

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
3 August 2006 (03.08.2006)

PCT

(10) International Publication Number
WO 2006/079900 A3

- (51) **International Patent Classification:**
A61M 5/315 (2006.01) A61M 5/50 (2006.01)
A61M 5/24 (2006.01)
- (21) **International Application Number:**
PCT/IB2006/000123
- (22) **International Filing Date:** 12 January 2006 (12.01.2006)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
05100448.9 25 January 2005 (25.01.2005) EP
60/659,843 8 March 2005 (08.03.2005) US
- (71) **Applicant (for all designated States except US): PHARMACIA CORPORATION** [US/US]; 700 Chesterfield Parkway West, Chesterfield, Missouri 63017-1732 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only): HJERTMAN, Birger, Thure, Yngvar** [SE/SE]; Pfizer Global Research and Development, European Pharma Patent Department, Ramsgate Road, Sandwich, Kent CT13 9NJ (GB). **JAEGER, Hans** [CH/CH]; Pfizer Global Research and

Development, European Pharma Patent Department, Ramsgate Road, Sandwich, Kent CT13 9NJ (GB). **MAYOR, Laetitia** [CH/CH]; Pfizer Global Research and Development, European Pharma Patent Department, Ramsgate Road, Sandwich, Kent CT13 9NJ (GB).

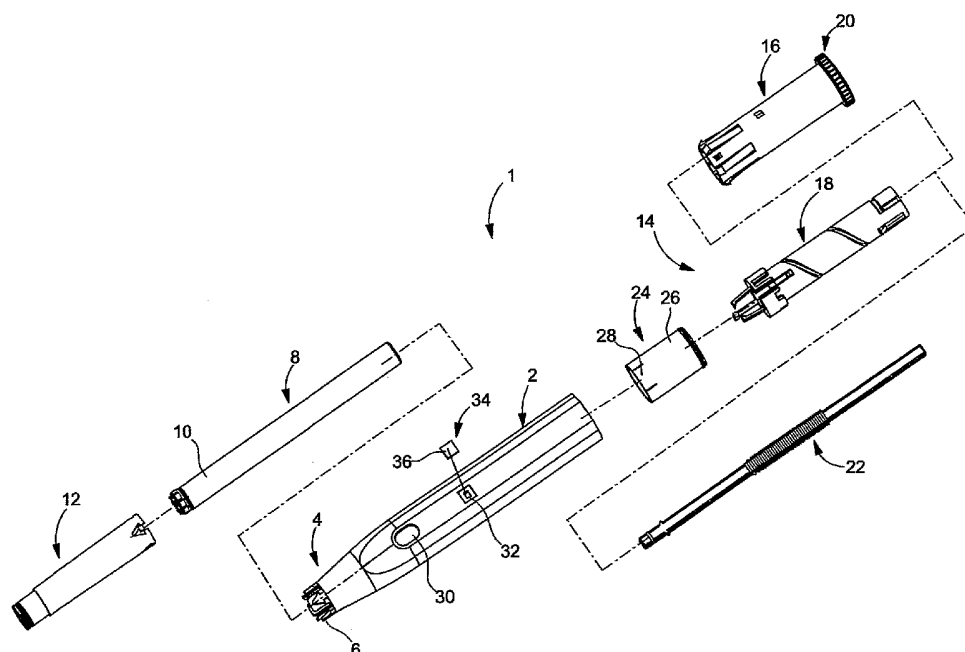
(74) **Agents: GROVER, F., Fuller, Jr.** et al.; c/o DROUIN, Stéphane, Pfizer Global Research and Development, Ramsgate Road, Sandwich, Kent CT13 9NJ (GB).

(81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,

[Continued on next page]

(54) **Title:** INJECTION DEVICE FOR ADMINISTERING A MEDICATION LIQUID



(57) **Abstract:** Multiple dose disposable injection device (1) for reconstituting a medication liquid before its injection and for permanently adjusting the volume of the doses of medication liquid to be administered. The injection device (1) is additionally totally undemountable after the final use.

WO 2006/079900 A3



RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:
23 November 2006

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2006/000123

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61M5/315 A61M5/24 A61M5/50

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 practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 228 067 B1 (GABRIEL JOCHEN) 8 May 2001 (2001-05-08) column 3, line 14 - line 67 column 5, line 40 - column 6, line 2 figures 1-21	1,3,4
A		10
X	WO 2004/007001 A (TECPHARMA LICENSING AG; GRAF, RONEY; KIRCHHOFER, FRITZ) 22 January 2004 (2004-01-22) page 18, paragraph 1 figures 1-12	1
A		2,10
X	US 2004/030293 A1 (GURTNER THOMAS) 12 February 2004 (2004-02-12) paragraph [0015]	1,2
A		10
	----- -/--	

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 document 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: 14 September 2006

Date of mailing of the international search report: 25/09/2006

Name and mailing address of the ISA/
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer
Schultz, Ottmar

INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2006/000123

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 300 041 A (HABER ET AL) 5 April 1994 (1994-04-05) column 2, line 27 - line 48 column 5, line 39 - line 58 figures 1-6C	1,2
A	-----	10
A	WO 01/30424 A (MEDI-JECT CORPORATION) 3 May 2001 (2001-05-03) page 1, lines 5,6 figures 1-10	1-4,10
X	US 2004/068236 A1 (MOLLER CLAUS SCHMIDT ET AL) 8 April 2004 (2004-04-08) paragraphs [0043] - [0050] figures 7,8	7,15,16
A	-----	17,18
X	US 6 086 567 A (KIRCHHOFER ET AL) 11 July 2000 (2000-07-11) column 4, line 35 - column 5, line 42 figures	7
A	US 5 304 152 A (SAMS ET AL) 19 April 1994 (1994-04-19) column 4, line 54 - line 63 column 8, line 52 - column 9, line 7 figures 5A,5B	7,15
A	WO 2004/002557 A (TECPHARMA LICENSING AG; HOMMANN, EDGAR) 8 January 2004 (2004-01-08) page 21, paragraph 3 - page 22, paragraph 1 figures	7,15
A	EP 0 298 067 A (KABIVITRUM AB; KABI PHARMACIA AB) 4 January 1989 (1989-01-04) column 1, line 3 - line 9 column 5, line 43 - column 6, line 58 column 8, line 59 - column 9, line 2 figures	19,22
A	US 2003/158523 A1 (HJERTMAN BIRGER ET AL) 21 August 2003 (2003-08-21) paragraphs [0034] - [0044] figures	19,22
A	EP 0 956 874 A (DISETRONIC LICENSING AG; TECPHARMA LICENSING AG) 17 November 1999 (1999-11-17) paragraphs [0039], [0040] figures	19,22
	----- -/--	

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2006/000123

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 793 646 B1 (GIAMBATTISTA LUCIO ET AL) 21 September 2004 (2004-09-21) column 4, line 58 - line 65 column 6, line 3 - column 7, line 35 figures -----	19,22

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2006/000123

Box 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 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 fee, this Authority did not invite payment of any additional fee.
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.
- 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: 1-6,10-14

Means for permanently setting the dose to be administered.

2. claims: 7-9,15-18

Means for immobilising after administering the final dose.

3. claims: 19-25

Reconstituting the medication liquid by an actuator operating on a flat rear portion of a plunger and then dispensing the medication liquid by said actuator operating on toothed sides of said plunger.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/IB2006/000123

Patent document cited in search report	Publication date	Publication date	Patent family member(s)	Publication date
US 6228067	B1	08-05-2001	NONE	
WO 2004007001	A	22-01-2004	WO 2004007000 A1 DE 10232410 A1 DE 10232411 A1 DE 10232412 A1 US 2004019333 A1	22-01-2004 05-02-2004 05-02-2004 05-02-2004 29-01-2004
US 2004030293	A1	12-02-2004	WO 02064198 A1 DE 10106367 A1	22-08-2002 22-08-2002
US 5300041	A	05-04-1994	WO 9324160 A1	09-12-1993
WO 0130424	A	03-05-2001	AU 1339501 A CN 1409643 A EP 1225938 A1 JP 2003527159 T	08-05-2001 09-04-2003 31-07-2002 16-09-2003
US 2004068236	A1	08-04-2004	NONE	
US 6086567	A	11-07-2000	AT 221396 T WO 9736626 A1 DE 59609513 D1 DK 828527 T3 EP 0828527 A1 JP 11506968 T JP 3741730 B2	15-08-2002 09-10-1997 05-09-2002 25-11-2002 18-03-1998 22-06-1999 01-02-2006
US 5304152	A	19-04-1994	AT 111752 T AU 7561291 A DE 69104163 D1 DE 69104163 T2 EP 0474839 A1 WO 9114467 A1 JP 4507059 T	15-10-1994 21-10-1991 27-10-1994 23-03-1995 18-03-1992 03-10-1991 10-12-1992
WO 2004002557	A	08-01-2004	AU 2003232577 A1 DE 10229122 A1 JP 2005531349 T	19-01-2004 05-02-2004 20-10-2005
EP 0298067	A	04-01-1989	AU 613379 B2 AU 1860788 A BR 8803170 A CA 1310871 C DE 3865756 D1 DK 367988 A ES 2026695 T3 FI 882981 A GR 3003027 T3 IL 86799 A JP 1080371 A JP 2108611 C JP 6061361 B MX 172551 B NO 882743 A NZ 225181 A PT 87794 A US 4968299 A	01-08-1991 05-01-1989 10-01-1989 01-12-1992 28-11-1991 03-01-1989 01-05-1992 03-01-1989 17-02-1993 15-03-1993 27-03-1989 21-11-1996 17-08-1994 03-01-1993 03-01-1989 25-09-1991 30-06-1989 06-11-1990

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IB2006/000123

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0298067	A	YU 128488 A1	31-08-1990
US 2003158523	A1	21-08-2003	NONE
EP 0956874	A	17-11-1999	AT 281196 T 15-11-2004 DE 19821934 C1 11-11-1999 JP 11347122 A 21-12-1999
US 6793646	B1	21-09-2004	NONE