



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
25.04.2007 Bulletin 2007/17

(51) Int Cl.:
H05B 6/10 (2006.01) **H05B 6/80** (2006.01)
B65D 83/14 (2006.01) **B65D 81/34** (2006.01)

(43) Date of publication A2:
04.04.2007 Bulletin 2007/14

(21) Application number: **07000276.1**

(22) Date of filing: **25.06.2004**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

(30) Priority: **27.06.2003 US 482867 P**

(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:
04777010.2 / 1 639 862

(71) Applicant: **S.C.JOHNSON & SON, INC.**
Racine, WI 53403-2236 (US)

(72) Inventors:
• **Clothier, Brian L.**
Wichita
KS (US)

• **Leonard, Stephen B.**
Franksville
WI 53126 (US)
• **Mather, David P.**
Milwaukee
WI 53172 (US)
• **Ablah, Amil J.**
Wichita
KS 67208 (US)

(74) Representative: **Ruschke, Hans Edvard**
RUSCHKE HARTMANN MADGWICK & SEIDE
Patent- und Rechtsanwälte
Postfach 86 06 29
81633 München (DE)

(54) **Dispenser assemblies and systems including a heat storage unit**

(57) An overcap is detachably securable to an aerosol container. It includes a heat storage unit, which has a body having a passage (12) formed therein through which contents of the container product passes when the aerosol container valve is actuated. The body also includes a heatable element (10) incorporated within the body in thermal communication with the passage (12). The heatable element (10) may comprise either a magnetically-compatible material that is heatable by locating the heatable element in a magnetic field or a microwave-compatible material that is heatable by exposing the heatable element to microwave radiation. There is also provided a heat-retentive material (8) in thermal communication with the heatable element (10). The heat-retentive material has a specific heat of at least 0.2 calories per gram-degree Celsius, preferably at least 0.4 calories per gram-degree Celsius, and more preferably at least 0.5 calories per gram-degree Celsius. It may be a polymer selected from the group consisting of polyethylene, polypropylene and nylon or a solid-to-solid phase change material.

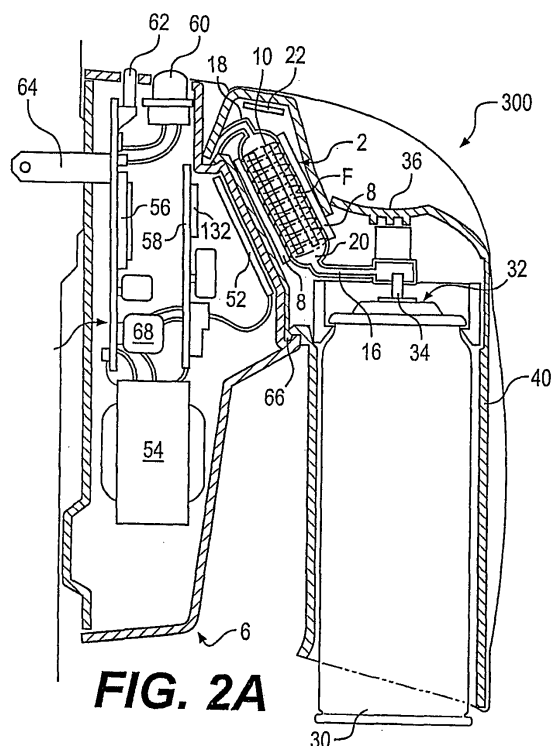


FIG. 2A



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 00 0276

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 4 983 798 A (ECKLER PAUL E ET AL) 8 January 1991 (1991-01-08) * column 2, line 28 - line 56; figure 1; table 1 * * column 3, line 18 - line 28 * * column 3, line 45 - column 4, line 8 * -----	1,11,30	INV. H05B6/10 H05B6/80 B65D83/14 B65D81/34
X	US 6 454 127 B1 (WORRELL WILLIAM R ET AL) 24 September 2002 (2002-09-24) * column 5, line 42 - column 6, line 31; figures 6,7 * -----	30	
A	WO 94/19917 A (NOTTINGHAM SPIRK DESIGN ASS ; LOCTITE CORP (US)) 1 September 1994 (1994-09-01) * page 5, line 1 - page 6, line 18 * * page 11, line 5 - line 16 * -----	1-43	
A	US 6 230 936 B1 (LASKO BERNARD C) 15 May 2001 (2001-05-15) * column 2, line 28 - column 3, line 10; figures 1-5 * -----	1-43	
A	GB 787 125 A (CARL SCHORG) 4 December 1957 (1957-12-04) * the whole document * -----	1-43	
A	US 4 067 480 A (GASSER EDWARD BRUCE) 10 January 1978 (1978-01-10) * column 2, line 1 - column 4, line 51; figures 1-3 * -----	1-43	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 14 March 2007	Examiner Gea Haupt, Martin
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

2
EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 07 00 0276

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

14-03-2007

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4983798	A	08-01-1991	NONE	
US 6454127	B1	24-09-2002	AU 8126301 A WO 0214211 A1	25-02-2002 21-02-2002
WO 9419917	A	01-09-1994	AU 666813 B2 AU 6245394 A BR 9404162 A CA 2131325 A1 DE 69417964 D1 DE 69417964 T2 EP 0637419 A1 HK 1005162 A1 JP 2972340 B2 JP 7506295 T	22-02-1996 14-09-1994 15-06-1999 01-09-1994 27-05-1999 11-11-1999 08-02-1995 17-03-2000 08-11-1999 13-07-1995
US 6230936	B1	15-05-2001	NONE	
GB 787125	A	04-12-1957	NONE	
US 4067480	A	10-01-1978	NONE	