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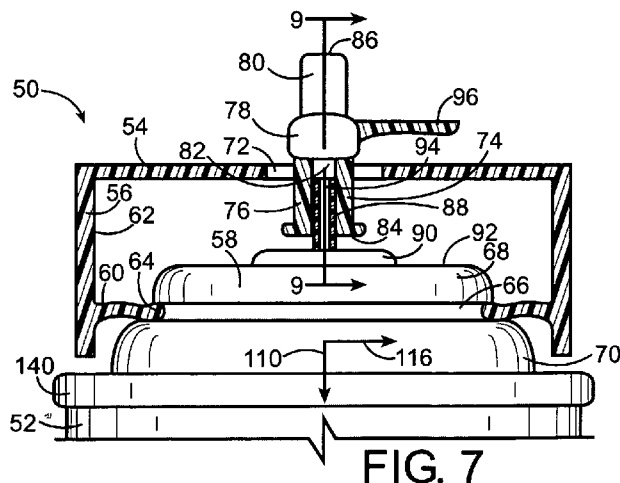
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- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:
25 February 2010

(54) Title: VOLATILE MATERIAL DISPENSER FOR AEROSOL CAN



(57) Abstract: A volatile material dispenser includes a drive unit adapted to be releasably mounted on a container having a tilt-activated valve stem. The drive unit is adapted to radially displace the tilt-activated valve stem. A flexible tube having a discharge end is fixedly held with respect to the container. The flexible tube is adapted to be in fluid communication with the tilt-activated valve stem. A dispensing system, comprising a housing adapted to be releasably mounted on an aerosol can having a tilt-activated valve stem, wherein the housing includes a discharge orifice; a flexible tube adapted to be in fluid communication with the tilt-activated valve stem and having a discharge end fixedly disposed proximate to the discharge orifice; and a drive unit disposed within the housing, wherein the drive unit includes a solenoid assembly adapted to radially displace the tilt-activated valve stem. A volatile material dispenser, comprising a drive unit adapted to be mounted on a container, wherein the drive unit is adapted to be activated in response to a signal from at least a sensor to radially displace a tilt-activated valve stem of the container; and a flexible tube having a discharge end fixedly held with respect to the container, wherein the flexible tube is adapted to be in fluid communication with the tilt-activated valve stem.



WO 2009/120318 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2009/001836

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61L9/14 A01M7/00 B65D83/14 B65D83/16

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)

A61L A01M B65D

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	WO 2006/074454 A (SASSOON SIMON [US] HYSO TECHNOLOGY LLC [US]; SASSOON SIMON [US]) 13 July 2006 (2006-07-13) claims 17,31,35	1-3
X	US 4 358 860 A (CHURCH DAVID R) 16 November 1982 (1982-11-16) figure 1 column 1, paragraph 1 - column 1, paragraph 3	1-9
X	US 3 023 427 A (BEHRINGER DANIEL T) 6 March 1962 (1962-03-06) figure 1 column 2, line 44 - column 3, line 34	1-9
	-/--	

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

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INTERNATIONAL SEARCH REPORT

International application No

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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 6 003 727 A (MARSHALL BONNIE R [US]) 21 December 1999 (1999-12-21) figure 2 column 3 -----	1-9
P,X	WO 2009/023208 A (JOHNSON & SON INC S C [US]; HELF THOMAS A [US]; PAAS EDWARD L [US]) 19 February 2009 (2009-02-19) paragraph [0053] -----	1-3
P,X	WO 2009/025741 A (JOHNSON & SON INC S C [US]; HELF THOMAS A [US]; PAAS EDWARD L [US]; MA) 26 February 2009 (2009-02-26) the whole document -----	1-3
A	US 2005/224596 A1 (PANOPOULOS PETER J [US]) 13 October 2005 (2005-10-13) #16,18,20 offigure 1 paragraph [0053] -----	1-9

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/001836

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.:
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.:

see additional sheet

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: 1-9

A volatile material dispenser, comprising a drive unit adapted to be releasably mounted on a container having a tilt-activated valve stem, wherein the drive unit is adapted to radially displace the tilt-activated valve stem; and a flexible tube having a discharge end fixedly held with respect to the container, wherein the flexible tube is adapted to be in fluid communication with the tilt-activated valve stem.

2. claims: 10-12

A dispensing system, comprising a housing adapted to be releasably mounted on a container having a tilt-activated valve stem, wherein the housing includes a discharge orifice; a flexible tube adapted to be in fluid communication with the tilt-activated valve stem and having a discharge end fixedly disposed proximate to the discharge orifice; and a drive unit disposed within the housing, wherein the drive unit includes a solenoid assembly adapted to radially displace the tilt-activated valve stem.

3. claims: 13-20

A volatile material dispenser, comprising a drive unit adapted to be mounted on a container, wherein the drive unit is adapted to be activated in response to a signal from at least a sensor to radially displace a tilt-activated valve stem of the container; and a flexible tube having a discharge end fixedly held with respect to the container, wherein the flexible tube is adapted to be in fluid communication with the tilt-activated valve stem.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2009/001836

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
WO 2006074454	A	13-07-2006	AU 2006203853 A1 EP 1838608 A2 JP 2008527213 T US 2006153733 A1 US 2006243762 A1	13-07-2006 03-10-2007 24-07-2008 13-07-2006 02-11-2006
US 4358860	A	16-11-1982	NONE	
US 3023427	A	06-03-1962	NONE	
US 6003727	A	21-12-1999	NONE	
WO 2009023208	A	19-02-2009	AR 067958 A1 US 2009045218 A1	28-10-2009 19-02-2009
WO 2009025741	A	26-02-2009	AR 067955 A1 US 2009045219 A1	28-10-2009 19-02-2009
US 2005224596	A1	13-10-2005	NONE	