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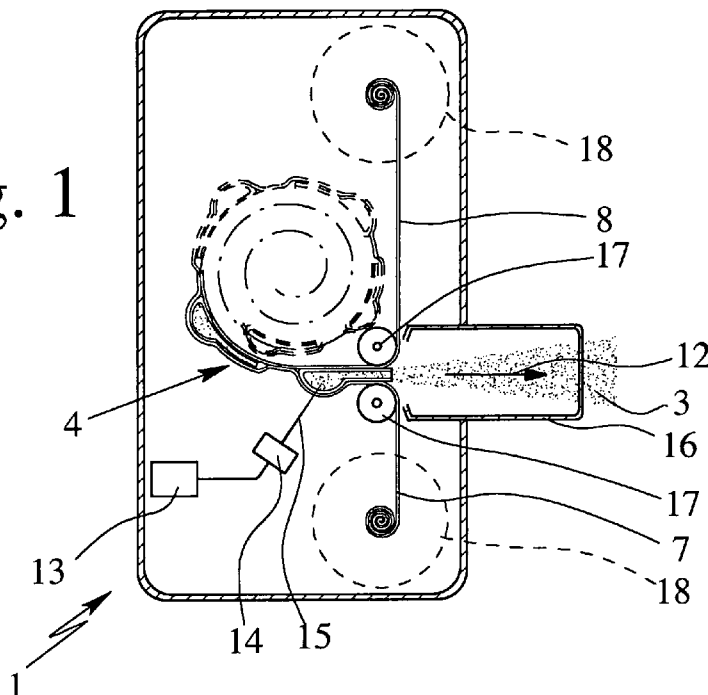
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Declarations under Rule 4.17:

[Continued on next page]

(54) Title: DISPENSING DEVICE, STORAGE DEVICE AND METHOD FOR DISPENSING A FORMULATION

Fig. 1



(57) Abstract: A dispensing device, a storage device and a method for dispensing a medical formulation are proposed. Multiple doses of the formulation are stored in a carrier having multiple storage members, each storage member containing a single dose. Each storage member comprises one duct or nozzle for dispensing the respective dose. The dispensing direction of the ducts or nozzles is directed in a lengthwise or indexing direction of the carrier. The storage device of the carrier is a peelable blister strip, wherein the ducts or nozzles can be opened one after the other by peeling the blister strip.

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— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))* — *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))*

**Published:**

— *with international search report (Art. 21(3))*

**(88) Date of publication of the international search report:**  
5 November 2009

**INTERNATIONAL SEARCH REPORT**

International application No  
PCT/EP2008/011112

**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. A61M15/00

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

| <b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b> |   |                       |
|---|---|-----------------------|
| Category*                                     | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
| X   | US 6 123 068 A (LLOYD LESTER JOHN [US] ET AL) 26 September 2000 (2000-09-26) column 14 - column 15; figures 1,5,15<br>-----                     | 1-9,<br>12-24         |
| X   | EP 1 795 221 A (BOEHRINGER INGELHEIM PHARMA [DE]) 13 June 2007 (2007-06-13) cited in the application  | 1,5,<br>10-11         |
| Y   | the whole document<br>-----   | 1-24                  |
| A   | WO 00/64779 A (GLAXO GROUP LTD [GB]; BONNEY STANLEY GEORGE [GB]; DAVIES MICHAEL BIRSH) 2 November 2000 (2000-11-02) abstract; figure 2<br>----- | 1, 15                 |
| A   | EP 1 726 324 A (INNOVATIVE DEVICES LLC [US]) 29 November 2006 (2006-11-29) figure 8b<br>-----   | 1, 15                 |
|   | -/--  |                       |

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

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| Date of the actual completion of the international search<br><br><b>28 August 2009</b> | Date of mailing of the international search report<br><br><b>03/09/2009</b> |
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| Name and mailing address of the ISA/<br>European Patent Office, P.B. 5818 Patentlaan 2<br>NL - 2280 HV Rijswijk<br>Tel. (+31-70) 340-2040,<br>Fax: (+31-70) 340-3016 | Authorized officer<br><br><b>Valfort, Cyril</b> |
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## INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2008/011112

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 2006/037636 A2 (BOEHRINGER INGELHEIM<br>MICROPART [DE]; DUNNE STEPHEN TERENCE<br>[GB]; ROHR) 13 April 2006 (2006-04-13)             | 1-2,6-7,<br>9-17,21,<br>23-24 |
| Y         | figures 18-20<br>paragraph [0125]<br>paragraph [0126]<br>paragraph [0128] - paragraph [0129]<br>-----                                  | 1-24                          |
| Y         | US 2005/158394 A1 (STANIFORTH JOHN [GB];<br>TOBYN MICHAEL [GB])<br>21 July 2005 (2005-07-21)<br>figure 18<br>paragraph [0160]<br>----- | 1-24                          |

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP2008/011112

## 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.: **25-30**  
because they relate to subject matter not required to be searched by this Authority, namely:  
**Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy**
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 allsearchable 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.:  
**1-24**
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: 1-24(partially)

Storage device with ducts/nozzles having a dispensing direction which is directed lengthwise of the storage device or carrier

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2. claims: 25-30(completely); 1-24(partially)

A storage device or dispensing device wherein the ducts/nozzles can be opened one after the other by peeling or pushing or cracking or cutting or bending or folding the blister strip.

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3. claims: 1-24(partially)

A storage device or dispensing device wherein the carrier carries the storage members formed separately from the carrier rigidly or in a unmovable manner and is adapted that the storage members, the ducts/nozzles can be opened without movement of the storage members or base layer thereof by opening or peeling a common sealing or cover layer.

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2008/011112

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date  |
|--|------------------|-------------------------|---|
| US 6123068                             | A                | 26-09-2000              | NONE  |
| EP 1795221                             | A                | 13-06-2007              | AR 058264 A1 30-01-2008<br>AU 2006319500 A1 07-06-2007<br>CA 2628859 A1 07-06-2007<br>EA 200801429 A1 30-12-2008<br>EC SP088342 A 30-05-2008<br>EP 1957136 A1 20-08-2008<br>WO 2007062721 A1 07-06-2007<br>JP 2009517146 T 30-04-2009<br>KR 20080072702 A 06-08-2008<br>US 2007163574 A1 19-07-2007<br>UY 29977 A1 31-07-2007 |
| WO 0064779                             | A                | 02-11-2000              | AT 296768 T 15-06-2005<br>AU 4119500 A 10-11-2000<br>DE 60020552 D1 07-07-2005<br>DE 60020552 T2 04-05-2006<br>EP 1173368 A1 23-01-2002<br>JP 2002542999 T 17-12-2002<br>US 6929004 B1 16-08-2005   |
| EP 1726324                             | A                | 29-11-2006              | NONE  |
| WO 2006037636                          | A2               | 13-04-2006              | AU 2005291427 A1 13-04-2006<br>CA 2581044 A1 13-04-2006<br>EP 1819388 A2 22-08-2007<br>JP 2008515499 T 15-05-2008<br>KR 20070073865 A 10-07-2007<br>US 2007272763 A1 29-11-2007   |
| US 2005158394                          | A1               | 21-07-2005              | NONE  |