



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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| <p>(51) International Patent Classification ⁶ : A61B 17/34, A61M 29/00, A61B 17/02</p> | <p>A3</p> | <p>(11) International Publication Number: WO 97/34536 (43) International Publication Date: 25 September 1997 (25.09.97)</p> |
| <p>(21) International Application Number: PCT/US97/04004 (22) International Filing Date: 14 March 1997 (14.03.97) (30) Priority Data: 08/620,933 22 March 1996 (22.03.96) US 08/736,626 24 October 1996 (24.10.96) US (71) Applicant: DANEK MEDICAL, INC. [US/US]; 1800 Pyramid Place, Memphis, TN 38132 (US). (72) Inventors: FOLEY, Kevin, Thomas; 2877 Keasler Circle West, Germantown, TN 38139 (US). SMITH, Maurice, Mell; 9285 Oak Knoll Cove, Cordova, TN 38018 (US). CLAYTON, John, B.; 9577 Gotten Way, Germantown, TN 38139 (US). MOCTEZUMA, Joseph; 6445 Birch Mill Cove, Bartlett, TN 38135 (US). (74) Agents: BECK, Michael, D. et al.; Woodard, Emhardt, Naughton, Moriarty & McNett, Bank One Center/Tower, Suite 3700, 111 Monument Circle, Indianapolis, IN 46204 (US).</p> | <p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(88) Date of publication of the international search report: 13 November 1997 (13.11.97)</p> | |
| <p>(54) Title: DEVICES AND METHODS FOR PERCUTANEOUS SURGERY</p> | | |
| <p>(57) Abstract</p> | | |
| <p>Devices and methods for performing percutaneous surgery under direct visualization and through a single cannula are shown. A device (10) includes an elongated cannula (20) having a first inner diameter (D_1) and an outer diameter (D_0) sized for percutaneous introduction. The cannula (20) defines a working channel (25) between its ends (21, 22) which has a second diameter (D_2) equal to the diameter (D_1) of the cannula sized for receiving a tool therethrough. An elongated viewing element (50) is engageable to the cannula (20) adjacent the working channel (25), preferably by a fixture (30, 170). The fixture (30, 170) includes a housing/body (31, 171) attachable to the proximal end (22) of the cannula (20). The housing (31) defines an optics bore (60, 180) to support a viewing element (50) for translation and rotation relative to the cannula (20) so that the longitudinal axis of the optics bore (60, 180) will translate parallel to and rotate about the longitudinal axis of the working channel (25). Methods are also provided for performing surgeries percutaneously with direct visualization and without the requirement for a fluid-maintained workspace.</p> | | |
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 97/04004

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 6 A61B17/34 A61M29/00 A61B17/02

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 6 A61B A61M

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. |
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| X | WO 92 19146 A (WILD ANDREW MICHAEL) 12 November 1992 see page 14, paragraph 2 see page 15, paragraph 3 - page 18, paragraph 2 --- | 1,8,21, 32,80, 93,96,97 |
| X | DE 39 36 811 A (STORZ KARL) 27 September 1990 --- | 1,8,21, 32,93, 96,97 |
| A | see column 2, line 40 - line 61 --- -/-- | 80 |

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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Date of the actual completion of the international search

16 September 1997

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INTERNATIONAL SEARCH REPORT

Intern. Application No.

PCT/US 97/04004

| C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT | | |
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| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| Y | WO 93 14801 A (WILK PETER J) 5 August 1993 see page 7, paragraph 4 - page 8, paragraph 1; figure 3 --- | 1-6, 8-12, 14-18, 20-24, 32-35, 93,96,97 |
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 97/04004

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.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 97/04004

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:

SUBJECT 1: claims 1-39,55-93,96,97 holding a viewing element in a cannula
 SUBJECT 2: claims 40-53, 98-100 blunt trip retractor
 SUBJECT 3: claim 54 dilator
 SUBJECT 4: claims 94 and 95 cannula with specified longitudinal dimensions

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.
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INTERNATIONAL SEARCH REPORT

Information on patent family members

Intern. Patent Application No

PCT/US 97/04004

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