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[Continued on next page]

(54) Title: METHODS AND APPARATUS FOR ENHANCING A MEDICATION DELIVERY DEVICE

(57) Abstract: Embodiments of the invention provide systems, methods, and apparatus for attaching an automated dose setting apparatus to a medication delivery device, receiving a first signal from an analyte monitoring system, the first signal indicating a dose of medication to be administered, and driving a dose knob of the medication delivery device with the automated dose setting apparatus to set a dose corresponding with the dose of medication to be administered. Numerous other aspects are disclosed

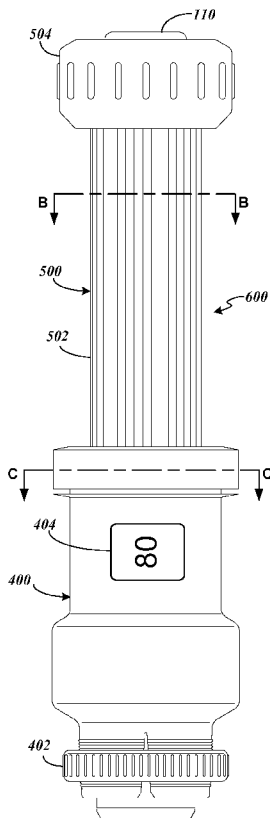


FIG. 6B





DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
INV. A61M5/20 A61M5/172 G06F19/00 A61M5/142 A61M5/315
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 G06F

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.
X	US 2008/319384 A1 (YODFAT OFER [IL] ET AL) 25 December 2008 (2008-12-25) paragraphs [0002], [0018], [0022] - [0048], [0064] - [0067], [0113] - [0135]; claims 18, 23-29; figures 6-11 -----	1-7
X	WO 2013/114221 A2 (PRECIFLEX SA [CH]) 8 August 2013 (2013-08-08) page 7, line 23 - page 12, line 26; claims 1-5; figures 1-7F -----	1-7
X	WO 2013/065055 A1 (MEDIMOP MEDICAL PROJECTS LTD [IL]) 10 May 2013 (2013-05-10) page 5, line 21 - page 12, line 31; figures 1-10 -----	1-7
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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

"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 20 October 2015	Date of mailing of the international search report 28/10/2015
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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 Messmer, Melitta
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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2015/016167

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2014/035672 A2 (MEDTRONIC MINIMED INC [US]) 6 March 2014 (2014-03-06) paragraphs [0139] - [0142], [0274] - [0276], [0361] - [0408]; figures 1-57 -----	1-7
X	WO 2010/092572 A1 (MEDINGO LTD [IL]; YODFAT OFER [IL]; SHAPIRA GALI [IL]; GESCHEIT IDDO M) 19 August 2010 (2010-08-19) paragraph [0024] - paragraph [0059]; claims 1-5; figures 2-6 -----	1-7
X	US 5 176 646 A (KURODA TAKAYUKI [JP]) 5 January 1993 (1993-01-05) column 5, line 37 - column 8, line 43 -----	1-7
A		17
X	WO 2012/072559 A1 (SANOFI AVENTIS DEUTSCHLAND [DE]; KOUYOUMJIAN GAREN [GB]; BOYD MALCOLM) 7 June 2012 (2012-06-07) paragraphs [0023], [0024], [0116], [0129], [0136] - [0162], [0268] - [0330]; figures 1-29 -----	1-3
A		17
X	US 2008/306434 A1 (DOBBLES JOHN MICHAEL [US] ET AL) 11 December 2008 (2008-12-11) paragraphs [0206] - [0211], [0217] - [0230], [0239], [0240], [0247] - [0291]; claims 1-5,10,12-18,22,24; figures 1-19 -----	1-4, 17-20

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2015/016167

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.: **8-16**
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:

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.:

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

Continuation of Box II.1

Claims Nos.: 8-16

The subject-matter of claims 8-16 is a method receiving a signal from an analyte monitoring system, the signal indicating a dose of medication to be administered; and automatically setting said dose of medication. This is a method which necessarily encompasses a diagnostic method, i.e. a method for analysing a patient's analyte sample and determining therefrom a medicament dose to be administered to the patient in response to the analysing result. The method of diagnosis under Rule 39.1(iv) PCT, is therefore inherent to and essential for the subject-matter of claims 8-16. Therefore, the subject-matter of claims 8-16 is not searched and will not be examined (Rule 66.1(e) PCT, Article 34(4)(a)(i) PCT and Rule 67.1(iv) PCT).

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-7, 15, 16(completely); 8, 13, 14(partially)

Apparatus for automatically setting a dose to be administered in a medicament delivery device

2. claims: 9-12, 17-20(completely); 8, 13, 14(partially)

Apparatus for monitoring a dose being administered by a medicament delivery device

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2015/016167

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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