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[Continued on next page]

(54) Title: SYSTEMS AND METHODS FOR DELIVERING A THERAPEUTIC AGENT

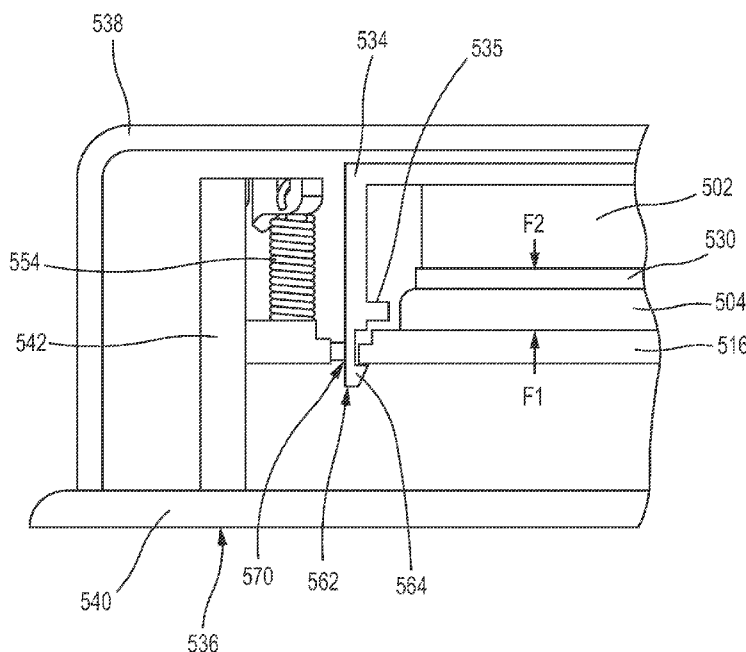


FIG.21

(57) Abstract: Apparatus for delivering a therapeutic agent to a patient comprising a reservoir for containing a fluid, a first actuator, a transfer structure, and a second actuator. The first actuator exerting force upon the transfer structure, which in turn applies force upon the reservoir to expel fluid from the reservoir. The second actuator exerting a second force on the reservoir to expel fluid from the reservoir.

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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, ML, MR, NE, SN, TD, TG).

— 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))

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 11/35384

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61M 5/148 (2011.01)

USPC - 604/153

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) - A61M 5/148 (2011.01)

USPC - 604/153

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

IPC(8) - A61M 5/00, 5/14, 5/142, 5/145, 5/148 (2011.01)

USPC - 604/19, 48, 500, 73, 93.01, 131, 140, 145, 151, 153

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PubWEST (PGPB, USPT, EPAB, JPAB); Google (Patents, Scholar, Web)

Search Terms: drug, agent, medicament, deliver, transfer, apply, reservoir, actuator, second, plural, multiple, pressure, force, plate, structure, platform, pusher, fluid, liquid, dispense, eject, out, apply, between, sandwich, spring, electrochemical, trigger, housing, body, ca

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2009/0312709 A1 (BOEY et al.) 17 December 2009 (17.12.2009) Fig. 1a-1b, 4; Para [0022], [0032]	1-8
Y	US 2009/0198185 A1 (GONNELLI et al.) 06 August 2009 (06.08.2009) Fig. 2; Para [0073], [0082], [0084]	1-8
Y	US 2008/0319392 A1 (ANGEL et al.) 25 December 2008 (25.12.2008) Para [0078]	5
Y	US 7,449,009 B2 (EICHHORST) 11 November 2008 (11.11.2008) Fig. 1; col 5, ln 35 to col 6, ln 30	6
Y	US 2010/0069830 A1 (GRIGOROV) 18 March 2010 (18.03.2010) Fig. 6, 22; Para [0151]-[0153], [0210]-[0211]	8

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier application or patent but published on or after the international filing date	"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
"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)	"&" document member of the same patent family
"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	

Date of the actual completion of the international search 05 December 2011 (05.12.2011)	Date of mailing of the international search report 14 DEC 2011
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 11/35384

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 1-8 directed to an apparatus

Group II: claims 9-21 directed to an apparatus and method

Group III: claims 22-24 directed to a kit

The groups of inventions above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The special technical feature of the Group I claims is a transfer structure, which is not present in the claims of Group II or III.

The special technical feature of the Group II claims is a fluid communicator, which is not present in the claims of Group I or III.

The special technical feature of the Group III claims is a separable housing, which is not present in the claims of Group I or II.

Groups I-III share the technical feature of a reservoir and at least one actuator, groups I and II sharing the feature of two actuators. This generic feature does not avoid the prior art, as evinced by US 2009/0028824 A1 to Chiang, et al. (hereinafter Chiang) which teaches an example of such a device (para [0008], [0077], fig 17, reservoir and at least one actuator, note later embodiments having two actuators).

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.:
Claims 1-8

- 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.