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[Continued on next page]

(54) Title: MULTI-LAYERED BAGS AND METHODS OF MANUFACTURING THE SAME

(57) Abstract: A bag can include walls formed of a material having multiple layers, one of which can be a layer of nonwoven material. A polyolefin layer can be joined to an outer face of the nonwoven layer. One or more films can be joined to an inner face of the nonwoven layer.

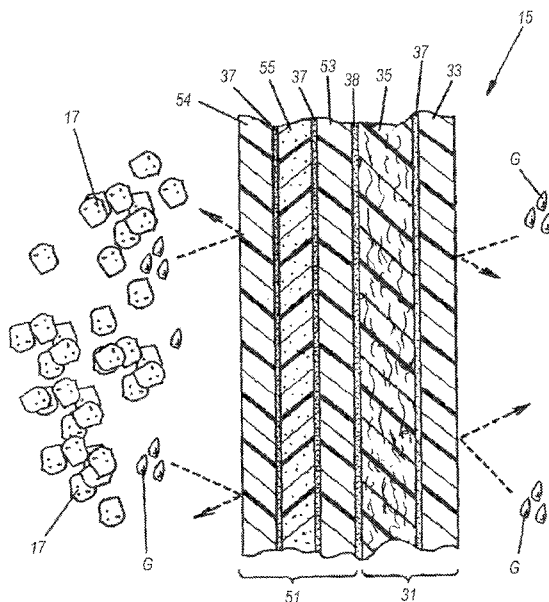


Fig. 8E

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— *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))*

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A. CLASSIFICATION OF SUBJECT MATTER***B65D 30/08(2006.01)i, B32B 5/24(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)

B65D 30/08; B32B 5/24

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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) & Keywords: bag, nonwoven, polyolefin and similar terms

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2007-0047852 A1 (STUART SHARP et al.) 01 March 2007 See paragraphs [0006]-[0016] and [0049]-[0095]; and figures 1A-16.	1-25
Y	JP 2004-345327 A (IDEMITSU UNITECH CO., LTD.) 09 December 2004 See paragraphs [0042], [0098] and [0115]; and figures 2 and 5.	1-25
Y	US 5150787 A (GERALD C. BIRD et al.) 29 September 1992 See claims 1 and 2.	2-5,22
Y	US 5310587 A (KOUJI AKAHORI et al.) 10 May 1994 See claim 4.	4,6
Y	JP 2006-231723 A (TOPPAN PRINTING CO., LTD.) 07 September 2006 See claim 1; and figures 1 and 4.	5,7,8,21,23,25
Y	US 2001-0046593 A1 (WILLIAM E. LEAVY et al.) 29 November 2001 See claims 1, 8 and 9; and figure 1.	9,18
Y	JP 11-084597 A (FUJI PHOTO FILM CO., LTD.) 26 March 1999 See paragraphs [0071] and [0151].	10-14

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

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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.
Y	US 4335817 A (KARL E. BAHR) 22 June 1982 See column 2, lines 66-67; and figure 1.	16

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007-0047852 A1	01.03.2007	AU 2006-285224 A1 CA 2612334-A1 EP 1928754 A2 US 2007-0047853 A1 WO 2007-027423 A2 WO 2007-027423 A3	08.03.2007 08.03.2007 11.06.2008 01.03.2007 08.03.2007 08.03.2007
JP 2004-345327 A	09.12.2004	None	
US 5150787 A	29.09.1992	EP 0572551 A1 EP 0572551 A1 EP 0572551 B1 EP 0779776 A2 EP 0779776 A3 KR 10-1993-0703807 A US 5132160 A1 WO 92-15190 A1	21.05.1997 08.12.1993 29.04.1998 18.06.1997 23.07.1997 30.11.1993 21.07.1992 03.09.1992
US 5310587 A	10.05.1994	JP 07-034865 Y2 JP 3108671 U	09.08.1995 08.11.1991
JP 2006-231723 A	07.09.2006	None	
US 2001-0046593 A1	29.11.2001	None	
JP 11-084597 A	26.03.1999	None	
US 4335817 A	22.06.1982	None	