



(51) International Patent Classification:

A61M 5/20 (2006.01) A61M 5/24 (2006.01)
A61M 5/32 (2006.01)

(21) International Application Number:

PCT/IB2019/000243

(22) International Filing Date:

12 March 2019 (12.03.2019)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/642,281 13 March 2018 (13.03.2018) US

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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP,

(54) Title: DEVICES FOR INJECTING MEDICAMENTS AND METHODS OF USE

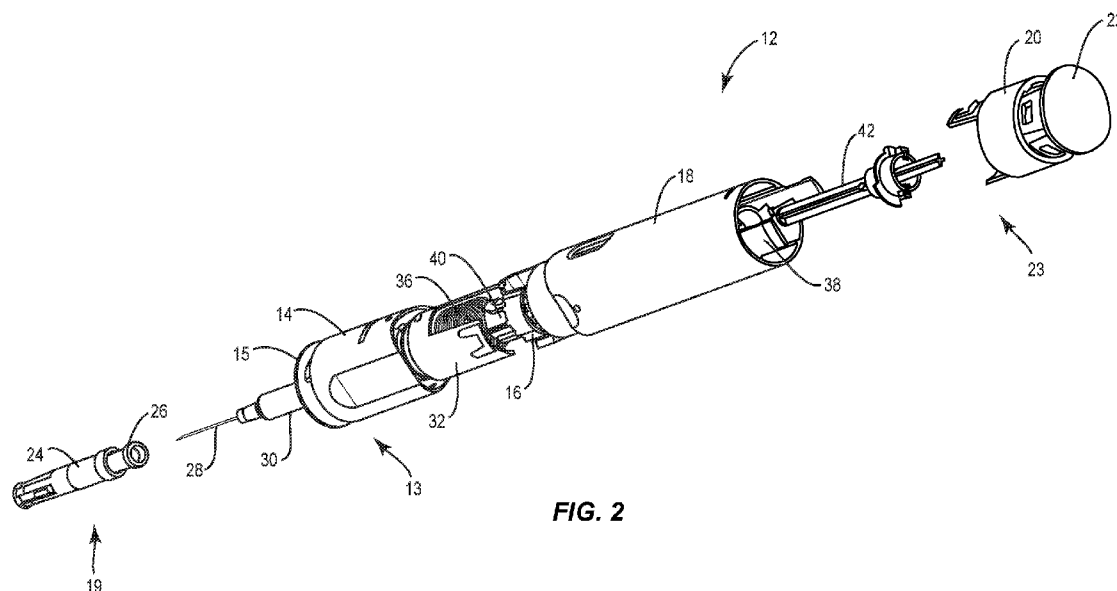


FIG. 2

(57) Abstract: A device for injecting a medicament is provided. The device has a housing with a container within it which can hold a medicament. At its proximal end the container has a needle and a stopper. The device includes a plunger which at one end can engage the stopper. At the opposite end, the plunger can engage a first resilient member to move the stopper within the container to inject the medicament from the container. The device includes a collar with distal and proximal ends, the distal end engaging with a carriage and causing its rotation and the proximal end engaging with a second resilient member. The second resilient member can engage with a skin sensor which has distal and proximal ends. At the proximal end, the skin sensor can contact an injection site. The housing has a cap which can reduce or prevent movement of the skin sensor.



KR, KW, 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.

- (84) Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:

07 November 2019 (07.11.2019)

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2019/000243

A. CLASSIFICATION OF SUBJECT MATTER INV. A61M5/20 A61M5/32 A61M5/24 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.
X	US 2013/324925 A1 (BRERETON SIMON FRANCIS [GB] ET AL) 5 December 2013 (2013-12-05) paragraph [0159] - paragraph [0189]	1-19, 34-54, 63-65, 110
X	US 2015/224259 A1 (GIAMBATTISTA LUCIO [US] ET AL) 13 August 2015 (2015-08-13) paragraph [0051]	12, 34-36,53
X	EP 2 361 648 A1 (SANOFI AVENTIS DEUTSCHLAND [DE]) 31 August 2011 (2011-08-31) paragraph [0053]	8,9
☐ 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 31 July 2019		Date of mailing of the international search report 07/10/2019
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 Daintith, Nichola

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2019/000243

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2013324925	A1	05-12-2013	AR 085261 A1 18-09-2013
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2019/000243

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.: 20-27, 55-62, 100-106, 114
because they relate to subject matter not required to be searched by this Authority, namely:
A meaningful search is not possible on the basis of claims 20-27, 55-62, 100-106, 114 because these claims are directed to a method for treatment of the human or animal body by surgery. In accordance with Rule 39.1(iv) PCT, this IAS is not required to search such subject-matter.
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.:
1-19, 34-54, 63-65, 110

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: 1-19, 34-54, 63-65, 110

A device for dispensing a medicament comprising: a housing holding a medication cartridge with needle; a plunger; a first resilient member; a carriage for the cartridge; a collar engaged with the carriage; a second resilient member; a skin sensor to engage the injection site; and a cap to reduce movement of the skin sensor.

2. claims: 28-33, 111

A cap for an injection device comprising a body having an oval cross-section and an insert for covering one end.

3. claims: 66-72, 112

A carriage for an injection device configured to receive a medical container, the carriage comprising a tubular body having a base comprising an upper and lower rim, the upper rim having two arms extending therefrom, the arms facing each other to form a U-shape.

4. claims: 73-99, 107-109, 113

Independent claim 73 concerns the device of claim 1 and further comprises a constrainer disposed within the carriage. Claim 99 concerns only the constrainer comprising a cylindrical body and a wing member, the wing member extending along a longitudinal axis of the cylindrical body and comprising a feedback arm, a wing body and a bridge member connecting the body to the wing member.
