



(51) International Patent Classification:
A61F 7/02 (2006.01) *A61F 7/03* (2006.01)

(21) International Application Number:
PCT/IB2009/052581

(22) International Filing Date:
17 June 2009 (17.06.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
12/215,442 26 June 2008 (26.06.2008) US

(71) Applicant (for all designated States except US): **KIMBERLY-CLARK WORLDWIDE, INC.** [US/US]; 2300 Winchester Road, Neenah, Wisconsin 54956 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **JOHNSON, Kroy, D.** [US/US]; N112 Horison Drive, Neenah, Wisconsin 54956 (US). **DRUECKE, Frank, G.** [US/US]; 4730 Old Oak Road, Oshkosh, Wisconsin 54904 (US). **HONDL, Blake, A.** [US/US]; 7308 Ashford Gables Drive, Dunwoody, Georgia 30338 (US). **ARENDT, Jonathan, Kyle** [US/US]; W9924 Bonnin Road, New London, Wisconsin 54961 (US).

(74) Agents: **STOKER, Denise, L.** et al.; Kimberly-Clark Worldwide, Inc., 2300 Winchester Road, Neenah, Wisconsin 54956 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: CUSTOMIZABLE THERAPEUTIC ARTICLE FOR APPLYING HEAT TO THE BODY

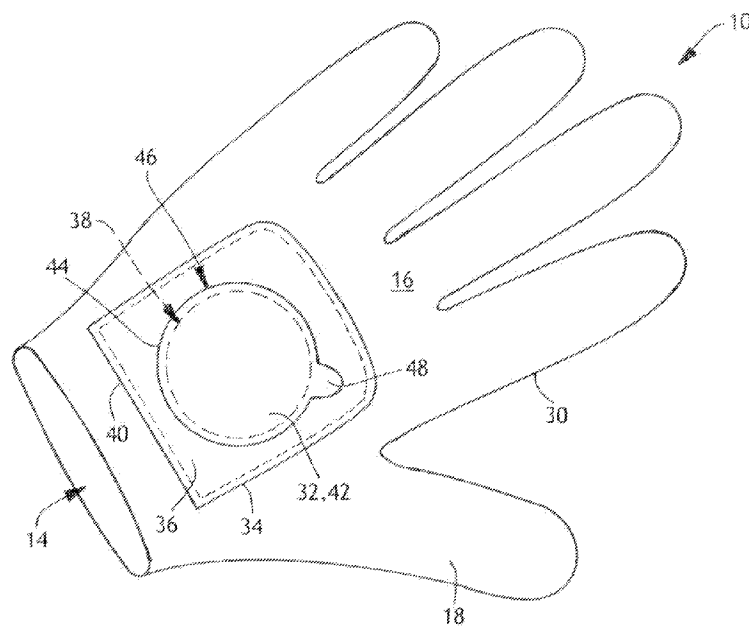


FIG. 8

(57) Abstract: A therapeutic delivery system that includes an appliance for selectively holding at least one therapeutic article in contact with at least a portion of a user's body. The therapeutic article may contain an exothermic compound that releases heat after selective activation by the user. The therapeutic article may be selectively located on the appliance by the user. The rate at which the exothermic composition reacts with a catalyst may be selectively controlled by the user. The appliance may be a garment that covers or encloses a portion of the user's body.

**Published:****(88) Date of publication of the international search report:**

18 March 2010

- *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))*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2009/052581**A. CLASSIFICATION OF SUBJECT MATTER****A61F 7/02(2006.01)i, A61F 7/03(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)

A61F 7/02; A61F 7/03; A61F 5/00; A61F 7/08; B65D 85/18

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 practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: heating pack, exothermic composition, disposable and therapeutic agent.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|------------------------|
| Y | KR 10-2008-0031288 A (KOBAYASHI PHARMACEUTICAL CO., LTD.) 08 April 2008 See abstract; paragraphs [52], [53], [90]-[92], [116]-[152]; Figs. 1 and 13. | 1-17 |
| Y | US 2008-0116096 A1 (JOHNSON KROY D. et al.) 22 May 2008 See abstract; paragraphs [8]-[17]; claims 1-10; Fig. 2A. | 1-17 |
| Y A | JP 2000-288008 A (NITTO DENKO CORP.) 17 October 2000 See abstract; paragraphs [6]-[8]; Fig. 1. | 7,8 1-6,9-17 |
| Y A | JP 10-108875 A (NAGAO TAKAAKI et al.) 28 April 1998 See abstract; paragraphs [13]-[17]; claims 1-10; Figs. 2, 3. | 11-14,17 1-10,15,16 |
| Y | JP 2003-093430 A (YANO KAZUSATO) 02 April 2003 See abstract; paragraphs [3]-[5]; claims 1, 2; Fig. 3. | 1-17 |
| Y | US 2003-0093017 A1 (ANNETTE M. LOUD) 15 May 2003 See abstract; paragraphs [12], [13], [16]; claims 1-10; Fig. 3. | 1-17 |
| A | JP 2002-345876 A (OOSHIN SEIYAKU KK) 03 December 2002 See the whole document | 1-17 |



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 application or patent 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 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

22 JANUARY 2010 (22.01.2010)

Date of mailing of the international search report

25 JANUARY 2010 (25.01.2010)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 139 Seonsa-ro, Seo-
gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KIM Sang Woo

Telephone No. 82-42-481-8384



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/IB2009/052581

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---------------------|--|--|
| KR 10-2008-0031288 A | 08.04.2008 | JP 03-114403 U WO 2007-004309 A1 | 24.08.2005 11.01.2007 |
| US 2008-0116096 A1 | 22.05.2008 | EP 2081465 A2 KR 10-2009-0079958 A WO 2008-059388 A2 | 29.07.2009 22.07.2009 22.05.2008 |
| JP 2000-288008 A | 17.10.2000 | None | |
| JP 10-108875 A | 28.04.1998 | None | |
| JP 2003-093430 A | 02.04.2003 | None | |
| US 2003-0093017 A1 | 15.05.2003 | None | |
| JP 2002-345876 A | 03.12.2002 | None | |