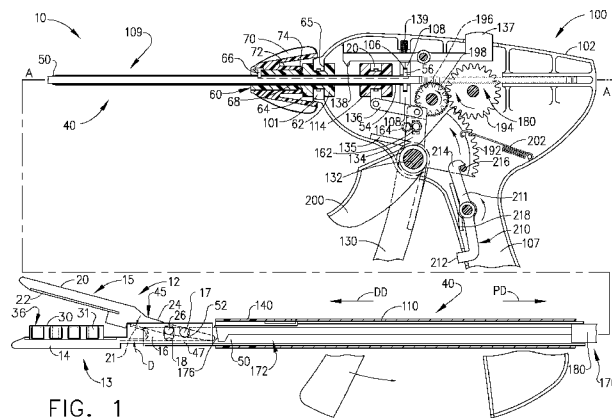


FIG. 1

(57) Abstract: A fastener cartridge assembly (30000) for an end effector of a surgical instrument can comprise a cartridge body (20070), a deformable tube (3000 31080, 33080, 34080, 35080, 36080, 38080, 39080, 40080, 41080, 41180, 42080, 43080, 44080, 45080, 47080, 48080), and a fastener moveable between an initial position and a fired position. The deformable tube can be longitudinally positioned along a length of the cartridge body. When the fastener is moved to the fired position, the fastener can compress a portion of the deformable tube. The deformable tube can comprise a resilient material such that deformation of the deformable tube generates a restoring force. The deformable tube can comprise a lattice of strands (30092, 0090, 34090, 34092, 35092, 36092, 36080, 37092) woven together to form a tube wall. Further, the deformable tube can be bioabsorbable and can hold a therapeutic agent. The fastener cartridge assembly can comprise multiple, substantially parallel deformable tubes positioned side-by-side and / or within each other.



WO 2013/148779 A3

INTERNATIONAL SEARCH REPORT

International application No PCT/US2013/034019
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A. CLASSIFICATION OF SUBJECT MATTER
INV. A61B17/072 A61L31/00 A61B17/00
 ADD.

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 A61L 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 practicable, search terms used)
EPO-Internal , WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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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 application or patent 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>"&" document member of the same patent family</p>
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Date of the actual completion of the international search 6 November 2013	Date of mailing of the international search report 19/11/2013
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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 Croatto, Loredana
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INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
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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:

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 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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-14, 17-20

A fastener cartridge assembly for a surgical instrument, the fastener cartridge assembly comprising: a cartridge body; a deformable tube positioned relative to the cartridge body, wherein the deformable tube comprises a resilient material; and a fastener moveable between an initial position and a fired position, wherein the fastener is configured to engage a portion of the deformable tube when the fastener is moved to its fired position.

2. claims: 15, 16

A fastener cartridge for a surgical instrument, the fastener cartridge comprising: a cartridge body defining a longitudinal axis; a first plurality of strands woven into a resilient lattice, wherein the resilient lattice is substantially parallel to the longitudinal axis; and fasteners moveable between an initial position and a fired position, wherein at least one such fastener is configured to compress a portion of the resilient lattice when the at least one fastener is moved to its fired position.
