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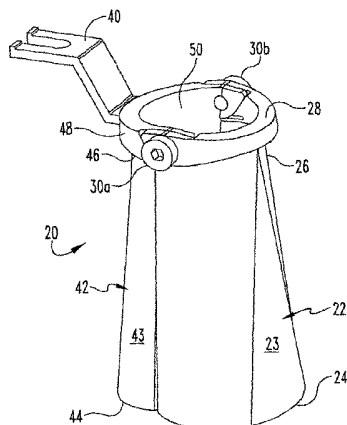
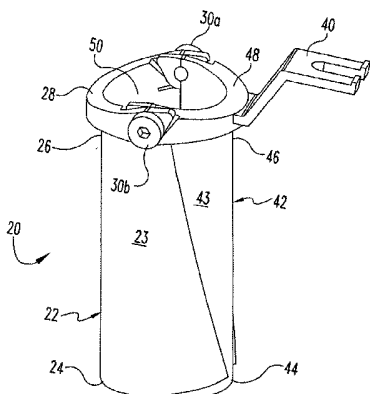
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KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: DEVICES AND METHODS FOR TISSUE RETRACTION

(57) Abstract: Methods and devices for performing percutaneous surgery in a pa-
tient are provided. A retractor includes a working channel formed by a first portion
coupled to a second portion. The first and second portions are movable relative
to one another from an unexpanded configuration to an expanded configuration to
increase the size of the working channel along the length of the working channel
while minimizing trauma to skin and tissue.



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European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (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/US 03/10090

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 A61B17/02 A61B17/34

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	DE 41 15 548 A (STORZ) 21 November 1991 (1991-11-21) column 3, paragraph 4; figures 1-3 ---	1-3, 18-22 4,23
X	US 3 044 461 A (MURDOCK) 17 July 1962 (1962-07-17) the whole document ---	1-5
X	US 52 014 A (BARTLETT) the whole document ---	1-3, 18, 23-26
X	WO 83 03189 A (LASERSCOPE) 29 September 1983 (1983-09-29) figures 1,7 ---	1
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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

17 November 2003

Date of mailing of the international search report

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Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 03/10090

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	US 2002/173798 A1 (DIPOTO) 21 November 2002 (2002-11-21) paragraphs '0069!', '0077!'; figure 11 ----	1, 50, 51, 56, 57
A	US 2001/049498 A1 (DAVISON) 6 December 2001 (2001-12-06) figures 6, 7 ----	4, 23, 50, 56
A	DE 618 652 C (SCHMID) 13 September 1935 (1935-09-13) figures 1, 2 ----	10, 16, 35, 73
X	US 6 096 046 A (WEISS) 1 August 2000 (2000-08-01) figures 6, 8 ----	35-37, 46, 48
A		10, 16, 73
A	FR 2 785 518 A (EUROS) 12 May 2000 (2000-05-12) figures 1-4 -----	73

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/10090

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
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FR 2785518	A	12-05-2000	FR 2785518 A1 EP 1045670 A1 WO 0027291 A1	12-05-2000 25-10-2000 18-05-2000

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 03/10090

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.: 59-72
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.: 1,4,16 (in part)
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:
see FURTHER INFORMATION sheet PCT/ISA/210
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.:

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

Continuation of Box I.2

Claims Nos.: 1,4,16 (in part)

From the description and drawings as a whole it is assumed that the taper of claim 1 is in the opposite direction to as stated. No semicylindrical body is supported by the description, cf claim 4. rather, a pair of bodies which, at least in the unexpanded state, overlap and comprise rather more than a half cylinder. No figure 8 shape is supported by the description. The shape described at p.6/para.1 is assumed to be here intended.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. Claims: 1-9,18-34

Expandable retractor comprising, in its uncontracted state, two overlapping partial cylinders

2. Claims: 1,10-15,35-49

Expandable retractor characterised by hinged collar

3. Claims: 1,16,17,73-78

Expandable retractor with non-circular expanded cross section.

4. Claims: 50-58

Kit comprising expandable retractor and retractor expander