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ausgasse 1, CH-9320 Arbon (CH).(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, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
KR, KZ, LA, LC, LK, LR, LS, LT, 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, 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, SZ, TZ,
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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,
ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

[Continued on next page]

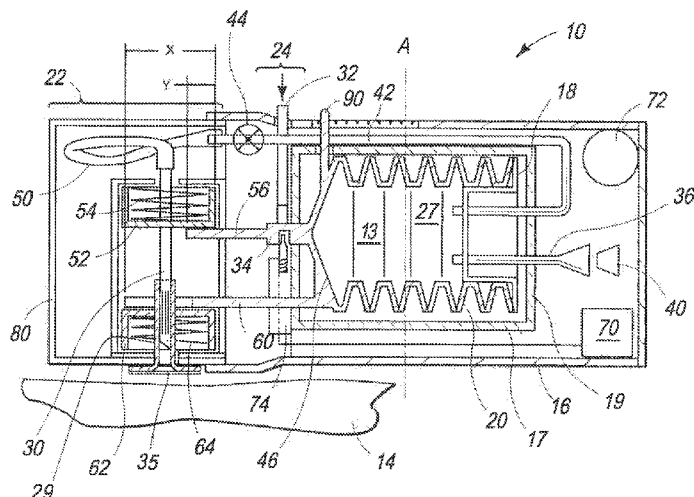
(54) Title: SKIN-ATTACHABLE MINIATURE DRUG INJECTION DEVICE WITH REMOTE ACTIVATION CAPABILITY
AND DRY DRUG CARRIER WITHIN INJECTION NEEDLE

FIG. 2

(57) Abstract: An active agent or drug inject-
ing device (10) includes a main housing (16)
containing a trigger mechanism (24) which can
be manually activated via release bar (32) or re-
motely triggered via wireless receiver (70) ac-
tivating motor (74), and a second housing (80)
containing an injection- and needle-assembly
(22). The needle (30) encloses a dry carrier (26)
having an active agent (12) disposed thereon.
The trigger mechanism triggers the injection as-
sembly to propel the needle into the skin (via
spring (54)), to inject the active agent into a liv-
ing organism (either by letting the active agent
diffuse out of the needle or by actively flushing
it out), and to subsequently retract the needle
back into the housing (80) (via spring (64)).

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

31 July 2014

- *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))*

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2013/000659

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61M5/32 A61M5/20 A61M5/142
ADD. A61M5/30 A61M5/31 A61M5/315 A61M5/158 A61M5/152
A61M5/155 A61M5/145

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)

EP0-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 4 652 261 A (MECH L DAVID [US] ET AL) 24 March 1987 (1987-03-24) abstract; figures 1-4 column 2, lines 16-33 column 3, lines 12-31 page 4, line 39 - page 6, line 34 -----	1-7, 12
X	US 2004/092874 A1 (MAZIDJI GEORGE [FR] ET AL) 13 May 2004 (2004-05-13) abstract; figures 1,4-9 paragraphs [0005] - [0008], [0024] - [0036] ----- -/--	1-7, 12



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

27 May 2014

Date of mailing of the international search report

10/06/2014

Name and mailing address of the ISA/

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Petersch, Bernhard

INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2013/000659

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 98/34657 A2 (SARCOS INC [US]) 13 August 1998 (1998-08-13) abstract; figures 1-3,8-10 page 4, line 9 - page 7, line 10 page 10, line 5 - page 11, line 35 page 13, lines 5-9 page 13, line 26 - page 14, line 21 page 16, lines 1-7 page 17, line 12 - page 18, line 4 page 19, lines 19-24 page 24, line 3 - page 28, line 15	1-7,12
X	WO 2004/006982 A2 (INSULET CORP [US]) 22 January 2004 (2004-01-22) abstract; figures 1-5,12,13,16,17,38-40 page 1, paragraph 1 page 2, paragraph 1 page 4, lines 4-19 page 6, lines 21-35 page 22, lines 9-19 page 23, line 34 - page 24, line 15 page 31, line 1 - page 32, line 22 page 34, paragraph 3 - page 36, paragraph 4 page 45, line 19 - page 47, line 23	1-7,12
X	WO 2007/051563 A1 (POTENCIA MEDICAL AG [CH]; FORSELL PETER [CH]) 10 May 2007 (2007-05-10) abstract; figures 1-3,6,8 page 2, lines 16-29 page 3, lines 10-14 page 7, line 26 - page 8, line 14 page 10, line 13 - page 11, line 34 page 14, lines 1-7 page 19, line 13 - page 20, line 18 page 23, line 1 - page 25, line 4 page 15, lines 5-6	1-12
X	WO 2009/023798 A2 (HUTCHINSON FRED CANCER RES [US]; BAHRAMI S BAHRAM [US]; VEISEH MANDANA) 19 February 2009 (2009-02-19) abstract; figures 1-5 page 23, line 18 - page 28, line 2	8-11
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X	US 5 562 613 A (KALDANY ANTOINE [US]) 8 October 1996 (1996-10-08) abstract; figures 5-10 column 4, line 52 - column 5, line 63	8-11

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INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2013/000659

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 210 910 A5 (LABLABO [FR]) 12 July 1974 (1974-07-12)	8-11
A	the whole document	1

X	WO 2010/149734 A1 (SANOFI AVENTIS DEUTSCHLAND [DE]; KUEHN BERND [DE]; HAUCK GERRIT [DE]) 29 December 2010 (2010-12-29)	8-11
A	the whole document	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2013/000659

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.: **13-16**
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

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

1. claims: 1-7, 12

Claims 1-7 and 12 essentially define a remotely triggerable drug injection device

2. claims: 8-11

Claims 8-11 essentially define a needle assembly

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Claims Nos.: 13-16

Claims 13-16 refer to methods for treatment of the human/animal body by surgery and therapy practised on the human/animal body in the sense of Rule 39.1(iv) and Rule 67.1(iv) PCT, in particular since they explicitly include the steps of piercing the skin of a patient with a needle and injecting a drug (see claim 13, step f, claim 14, steps c&d, claim 16, step b and claim 7), which is why these claims have not been searched (Rule 39.1 PCT). In addition, no examination according to Article 33(1) PCT is carried out for these claims (Rule 67.1 PCT).

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2013/000659

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4652261	A	24-03-1987	NONE	
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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