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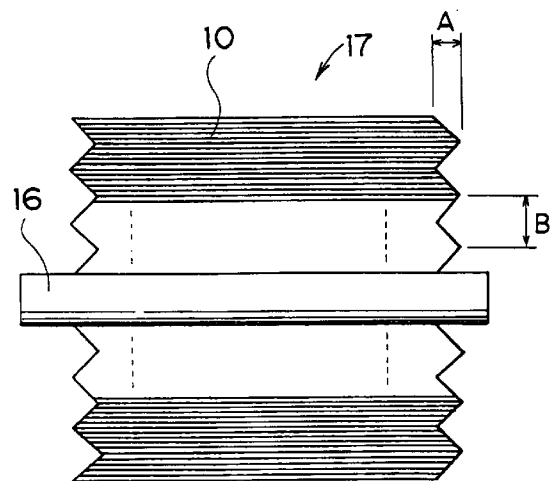
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(54) **Web winding method and apparatus**

(57) A web (10) is wound on a core (16) into a web roll (17) while being traversed in a width direction of the web (10) at a predetermined cycle and amplitude so that each end face of the web roll (17) can have corrugations of predetermined form. The web (10) is wound with both edges thereof being staggered. Thus, if the thickness of the web (10) is uneven in the width direction, thick parts and thin parts are alternately layered, so that the web (10) can be wound under an even pressure, and the web roll (17) can have good form. Since the end face of the web roll (17) has the corrugations of predetermined form (for example, sawtooth form), the web (10) can be prevented from slipping on the web roll (17), and the web roll (17) can be suitable for transportation.

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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	PATENT ABSTRACTS OF JAPAN vol. 016, no. 184 (M-1243), 6 May 1992 -& JP 04 023759 A (FUJI PHOTO FILM CO LTD), 28 January 1992 * abstract * ---	1,2,6	B65H18/00 B65H18/28 B65H23/038
X	PATENT ABSTRACTS OF JAPAN vol. 010, no. 047 (M-456), 25 February 1986 -& JP 60 197554 A (TORAY KK), 7 October 1985 * abstract * ---	1,2,6	
X	PATENT ABSTRACTS OF JAPAN vol. 096, no. 011, 29 November 1996 -& JP 08 169597 A (FUJI SEAL CO LTD), 2 July 1996 * abstract * ---	1,3,6	
X	GB 2 276 107 A (ISHIKAWAJIMA HARIMA HEAVY IND ;KAWASAKI STEEL CO (JP)) 21 September 1994 * the whole document * ---	1,4,6	TECHNICAL FIELDS SEARCHED (Int.Cl.6)
A		4	B65H
A	PATENT ABSTRACTS OF JAPAN vol. 016, no. 157 (M-1236), 16 April 1992 -& JP 04 009212 A (NKK CORP), 14 January 1992 * abstract * ---	1,4-6	
A	PATENT ABSTRACTS OF JAPAN vol. 016, no. 494 (M-1324), 13 October 1992 -& JP 04 182249 A (MITSUBISHI RAYON CO LTD), 29 June 1992 * abstract * ---	1,5,6	
-/--			
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		12 February 1999	Raven, P
CATEGORY OF CITED DOCUMENTS			
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Application Number
EP 98 10 1390

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	US 3 753 381 A (REIME ET AL) 21 August 1973 * column 2, line 17 - line 37; figure 1 * -----	7	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 12 February 1999	Examiner Raven, P
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p> <p>..... & : member of the same patent family, corresponding document</p>			

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ON EUROPEAN PATENT APPLICATION NO.**

EP 98 10 1390

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
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12-02-1999

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2276107 A	21-09-1994	JP 1947416 C	10-07-1995
		JP 4158915 A	02-06-1992
		JP 6069582 B	07-09-1994
		GB 2276108 A, B	21-09-1994
		CN 1060797 A, B	06-05-1992
		DE 4129988 A	30-04-1992
		GB 2249508 A, B	13-05-1992
		US 5284284 A	08-02-1994

US 3753381 A	21-08-1973	NONE	
