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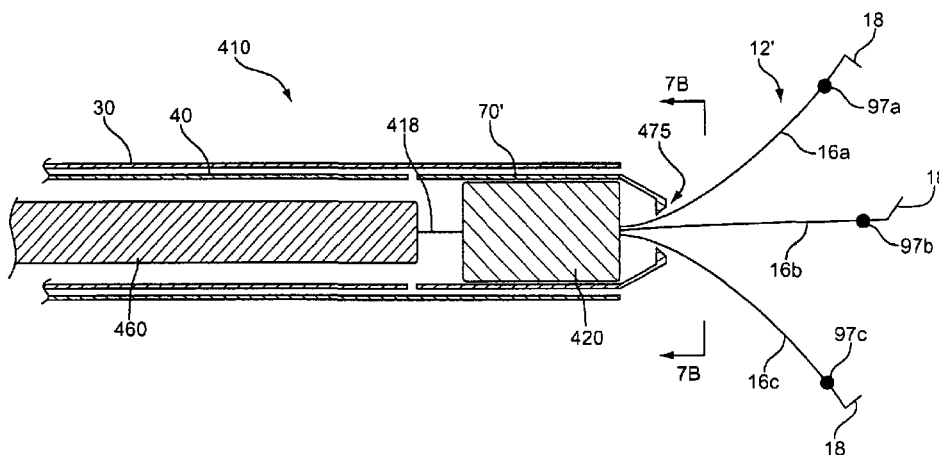
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[Continued on next page]

(54) Title: RELEASE MECHANISMS FOR A CLIP DEVICE



(57) Abstract: A clip device for hemostasis includes a clip having a proximal end portion and at least two arm portions extending from the proximal end portion and provided with a tendency to open. A sliding ring is provided for closing the arm portions of the clip. A first retainer is attached to the clip, and the first retainer is configured to be releasably secured to a second retainer that may be attached to an operating wire or a torque cable. In operation, the clip device is advanced to a target site in a body cavity. An outer sheath is retracted to expose the clip, causing the arms to open. An inner sheath is advanced distally, causing the sliding ring to advance distally to close the arms of the clip. Stop elements may be disposed on the clip to ensure that the sliding ring is not advanced distally over the clip. Then, the first retainer is disengaged from the second retainer. Various mechanisms are disclosed to permit the first and second retainers to disengage from one another. The first retainer, attached to the clip, is left inside the patient's body cavity, while the second retainer is removed from the patient.



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European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

International application No PCT/US2007/012754

A. CLASSIFICATION OF SUBJECT MATTER
 INV. A61B17/122 A61B17/128
 ADD. A61B17/064 A61B19/00

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 practical, search terms used)

EPO-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
X	DE 195 34 320 C1 (AESCULAP WERKE AG [DE]) 27 February 1997 (1997-02-27) column 3, I.ine 61 - column 4, line 4 -----	1-4
X	EP 1 604 614 A (SUMITOMO BAKELITE CO [JP]) 14 December 2005 (2005-12-14) paragraph [0016] - paragraph [0019] -----	1,2,4
X	WO 03/030746 A (SCIMED LIFE SYSTEMS INC [US]) 17 April 2003 (2003-04-17) page 14, line 1 - line 15; figure 11 -----	1
A	US 2004/092978 A1 (SURTI VIHAR C [US]) 13 May 2004 (2004-05-13) the whole document -----	1

D 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

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/012754

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.: 13-21
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/ASA/ 210

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

1. claims: 1-5

A clip device having a sliding ring directed to a stop element for said sliding ring.

2. claims: 6-12,22-31

A clip device directed to a second retainer.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/012754

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 19534320	C1	27-02-1997	NONE
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