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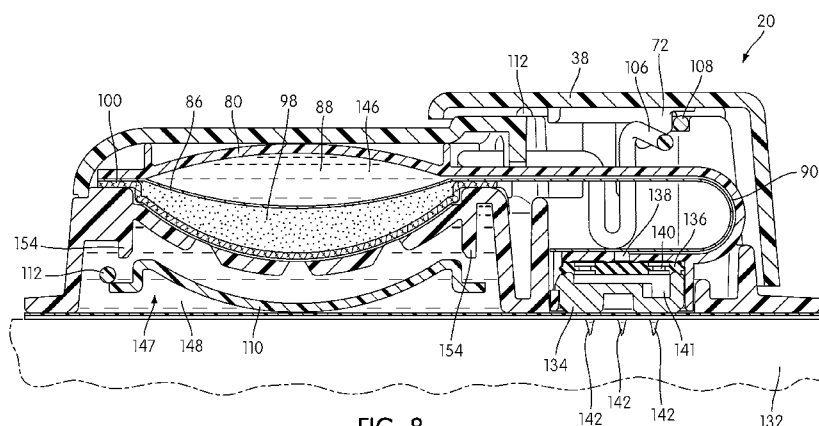


FIG. 8

(57) Abstract: A drug delivery device for delivering a drug to a subject includes a microneedle configured to facilitate delivery of the drug to the subject. The microneedle includes a tip portion and is moveable from an inactive position to an activated position. When the microneedle is moved to the activated position, the tip portion of the microneedle is configured to penetrate the skin of the subject to provide drug delivery into the skin of the subject.

A. CLASSIFICATION OF SUBJECT MATTER**A61M 37/00(2006.01)i, A61M 35/00(2006.01)1, A61M 5/158(2006.01)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)

A61M 37/00; A61M 31/00; A61M 5/24; A61M 5/00

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: needle,delivery,drug,skin,reservoir,adhesive

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2004-0092865 A1 (FLAHERTY et al.) 13 May 2004 See the abstract; claims 1-8, 17, 21, and 46; paragraphs 56-76; and figs. 1-3 and 14-16.	1-2, 24-26 3-18, 21-23, 27-57, 64-96
X	US 2007-0293826 A1 (WALL et al.) 20 December 2007 See the abstract; claim 1; and figs. 1-2.	1-2
X	US 2005-0033230 A1 (ALCHAS et al.) 10 February 2005 See the abstract; claims 1 and 6; and figs. 9-10.	1-2
A	US 2009-0221971 A1 (MEJLHEDE et al.) 03 September 2009 See the abstract; claims 1 and 24; paragraph 82; and figs. 5 and 17-18.	1-18, 21-57, 64-96



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

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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

"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

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2011/020113

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.: **19-20,58-63,97-103**
because they relate to subject matter not required to be searched by this Authority, namely:
Claims 19-20, 58-63, and 97-103 pertain to methods for treatment of human by therapy or surgery, and thus relate to a subject matter which this international Searching Authority is not required to search under Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT.
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. IAs all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. IAs all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. IAs 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. INo 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.
- I No protest accompanied the payment of additional search fees.

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