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(54) **Splicing method of core yarns, spliced portion of core yarn and automatic winder comprising core yarn splicing device**

(57) The present invention provides a method of splicing two core yarns so that inner layer fibers and outer layer fibers are substantially continuous at their spliced portion. The present invention also provides a spliced portion formed by this method and an automatic winder comprising a device that embodies this method. Compressed air is applied to two core yarns 1A, 1B to

untwist their outer layer fibers 11a, 11b. The core yarns 1A, 1B are then cut to form core yarn end surfaces 1a, 1b. The core yarn end surfaces 1a, 1b are then abutted against each other. Subsequently, an adhesive is applied to the abutted portion and then left set. Further, the inner layer fibers 10a, 10b and the outer layer fibers 11a, 11b are substantially continuous at the spliced portion of the core yarns (Fig. 1A).

FIG. 1A

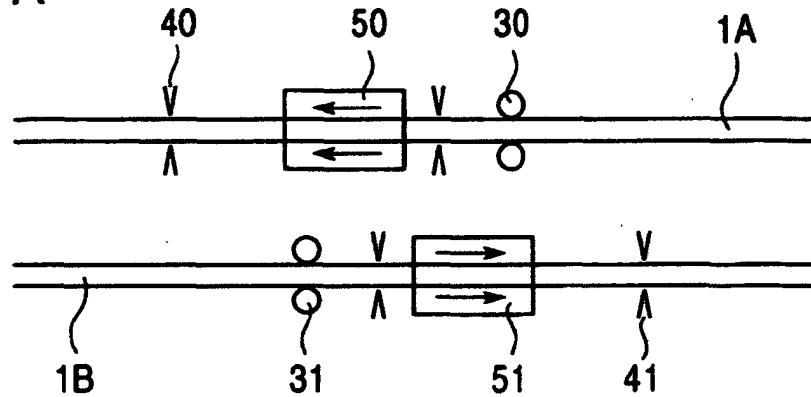


FIG. 1B

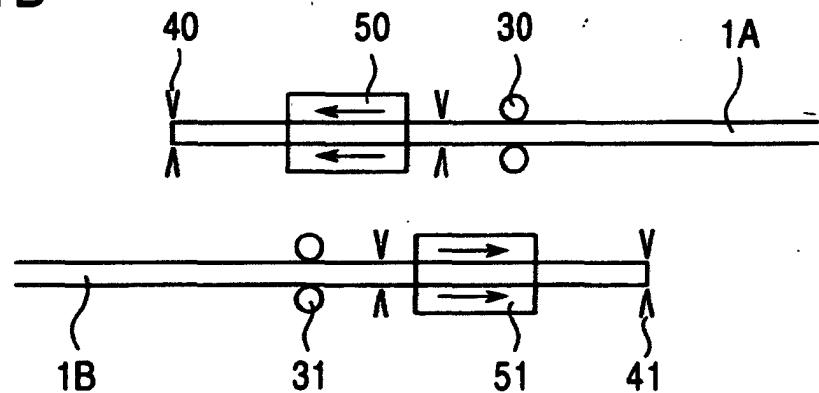
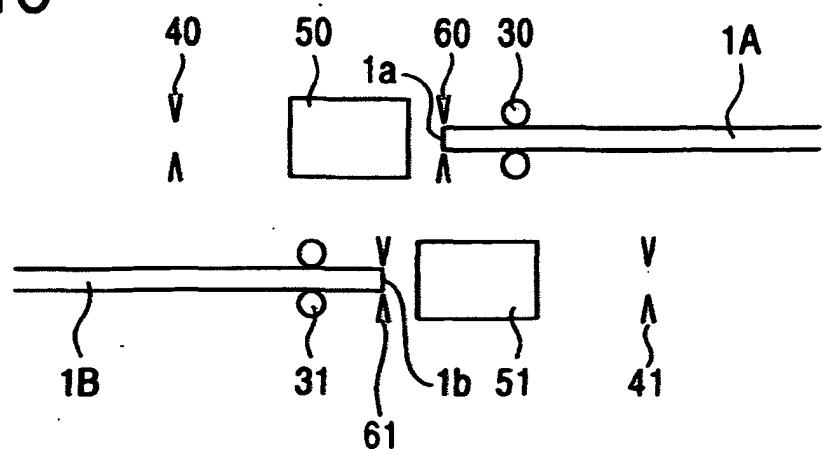


FIG. 1C





EUROPEAN SEARCH REPORT

Application Number
EP 03 00 3790

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)						
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim							
P, A	EP 1 195 343 A (MURATA KIKAI KABUSHIKI KAISHA) 10 April 2002 (2002-04-10) * claims; figures *	1,7	B65H69/02						
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 25, 12 April 2001 (2001-04-12) -& JP 2001 226038 A (KAJI SEISAKUSHO:KK), 21 August 2001 (2001-08-21) * abstract; figures *	1,7							
A	EP 0 226 464 A (WOOL RESEARCH ORGANISATION OF NEW ZEALAND INC.) 24 June 1987 (1987-06-24) * the whole document *	1							
A	EP 0 138 326 A (RAYCHEM CORPORATION) 24 April 1985 (1985-04-24)	-----							
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)						
			B65H D03J						
<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>20 November 2003</td> <td>D'Hulster, E</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	THE HAGUE	20 November 2003	D'Hulster, E
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THE HAGUE	20 November 2003	D'Hulster, E							
CATEGORY OF CITED DOCUMENTS		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							
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ON EUROPEAN PATENT APPLICATION NO.**

EP 03 00 3790

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.

20-11-2003

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
EP 1195343	A	10-04-2002	CN	1346907 A		01-05-2002
			EP	1195343 A2		10-04-2002
			JP	2003012232 A		15-01-2003
JP 2001226038	A	21-08-2001		NONE		
EP 226464	A	24-06-1987	EP	0226464 A2		24-06-1987
			JP	63185783 A		01-08-1988
EP 138326	A	24-04-1985	AU	3206084 A		21-02-1985
			EP	0138326 A1		24-04-1985
			ES	8607573 A1		01-11-1986
			JP	60059303 A		05-04-1985