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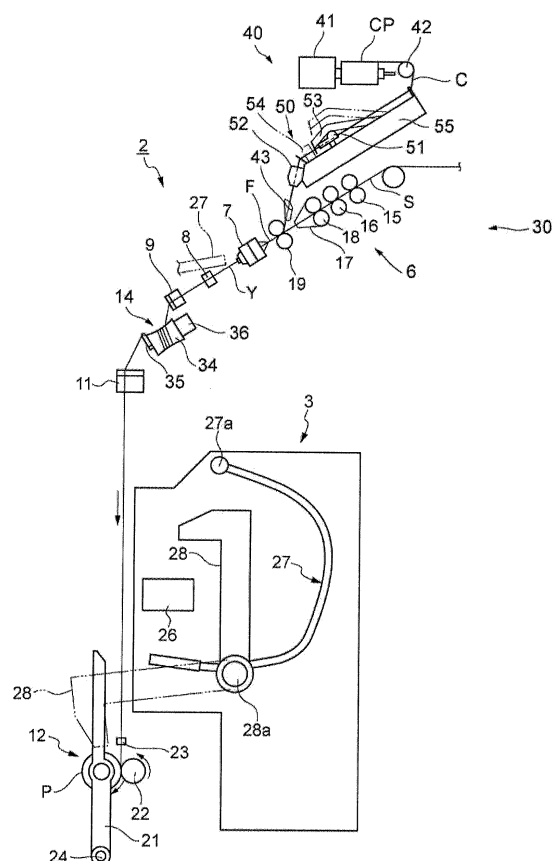
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(54) **Spinning machine, spinning method, and spun yarn**

(57) A spinning machine (1) includes a core yarn supplying device (40) adapted to supply a core yarn (C); a draft device (6) adapted to supply a fiber bundle (F); a pneumatic spinning device (7) adapted to produce a spun yarn (Y) by applying twists to the fiber bundle (F) with the core yarn (C) as a core; a tension sensor (9) adapted to detect tension applied to the spun yarn (Y) produced by the pneumatic spinning device (7); and a monitoring section (71) adapted to monitor a yarn quality of the spun yarn (Y) in accordance with a quality monitor reference range for monitoring the yarn quality of the spun yarn (Y) and a detection result of the tension sensor (9).

FIG. 2



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EUROPEAN SEARCH REPORT

Application Number
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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 (IPC)
X	US 4 672 801 A (ABDUGANIEV ABURAKHIM [SU] ET AL) 16 June 1987 (1987-06-16)	1,11,12	INV. D01H13/16 D01H13/22 D02G3/36
A	* column 3, lines 3-24; figure 1 * * column 4, line 47 - column 6, line 51 * -----	2-10	
X,D	EP 2 565 307 A2 (MURATA MACHINERY LTD [JP]) 6 March 2013 (2013-03-06)	1-4,6, 9-12	
Y	* paragraphs [0123] - [0130] * -----	1,5,11	
X	EP 1 801 271 A1 (MURATA MACHINERY LTD [JP]) 27 June 2007 (2007-06-27)	12	
Y	* paragraphs [0029] - [0037]; figures 1,2 * -----	1,5,11	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			D01H D02G
Place of search		Date of completion of the search	Examiner
Munich		8 January 2016	Wendl, Helen
CATEGORY OF CITED DOCUMENTS 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 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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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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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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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4672801	A	16-06-1987	AU 572379 B2	05-05-1988
			AU 5221186 A	16-07-1987
			CH 670663 A5	30-06-1989
			DE 3600985 A1	16-07-1987
			FR 2593197 A1	24-07-1987
			JP S62177240 A	04-08-1987
			US 4672801 A	16-06-1987

EP 2565307	A2	06-03-2013	CN 102965777 A	13-03-2013
			CN 202865461 U	10-04-2013
			EP 2565307 A2	06-03-2013
			JP 2013049932 A	14-03-2013

EP 1801271	A1	27-06-2007	CN 101018900 A	15-08-2007
			EP 1801271 A1	27-06-2007
			JP 4529977 B2	25-08-2010
			WO 2006030661 A1	23-03-2006
