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(54) Title: RFID IDENTIFICATION SYSTEMS FOR SURGICAL INSTRUMENTS

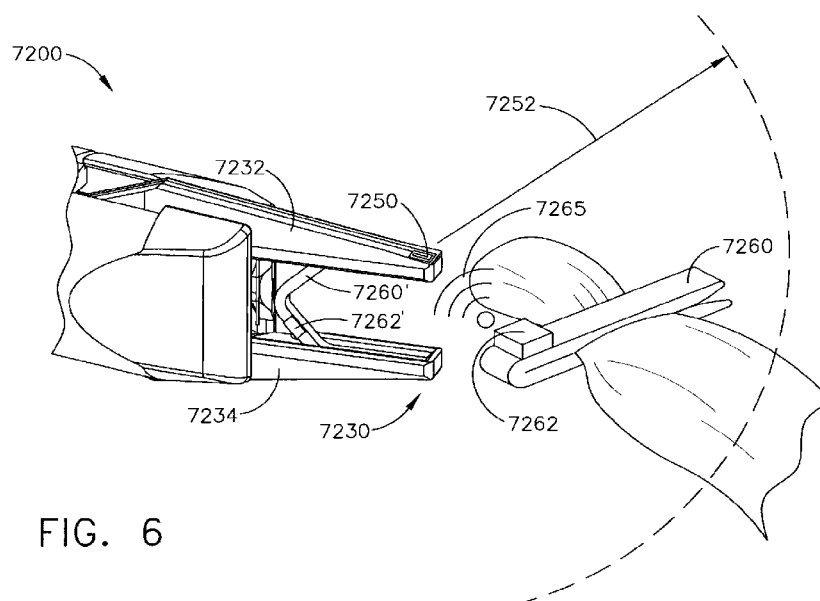


FIG. 6

(57) Abstract: A surgical device for applying clips is disclosed including a cartridge, an RFID tag, and a controller. The cartridge includes a plurality of clips. A crimping drive is configured to move a first jaw and a second jaw to a closed position during a crimping stroke. One of the plurality of clips is crimped around tissue during the crimping stroke. Stored data on the RFID tag relates to an identifying characteristic of at least one of the plurality of clips within the cartridge. An RFID scanner is configured to receive a first signal from the RFID tag in response to an interrogation signal. The first signal includes the stored data on the RFID tag. A controller in communication with the RFID scanner is configured to compare the stored data to a set of compatibility data and vary an operational parameter of the surgical device based on the stored data.





SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR,
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- (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, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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:

04 March 2021 (04.03.2021)

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2020/055742

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61B17/04 A61B90/98 A61B17/072 A61B17/122 A61B17/128
A61B90/90 A61B50/30

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

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)

EP0-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 3 476 301 A1 (ETHICON LLC [PR]) 1 May 2019 (2019-05-01) paragraphs [0021], [0031] - [0035], [0071] - [0073], [0108]; figures 1,14-16,32,40,50	1-8
A	----- WO 2017/075541 A1 (SHARP FLUIDICS LLC [US]) 4 May 2017 (2017-05-04) paragraphs [0091], [0107]; figure 8	1-8
A	----- US 2017/112493 A1 (BOOKBINDER MARK J [US] ET AL) 27 April 2017 (2017-04-27) paragraph [0081]; figures 1,3A	1
A	----- WO 2019/089433 A2 (ETHICON LLC [US]) 9 May 2019 (2019-05-09) paragraphs [0333] - [0336]; figures 1-4,29	1
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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

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"&" document member of the same patent family

Date of the actual completion of the international search

6 November 2020

Date of mailing of the international search report

03/02/2021

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INTERNATIONAL SEARCH REPORT

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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.
A	US 2016/100839 A1 (MARCZYK STANISLAW [US] ET AL) 14 April 2016 (2016-04-14) paragraphs [0030] - [0056]; figures 1-3 -----	1
A	EP 1 943 956 A2 (ETHICON ENDO SURGERY INC [US]) 16 July 2008 (2008-07-16) paragraph [0088]; figures 16,19 -----	1
A	EP 2 044 890 A1 (TYCO HEALTHCARE [US]) 8 April 2009 (2009-04-08) paragraphs [0082], [0110], [0114] - [0129]; figures 16,20,21,23, -----	1
A	EP 2 324 776 A2 (TYCO HEALTHCARE [US]) 25 May 2011 (2011-05-25) paragraphs [0073] - [0091]; figures 4,9,10 -----	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2020/055742

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.:

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-8

Surgical suturing instrument with a replaceable needle having an RFID tag

2. claims: 9, 10, 14

Clip applier comprising an RFID tag positioned on the cartridge and a controller configured to check compatibility

3. claims: 11-13

Clip with RFID tag positioned on it

4. claims: 15-20

Stapler with a replaceable component assembly comprising an RFID tag in communication range when end effector and replaceable component are aligned

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2020/055742

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2020/055742

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