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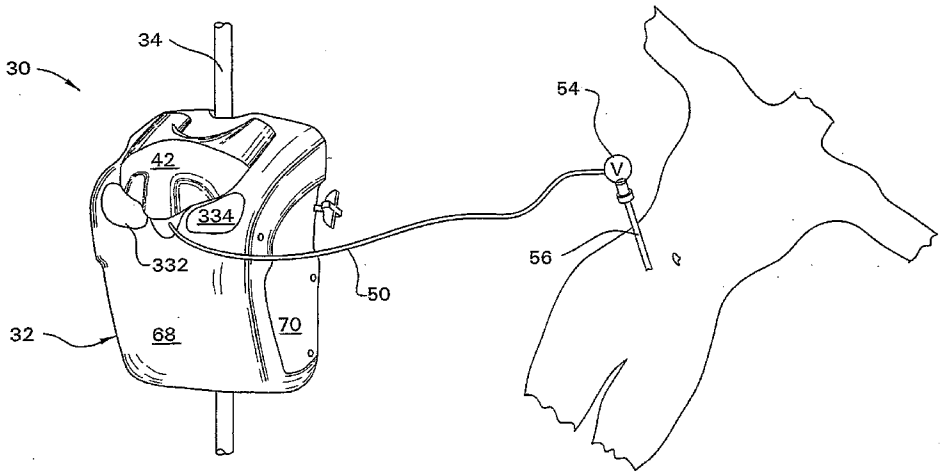
Published:
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

[Continued on next page]

(54) Title: PRESSURE WEDGE IRRIGATION PUMP



(57) Abstract: A pump for rapidly discharging irrigation fluid to a surgical site. The pump includes a cabinet with an opening. Inside the pump there is a static plate and a dynamic plate that extends towards/retracts from the static plate. The space between the plates is a bag well in which a bag containing irrigation fluid can be inserted/replaced through the cabinet opening. A lid covers the opening. A sensor monitors the open/closed state of the lid. A drive motor actuates the dynamic plate. A control unit regulates the actuation of the motor. Only when the lid sensor determines that the lid is closed does the control unit actuate the motor. The dynamic plate can be placed in various open positions relative to the static plate so bags containing different volumes of fluid can be used with the pump.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2006/022203

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61M3/02 A61M5/148

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)
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)
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 Y	US 5 423 759 A (CAMPBELL ROBERT E [US]) 13 June 1995 (1995-06-13) column 5, lines 17-22 column 5, line 54 - column 6, line 9 column 6, lines 56-63 column 7, lines 30-33; figures 1-3	1,2, 7-11, 14-18 3-6,12, 13,19-23
Y	WO 95/01194 A (HERSKOWITZ GLENN [US]) 12 January 1995 (1995-01-12) page 11, line 11 - page 13, line 27; figures 9,10,11A-11C	3-6,12, 13,19-23
X	US 5 893 843 A (CLARO JORGE ANTONIO RODRIGUES [BR]) 13 April 1999 (1999-04-13) column 2, line 59 - column 3, line 25; figures 1-3	1,2,7,9

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[X] Further documents are listed in the continuation of Box C.

[X] 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

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"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

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
11 October 2006	19. 01. 2007

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Böttcher, Stephanie

INTERNATIONAL SEARCH REPORT

International application No
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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	EP 1 086 713 A2 (TYCO HEALTHCARE [US]) 28 March 2001 (2001-03-28) abstract; figure 1 -----	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2006/022203

Box 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 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 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.:

1-23

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: 1-23

A surgical irrigation pump with first and second plates disposed in a cabinet defining a bag well, and a drive assembly for moving one of said plates.
Problem to be solved: Supplying irrigation fluid to a surgical site at a relatively high flow rate.

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2. claims: 24,25

A tube set for use with a fluid bag including a spike with a single tube and an outflow tube.
Problem to be solved: Facilitating insertion in a fluid bag.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2006/022203

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