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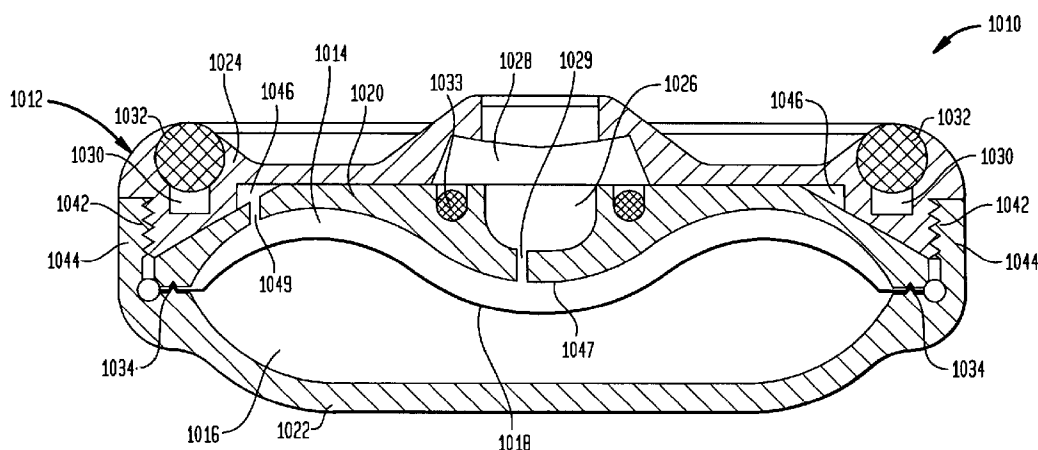
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Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(U))

[Continued on next page]

(54) Title: VARIABLE FLOW INFUSION PUMPS SYSTEM



(57) Abstract: An implantable infusion pump system is disclosed. The pump system preferably includes an implantable pump (800) and a removable module (820, 820"). The module (820, 820") may provide for varying flow rates of fluid being dispensed from the pump or may provide for a constant flow rate of such fluid. In the case of varying flow rate capabilities, the module (820, 820") preferably includes one or more sensors (830, 831) to determine information relating to the flow rate, electronics (844, 846, 835, 844e, 844f, 849, 848, 850, 851, 853, 854, 855, 856) for analyzing the flow rate information, and a mechanism for physically altering the flow rate (821). Methods of dispensing a medicament to a patient are also disclosed, as are variations of the pump system.

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- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(Ui)) — before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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25 September 2008

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/024026

A CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61 K 9/22 (2008.04)

USPC - 604/881.1

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(8) - A61 K 9/22 (2008 04)

USPC - 417/313, 413 2, 604/9, 500, 891 1

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 practicable, search terms used)

PatBase

C DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X --- Y	WO 2006/122330 A2 (STEINBACH β t al) 16 November 2006 (16 11 2006) entire document	1-5, 42-43, 45-54, 56-63, 67, 69-71, 75-77
Y	US 6,869,275 B2 (DANTE et al) 22 March 2005 (22 03 2005) entire document	6-41, 44, 55, 64-66, 68, 72-74, 78-105
Y	US 6,702,779 B2 (CONNELLY et al) 09 March 2004 (09 03 2004) entire document	6-10, 79, 81
Y	US 6,349,740 B1 (CHO et al) 26 February 2002 (26 02 2002) entire document	11-12, 64, 84-85
Y	JP 2002-292683 A2 (SETA et al) 09 October 2002 (09 10 2002) entire document	13-41, 65-66, 78-105
Y	US 6,895,419 B1 (CARGIN JR et al) 17 May 2005 (17 05 2005) entire document	25-41, 68, 74, 78-105
Y	US 6,814,547 B2 (CHILDERS et al) 09 November 2004 (09 11 2004) entire document	34, 38-41, 44, 55, 72-74, 98, 102-105
Y	US 4,187,870 A (AKKERMAN) 12 February 1980 (12 02 1980) entire document	35, 99
		17, 66, 89

☐ Further documents are listed in the continuation of Box C**D**

* 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 application or patent 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

14 July 2008

Date of mailing of the international search report

21 JUL 2008

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/024026

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
Group I, claims 1-105 drawn to an implantable infusion pump system for dispensing an active substance at one or varying flow rates to a patient comprising a removable module having a bottom surface contacting the upper surface of a constant flow pump
Group II, claims 106-126, drawn to a method for monitoring the amount of medicament dispensed from an implantable infusion pump, comprising storing information relating to the actual flow rate, and calculating the overall amount of medicament dispensed based upon the information relating to the actual flow rate

- 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 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 1-105

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