



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
13.11.2013 Bulletin 2013/46

(51) Int Cl.:
B65H 54/26 (2006.01) **B65H 61/00** (2006.01)
B65H 63/06 (2006.01) **B65H 69/06** (2006.01)
B65H 67/08 (2006.01)

(43) Date of publication A2:
27.03.2013 Bulletin 2013/13

(21) Application number: **12182390.0**

(22) Date of filing: **30.08.2012**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(72) Inventors:
• **Ueda, Kenichi**
Kyoto-shi
Kyoto 612-8686 (JP)
• **Yamada, Shuji**
Kyoto-shi
Kyoto 612-8686 (JP)

(30) Priority: **21.09.2011 JP 2011206504**

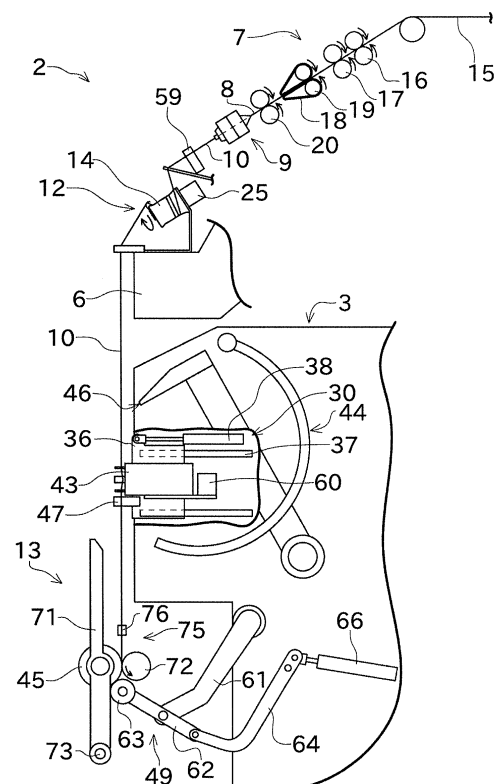
(71) Applicant: **Murata Machinery, Ltd.**
Minami-ku
Kyoto-shi
Kyoto 601-8326 (JP)

(74) Representative: **Zimmermann, Tankred Klaus et al**
Schoppe, Zimmermann, Stöckeler
Zinkler & Partner
P.O. Box 246
82043 Pullach (DE)

(54) **Yarn winding machine and yarn winding unit**

(57) A spinning frame (1) includes a winding device (13), a spinning device (9), a rotary encoder mechanism (52), a yarn joining device (43), a yarn joint monitor (47), and a carrier controller. The spinning device (9) supplies a spun yarn (10) to the winding device (13) to form a package (45). The rotary encoder mechanism (52) detects a rotational speed of the package (45). The yarn joining device (43) joins the spun yarn (10) between the spinning device (9) and the package (45). The yarn joint monitor (47) arranged downstream of the yarn joining device (43) in a running direction of the spun yarn (10) monitors the yarn joint and outputs a monitoring result. The carrier controller judges whether the yarn joint is normal based on the monitoring result of the yarn joint and the rotational speed of the package (45).

FIG.11





EUROPEAN SEARCH REPORT

Application Number
EP 12 18 2390

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	CH 699 599 A1 (USTER TECHNOLOGIES AG [CH]) 31 March 2010 (2010-03-31) * paragraphs [0026], [0033], [0034], [0037], [0038]; figures * -----	1	INV. B65H54/26 B65H61/00 B65H63/06 B65H69/06 B65H67/08
A	JP 2007 284812 A (MURATA MACHINERY LTD) 1 November 2007 (2007-11-01) * abstract; figures * -----	2,5-8	
A	EP 2 090 538 A2 (MURATA MACHINERY LTD [JP]) 19 August 2009 (2009-08-19) * abstract; figures * -----	1	
A	EP 0 307 644 A2 (ZELLWEGER USTER AG [CH]) 22 March 1989 (1989-03-22) * column 1, lines 9-51; figures * -----	1	
A	GB 2 164 961 A (VYZK USTAV BAVLNARSKY) 3 April 1986 (1986-04-03) * page 3, lines 91-102 * * page 5, lines 12-61; figures * -----	1,2,5-7	TECHNICAL FIELDS SEARCHED (IPC)
A	US 3 648 026 A (ABE FUJIO ET AL) 7 March 1972 (1972-03-07) * column 1, line 58 - column 2, line 42 * * column 5, lines 16-30; figures * -----	1,5,7	B65H
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 7 October 2013	Examiner Lemmen, René
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			

1

EPO FORM 1503 03.02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 12 18 2390

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.

07-10-2013

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
CH 699599	A1	31-03-2010	CH 699599 A1 31-03-2010
		CN 102224096 A	19-10-2011
		EP 2331441 A2	15-06-2011
		EP 2338819 A1	29-06-2011
		JP 5224200 B2	03-07-2013
		JP 2012504086 A	16-02-2012
		WO 2010034131 A2	01-04-2010

JP 2007284812	A	01-11-2007	NONE

EP 2090538	A2	19-08-2009	CN 101509756 A 19-08-2009
		EP 2090538 A2	19-08-2009
		JP 5126590 B2	23-01-2013
		JP 2009190841 A	27-08-2009

EP 0307644	A2	22-03-1989	CH 675132 A5 31-08-1990
		DE 3876046 D1	24-12-1992
		EP 0307644 A2	22-03-1989
		IN 171904 A1	06-02-1993
		JP 2707110 B2	28-01-1998
		JP H0192177 A	11-04-1989
		SU 1667641 A3	30-07-1991
		US 5074480 A	24-12-1991

GB 2164961	A	03-04-1986	CH 670837 B 14-07-1989
		CS 8407261 A1	13-11-1986
		DE 3530905 A1	17-04-1986
		GB 2164961 A	03-04-1986
		IT 1185360 B	12-11-1987
		JP S6183326 A	26-04-1986
		US 4821502 A	18-04-1989

US 3648026	A	07-03-1972	JP S4997 B1 05-01-1974
		US 3648026 A	07-03-1972

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82