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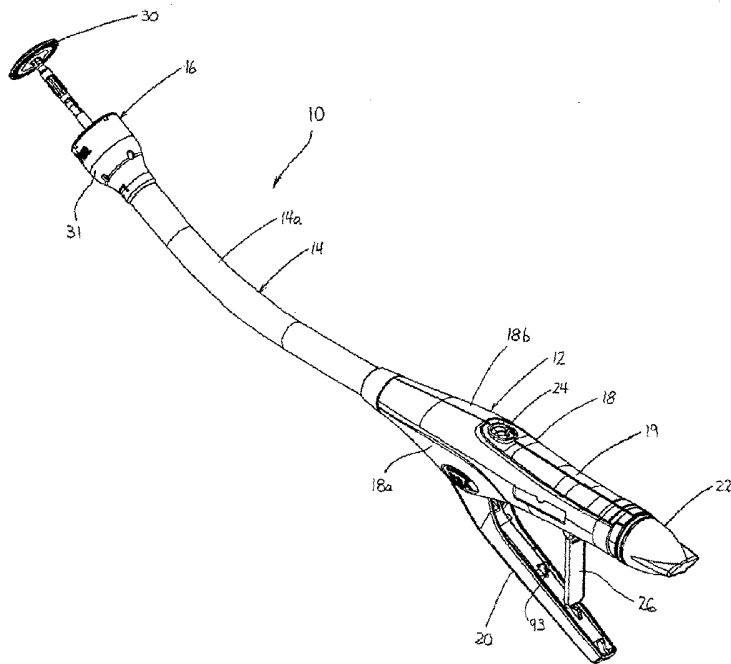
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[Continued on next page]

(54) Title: **SURGICAL STAPLING DEVICE FOR PERFORMING CIRCULAR ANASTOMOSES**



(57) Abstract: The present disclosure is directed to a surgical stapling device (10) for performing circular anastomoses. The surgical stapling device includes a handle portion (12), an elongated body portion (14) and a head portion (16) including an anvil assembly (30) and a shell assembly (31). The handle portion (12) includes a rotatable approximation knob (22) for approximating the anvil and shell assemblies (30,31) and a firing trigger (20) for actuating a firing mechanism for ejecting staples positioned within the shell assembly (31). The firing trigger (20) forms one link of a two bar linkage provided to actuate the firing mechanism. The anvil assembly (30) includes a tiltable anvil which will tilt automatically after firing of the device and unapproximating the anvil and shell assemblies (30,31). The head portion (16) also includes a retractable trocar assembly (240) which is slidably positioned within an anvil retainer (38) and is automatically advanced and retracted upon attachment and detachment of the anvil assembly (30) onto the anvil retainer (38). A

lockout tube (270) is provided and is positioned about the anvil retainer (38) for releasably engaging an anvil assembly (30). The lockout tube (270) prevents inadvertent detachment of the anvil assembly (30) from the anvil retainer (38). The surgical stapling device (10) also includes a firing lockout assembly which prevents actuation of the firing trigger (20) until an anvil has been attached to the device and the anvil (129) has been approximated. A tactile indication mechanism is also provided for notifying a surgeon that the device has been fired and for notifying a surgeon that the anvil head has been unapproximated a distance sufficient to permit the anvil head to tilt.



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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 02/10792

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61B17/115

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 7 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 practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 623 313 A (ETHICON INC) 9 November 1994 (1994-11-09)	1-3
Y	column 11, line 1 -column 13, line 9 column 18, line 37 - line 50 ---	4,9
Y	US 5 285 944 A (GREEN DAVID T ET AL) 15 February 1994 (1994-02-15) column 5, line 6 - line 29; figure 3 ---	4,9
A	EP 0 634 144 A (ETHICON INC) 18 January 1995 (1995-01-18) column 6, line 55 -column 7, line 3; figure 11 ---	1
A	US 5 632 433 A (GRANT RICHARD L ET AL) 27 May 1997 (1997-05-27) column 13, line 31 -column 14, line 25 -----	1

Further documents are listed in the continuation of box C.

Patent family members are listed in 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

Date of the actual completion of the international search

11 July 2002

Date of mailing of the international search report

17. 10. 02

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 02/10792

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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 II Observations where unity of invention is lacking (Continuation of item 2 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 fee, this Authority did not invite payment of any additional fee.

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.:

1-10

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- 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: 1-10

A surgical stapling device directed to a retractable trocar assembly.

2. Claims: 15, 11-14, 16-20

A surgical stapling device directed to an indicator assembly.

3. Claims: 21-22

A pusher link for use in an elongated hollow shaft of a circular stapling device.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 02/10792

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