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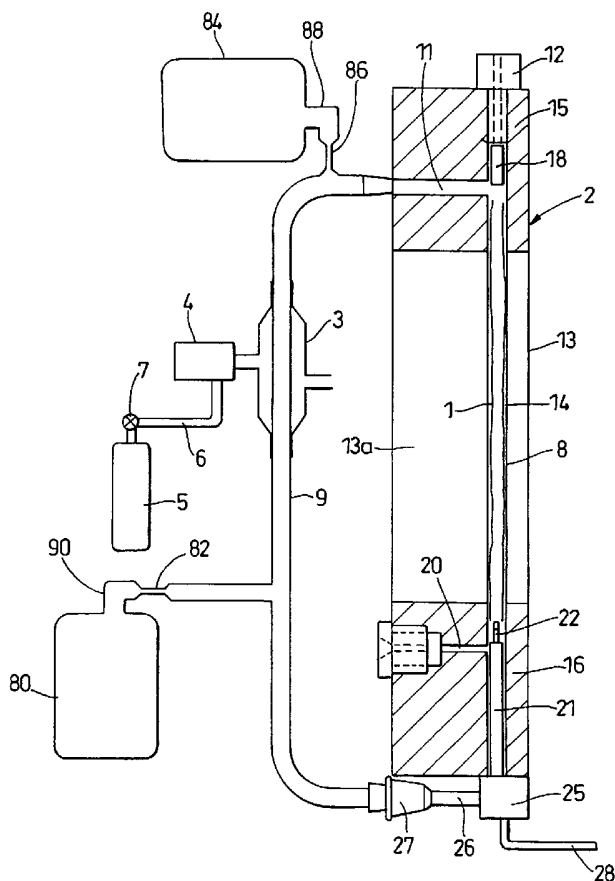
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[Continued on next page]

(54) Title: DEVICES FOR USE IN MEDICINE



(57) Abstract: Disclosed is an organ culture device for culturing a viable organ (1). The device provides culture medium for culturing the viable organ using a pump (3). The pump has a pump chamber (45) located between an inlet and an outlet. The pump provides pulsatile pumping action of the culture medium by repeated deformation of a resilient tubular sidewall (44) of the pump chamber by pressurised gas. The flow path of the culture medium may be circulatory or non-circulatory. The device has a reservoir (70,80) and a collection vessel (74,84) for the culture medium. Gas transfer into and out of the culture medium is also provided. Also disclosed is the pump itself and a gas pressure control device for delivering pulsed pressurised gas, e.g. to the pump.



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18 March 2004

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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

Internat Application No
PCT/GB 03/01334

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A01N1/02 A61M16/00 F04B43/06

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 A01N

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 877 843 A (FISCHEL HALBERT) 15 April 1975 (1975-04-15) abstract column 4, paragraph 2 - paragraph '0005! column 5, paragraph 7; figures 2,5 -----	1-12,14, 16-18
X	US 5 285 657 A (BACCHI BERNARD ET AL) 15 February 1994 (1994-02-15) abstract column 4, line 17 - line 25 column 2, line 47 - column 3, line 10 column 6, line 3 - line 25 ----- -/--	1,2, 5-12,15, 17,18

☒ 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

24 October 2003

Date of mailing of the international search report

20. 01. 04

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INTERNATIONAL SEARCH REPORT

Internat Application No
PCT/GB 03/01334

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 5 965 433 A (HEACOX JOHN K ET AL) 12 October 1999 (1999-10-12)</p> <p>abstract column 1, line 59 - column 2, line 23 column 2, line 67 - column 3, line 49 column 4, line 12 - line 47 -----</p>	<p>1-3, 5-10,14, 16-19</p>

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB 03/01334

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.:

1-19

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: 1-19

A device for maintaining a viable organ and method using this device.

2. claims: 20-25 and 31-33 (complete) and 30 (in part)

Pump for liquid comprising a chamber with a deformable wall, use of said pump and an organ culture device comprising said pump.

3. claims: 26-29 (complete) and 30 (in part)

Gas pressure control device and use thereof.

INTERNATIONAL SEARCH REPORT

Internati Application No
PCT/GB 03/01334

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