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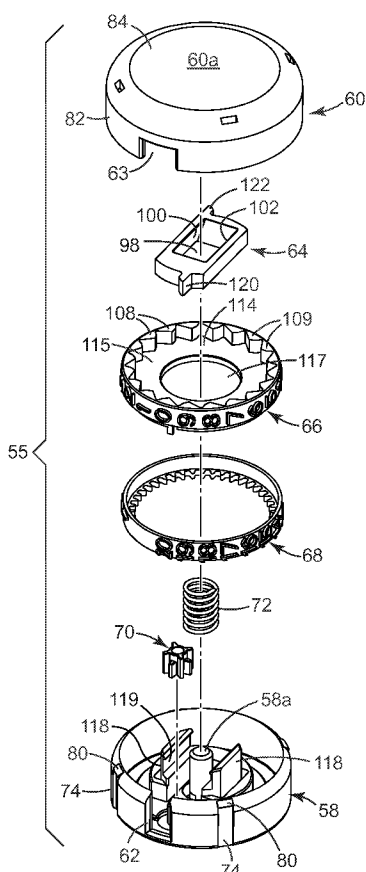
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LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ,
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(54) Title: METHOD AND APPARATUS FOR METERED DOSED DISPENSING



(57) Abstract: This application discloses a dose counter device of the type for use on an aerosol dispensing assembly having an aerosol container and an actuator. The dose counter device is used for indicating the release of a dose of aerosol medication caused by the application of a force, in an axial direction, on the aerosol dispensing assembly. The dose counter device has a cap, a slider and a first counter ring. The cap is moved in a first direction along an axis of the container, which causes movement of the slider in a first linear direction laterally, relative to the axis of the container, as a function of the movement of the cap in the first direction. The first counter ring is rotated through a first arc in a first circumferential direction about the axis of the container, as a function of the movement of the slider in the first linear direction. The cap is then moved in a second opposite direction, which causes the slider to move in a second opposite linear direction, which in turn causes rotation of the first counter ring through a second arc in the first circumferential direction about the axis of the container. A sum of the first and second arcs of movement of the first counter ring defines a circumferential extent of movement of the first counter ring relative to the cap that indicates a single dose of aerosol medication dispensed from the container.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/063043**A. CLASSIFICATION OF SUBJECT MATTER***A61M 11/00(2006.01)i, A61M 15/00(2006.01)i, B05B 9/04(2006.01)i*

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 11/00, A61M 15/00, B05B 9/04

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 since 1975

Japanese Utility models and applications for Utility Models since 1975

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

eKIPASS(KIPO internal), DELPHION, "inhaler, aerosol dispense*, dose count, device, assembl*", and similar terms"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|---|
| X | US 6953039 B2 (PETER MYCOLA SCARROTT et al.) 11 October 2005 See figure 31, abstract. | 42, 43, 45, 46, 48, 49 |
| A | US 6029659 A (JAMES A. O'CONNOR) 29 February 2000 See the whole document. | 1-6, 18, 22, 25, 29-31, 36-38, 42, 43, 45, 46, 48, 49 |
| A | US 5349945 A (ANTHONY C. L. WASS et al.) 27 September 1994 See the whole document. | 1-6, 18, 22, 25, 29-31, 36-38, 42, 43, 45, 46, 48, 49 |
| A | US 5544647 A (WARREN JEWETT et al.) 13 August 1996 See the whole document. | 1-6, 18, 22, 25, 29-31, 36-38, 42, 43, 45, 46, 48, 49 |

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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"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

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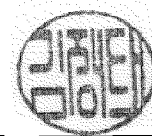
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2007/063043**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.: 7-17, 19-21, 23, 24, 26-28, 32-35, 39-41, 44, 47, 50
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. ☐ 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 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.

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Information on patent family members

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