(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 5 June 2008 (05.06.2008)

(10) International Publication Number WO 2008/065628 A3

(51) International Patent Classification:

B44F 11/00 (2006.01) A61F 13/15 (2006.01) B44F 7/00 (2006.01) B41M 3/06 (2006.01)

B44F 1/08 (2006.01)

(21) International Application Number:

PCT/IB2007/054853

(22) International Filing Date:

29 November 2007 (29.11.2007)

(25) Filing Language: English

(26) Publication Language: **English**

(30) Priority Data:

60/861,910 29 November 2006 (29.11.2006) US

(71) Applicant (for all designated States except US): THE PROCTER & GAMBLE COMPANY [US/US]; One Procter & Gamble Plaza, Cincinnati, Ohio 45202 (US).

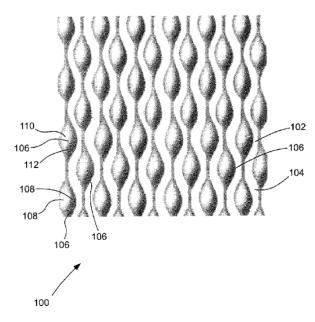
(72) Inventors; and

(75) Inventors/Applicants (for US only): LI, Wenbin [CN/US]; 6626 Villagefield Drive, Mason, Ohio 45040 (US). DOBRIN, George, Christopher [US/US]; 4407 Hyacinth Drive, Mason, Ohio 45040 (US). KO, Ada, Ho, Yau [US/US]; 5410 Watertower Court, #231, Cincinnati, Ohio 45227 (US). MEYER, Douglas, Joseph [US/US]; 3339 Ameliamont Avenue, Apt. 1, Cincinnati, Ohio 45209 (US). WARNER, Alrick, Vincent [US/US]; 9609 Stonemasters Drive, Loveland, Ohio 45140-6210 (US). LAWSON, Kathleen, Marie [US/US]; 8007 Pepper Pike, West Chester, Ohio 45069 (US). LU, Jon, Aaron [US/US]: 2135 Fulton Avenue, Cincinnati, Ohio 45206 (US). DENMON, Angelli, Sue [US/US]; 6653 Eagle Creek Drive, Hamilton, Ohio 45011 (US).

- (74) Common Representative: THE PROCTER & GAM-BLE COMPANY; c/o Eileen L. Hughett The Procter &, Gamble Company Winton Hill Business Center, 6250 Center Hill Avenue, Cincinnati, Ohio 45224 (US),
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, 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,

[Continued on next page]

(54) Title: SUBSTRATES WITH PRINTED PATTERNS THEREON PROVIDING A THREE-DIMENSIONAL APPEARANCE



(57) Abstract: Aspects of the present disclosure involve patterns on substrate surfaces, such as nonwoven webs or fabrics, plastic films, and laminates thereof, that cause the substrate surfaces to exhibit a three-dimensional appearance. In some embodiments, the three-dimensional appearance of the substrate surface resembles protrusions and indentions indicative of threads in woven cloths. The patterns are created by printing a surface of a substrate, as opposed to deforming the substrate such as by embossing. Embodiments of the patterns include a plurality of repeating shapes or macro-units disposed on the substrate surface.



WO 2008/065628 A3



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, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

Published:

— with international search report

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

7 August 2008

INTERNATIONAL SEARCH REPORT

International application No PCT/IB2007/054853

A. CLASSIFICATION OF SUBJECT MATTER INV. B44F11/00 B44F7 B44F7/00 A61F13/15 B44F1/08 B41M3/06 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 B44F B41M 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. US 2005/065489 A1 (DRISKELL STACY J [US] 1-4,6-9ET AL) 24 March 2005 (2005-03-24) * figures 1, 3, 4a; paragraphs 28, 29, 45, 59, 62, 96, 98 and 115; claims 7, 25, 58 and 59 * χ US 2003/158532 A1 (MAGEE LUKE R [US] ET 1-3,5-9 AL) 21 August 2003 (2003-08-21) * figures 5, 13 and 18; paragraphs 7-11, 20, 28, 33, 53, 54, 61, 63, 68, 69, 80-82, 86, 89, 92, 94, 95 * EP 1 242 247 B1 (PROCTER & GAMBLE [US]) 1-7 Α 27 April 2005 (2005-04-27) * figure 5; paragraphs 13, 43, 45, 65, 67, 69, 71, 74 * X See patent family annex. Further documents are listed in the continuation of Box C. Special categories of cited documents *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 "A" document defining the general state of the art which is not considered to be of particular relevance invention *E* earlier document but published on or after the international *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to 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) 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 docu-ments, such combination being obvious to a person skilled O document referring to an oral disclosure, use, exhibition or *P* document published prior to the international filing date but later than the priority date claimed *&* document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 16 May 2008 26/05/2008 Name and mailing address of the ISA/ Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL ~ 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl. Fax: (+31-70) 340-3016 Barenbrug, Theo

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2007/054853

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
4	FR 2 403 212 A (BOISSEAU PIERRE [FR]) 13 April 1979 (1979-04-13) * figure 1; pages 1 and 2 *	1-7
1	GB 18134 A A.D. 1898 (BOULT ALFRED JULIUS) 24 September 1898 (1898-09-24) * page 1, lines 21-25 and page 2, lines 1-6; claims 1-3 *	1-8
Ä	GB 742 752 A (HEINZ BURGTORF; EGON SCHWARZ; JOHANN HEINRICH BENECKE) 4 January 1956 (1956-01-04) * column 1, lines 29-38 *	1
A	GB 2 125 333 A (BOYLE & SON LIMITED) 7 March 1984 (1984-03-07) * page 1, lines 98-108 *	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IB2007/054853

Patent document cited in search report			Publication date	Patent family member(s)			Publication date
US 20	05065489	A1	24-03-2005	CA EP MX	2539971 1663093 PA06003260	A2 A	07-04-2005 07-06-2006 08-06-2006
				WO	2005030084	A2 	07-04-2005
US 20	03158532	A1	21-08-2003	AU	2003217570		09-09-2003
				BR	0307832		07-12-2004
				CA	2476265		28-08-2003
				CN	1625380		08-06-2005
				EP	1476111		17-11-2004
				JP	2005517494	T	16-06-2005
				KR	20060103550		02-10-2006
					20070004146		05-01-2007
					20070004147 PA04008029		05-01-2007 16-05-2005
				MX US	2005096618		05-05-2005
				WO	03070136		28-08-2003
				US	2007239122		11-10-2007
				ZA	200/239122		17-06-2005
							<u>-</u>
EP 12	42247	B1	27-04-2005	ΑT	294070		15-05-2005
			*	AU	1292401		30-05-2001
				BR	0015652		31-12-2002
				CA	2389857		25-05-2001
				DE	60019804		02-06-2005
				DE	60019804		02-02-2006
				EP	1242247		25-09-2002
				WO	0136209		25-05-2001
				MX	PA02005072		09-12-2002
				US	2002146548		10-10-2002
				ZA 	200203270	A 	24-07-2003
FR 24	03212	Α	13-04-1979	NONE			
GB 18	9818134	Α	24-09-1898	NONE			
GB 74	2752	Α	04-01-1956	NONE			