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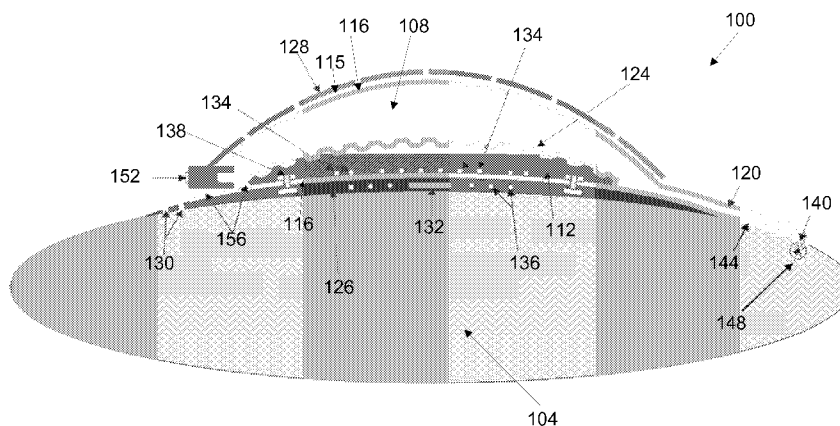


FIG. 1A

(57) Abstract: The implantable pump (100) comprises a drug reservoir (108), a cannula (120) for conducting liquid from the reservoir, means (112, 124, 134) for forcing the liquid from the reservoir through the cannula, a sensor (148) for monitoring at least one parameter relating to liquid flowing through the cannula, and circuitry (132) for adjusting the forcing means based on the monitored parameter. In another embodiment the pump includes a filter.



INTERNATIONAL SEARCH REPORT

International application No
PCT/US2009/043317

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61M31/00

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)
A61M A61F

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	WO 99/62576 A (ELAN CORP PLC [IE]; GROSS JOSEPH [IE]; TSALS IZRAIL [US]; ROZANOWICH M) 9 December 1999 (1999-12-09) page 1, lines 4,5 page 28, line 8 - page 31, line 10 page 35, line 27 - page 36, line 23; figures 14-16,29	1,2,5
X	US 2007/255235 A1 (JAMES M. OLSON; CHARLES R. ROGERS) 1 November 2007 (2007-11-01) paragraphs [0007], [0018], [0019]; figures 1A,3,4A	1
A		7,16,18, 23,24
A	US 2007/112328 A1 (STEINBACH BERND [DE] ET AL) 17 May 2007 (2007-05-17) paragraph [0193]; claims 5,6,9,26,28,29	1,6,7, 16,17,27
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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	"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
"E" earlier document but published on or after the international filing date	"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
"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)	"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.
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 28 October 2009	Date of mailing of the international search report 16/02/2010
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Merté, Birgit
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INTERNATIONAL SEARCH REPORT

 International application No
 PCT/US2009/043317

C(Continuation). 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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A	US 6 144 106 A (BEARINGER CLAYTON R [US] ET AL) 7 November 2000 (2000-11-07) claims 1-3 -----	3
A	US 2007/255261 A1 (HAASE JAMES M [US]) 1 November 2007 (2007-11-01) abstract -----	24
A	WO 2006/075016 A (NOVO NORDISK AS [DK]; BENGSSON HENRIK [DK]; KRISTENSEN LEIF ENGMANN []) 20 July 2006 (2006-07-20) abstract -----	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/043317

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.:
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 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 all searchable 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.:

1-28

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/ISA/ 210

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

1. claims: 1-28

An implantable pump having a sensor for monitoring at least one parameter relating to liquid flowing through the cannula and circuitry for adjusting the drug expelling means based on the monitored parameter

2. claims: 29-42

A cannula for an implantable pump, the cannula comprising a narrowing channel therethrough and at a proximal end thereof a filter having particular dimension

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2009/043317

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