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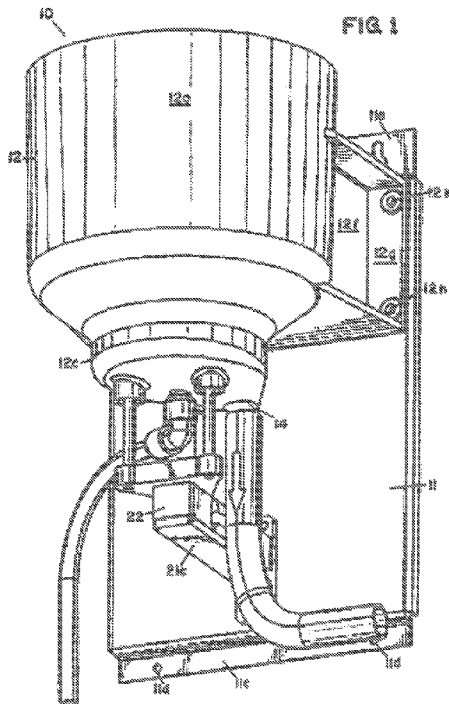
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[Continued on next page]

(54) Title: MAKE-UP DISPENSE IN A MASS BASED DISPENSING SYSTEM



(57) Abstract: A chemical product dispenser dispenses a chemical product having at least one active ingredient during a primary dispense cycle based on time or some other factor. After the chemical product has been dispensed, the dispenser determines the amount of chemical product that was dispensed. The dispenser then determines whether the dispensed amount of chemical product is within a defined threshold of a desired amount. If not, the dispenser proceeds to dispense additional chemical product during one or more make-up dispense cycles until the threshold is satisfied.

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LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK,  
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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)

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Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) &amp; Keywords: dispense, chemical, product, measure

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	WO 2006-133026 A2 (ADVANCED TECHNOLOGY MATERIALS, INC.) 14 December 2006 See paragraphs 123-200 and figures 1-8.	1,2,5,6,12-16 3,4,7-11,17-20
A	US 2009-0171502 A1 (PHILIP M. FREIDIN) 02 July 2009 See paragraphs 21-73 and figures 1-5.	1,12
A	KR 10-0454156 B1 (Semco Corporation) 26 October 2004 See page 3, line 24 - page 4, line 58 and figures 2a-3.	1,12

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

\* Special categories of cited documents:

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2006-133026 A2	14.12.2006	CN 101223100 A	16.07.2008
		CN 101223100 A0	16.07.2008
		EP 1896359 A2	12.03.2008
		JP 2008-542147 A	27.11.2008
		JP 2008-542147 T	27.11.2008
		JP 2011-016592 A	27.01.2011
		JP 2011-068413 A	07.04.2011
		KR 10-2008-0039373 A	07.05.2008
		KR 10-2010-0112650 A	19.10.2010
		KR 10-2011-0017462 A	21.02.2011
		SG 162759 A1	29.07.2010
		US 2010-112815 A1	06.05.2010
		WO 2006-133026 A2	14.12.2006
		WO 2006-133026 A3	14.12.2006
		US 2009-0171502 A1	02.07.2009
KR 10-2010-0022529 A	02.03.2010		
TW 200927633 A	01.07.2009		
WO 2009-085711 A2	09.07.2009		
KR 10-0454156 B1	26.10.2004		
		CN 100379678 C0	09.04.2008
		CN 1665718 A	07.09.2005
		CN 1665718 C0	09.04.2008
		EP 1171376 A1	16.01.2002
		EP 1171376 B1	22.10.2003
		EP 1375414 A2	02.01.2004
		EP 1375414 A3	07.01.2004
		EP 1509455 A1	02.03.2005
		JP 2002-533275 A	08.10.2002
		JP 2005-527814 A	15.09.2005
		JP 3679004 B2	03.08.2005
		JP 4351149 B2	31.07.2009
		KR 10-0949029 B1	23.03.2010
		US 2001-0002026 A1	31.05.2001
		US 2001-0023875 A1	27.09.2001
		US 2002-0017534 A1	14.02.2002
		US 2003-0010792 A1	16.01.2003
		US 2003-192920 A1	16.10.2003
		US 2004-0155057 A1	12.08.2004
		US 6098843 A	08.08.2000
		US 6269975 B2	07.08.2001
		US 6340098 B2	22.01.2002
		US 6675987 B2	13.01.2004
		US 7007822 B2	07.03.2006
		WO 00-39021 A1	06.07.2000
		WO 03-093118 A1	13.11.2003