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[Continued on next page]

(54) Title: INSERTION MECHANISMS HAVING VENTED FLUID PATHWAYS FOR DRUG DELIVERY PUMPS

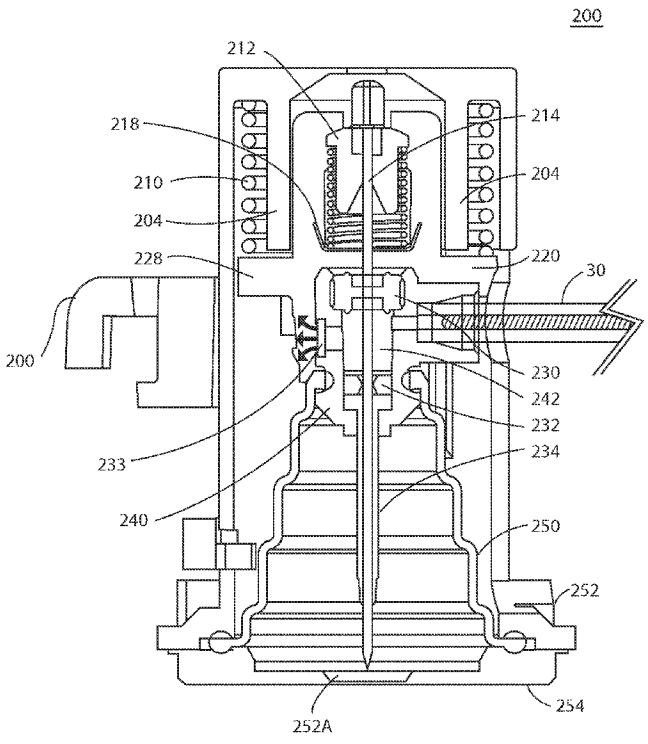


FIG. 6B

(57) Abstract: An insertion mechanism having a vented fluid pathway includes an insertion biasing member 210, a hub 212, a needle 214, a retraction biasing member 216, and a manifold 240 having a septum 230 and a cannula 234, wherein the annular space between the septum 230 and the cannula 234 defines a manifold header 242. The manifold and fluid conduit are ventable through the membrane prior to or just after needle 214 and cannula 234 are inserted into the user. Such insertion is caused by the insertion biasing member(s) 210, after which only the needle 214 or another occlusion element is retracted. Such retraction may open a fluid pathway from the manifold header 242 to the body through the cannula 234 and/or needle 214. A drug delivery pump 10 includes such an insertion mechanism 200 having a vented fluid pathway. The drug delivery pump 10 may contain the insertion mechanism 200 having a vented fluid pathway in either an internally i or an externally tethered configuration.

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A. CLASSIFICATION OF SUBJECT MATTER
INV. A61M5/36 A61M5/142 A61M5/158 A61M5/38 A61M5/14
ADD.

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 practicable, 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.
Y	WO 00/29049 A1 (ELAN PHARMA INTERNATIONAL LIMI [IE]; LAVI GILAD [IL]; YIGAL GIL [IL];) 25 May 2000 (2000-05-25) page 18, line 10 - page 27, line 18 page 38, line 16 - page 44, line 9; figures 14,15,33,34	1,13
Y	US 2004/069044 A1 (LAVI GILAD [US] ET AL) 15 April 2004 (2004-04-15) paragraphs [0047] - [0053], [0102] - [0104], [0154] - [0168]; figures 14, 15, 29, 33, 34	1,13
Y	US 2011/054390 A1 (SEARLE GARY [US] ET AL) 3 March 2011 (2011-03-03) paragraphs [0044], [0047], [0048], [0052], [0052]; claim 46; figures 1-3	1,13

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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 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)

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"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

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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
2 December 2013	07/01/2014

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, Fax: (+31-70) 340-3016	Messmer, Melitta

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.
Y	WO 2011/121023 A1 (UNOMEDICAL AS [DK]; GYRN STEFFEN [DK]; THORUP SOEREN [DK]) 6 October 2011 (2011-10-06) page 10, line 15 - page 13, line 4 page 32, line 20 - page 34, line 22; figures 1-8,22-25	1,13
Y	WO 2009/039013 A1 (ICU MEDICAL INC [US]; RAYMOND RANDY STEPHEN [US]; WALKER JOSEPH K [US]) 26 March 2009 (2009-03-26) paragraphs [0013] - [0018], [0087] - [0127]; figures 1-17	1,13
X	WO 2008/024810 A2 (MEDTRONIC MINIMED INC [US]; BIKOVSKY RAFAEL [US]; MOBERG SHELDON B [US) 28 February 2008 (2008-02-28)	1-3,5-7, 9-15, 17-19, 21-23
Y	paragraphs [0042] - [0193]; figures 1-17, 32-41	4,16
A	US 4 755 173 A (KONOPKA APRIL A [US] ET AL) 5 July 1988 (1988-07-05) the whole document	1-23
Y	US 2007/282269 A1 (CARTER BRETT J [US] ET AL) 6 December 2007 (2007-12-06) paragraphs [0058] - [0061]; figures 9-11	4,16

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/050075

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. [X] Claims Nos.: 24-30
because they relate to subject matter not required to be searched by this Authority, namely:

see FURTHER INFORMATION sheet PCT/ISA/210

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:

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.:

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.

Continuation of Box II.1

Claims Nos.: 24-30

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery (piercing of user's body with needle, see point (iv) of claim 24). Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy (bringing needle into a position which allows passage of a liquid drug fluid ... into the body of a user, see point (v) of claim 24).

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2013/050075

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Information on patent family members

International application No
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