



(11) **EP 1 975 289 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
14.10.2009 Bulletin 2009/42

(51) Int Cl.:
D01H 9/18 (2006.01) B65H 67/06 (2006.01)

(43) Date of publication A2:
01.10.2008 Bulletin 2008/40

(21) Application number: **08006107.0**

(22) Date of filing: **28.03.2008**

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

(72) Inventor: **Nakagawa, Takashi**
Kyoto-shi
Kyoto 612-8686 (JP)

(74) Representative: **Vogeser, Werner et al**
Hansmann & Vogeser
Patent- und Rechtsanwälte
Albert-Rosshaupter-Strasse 65
81369 München (DE)

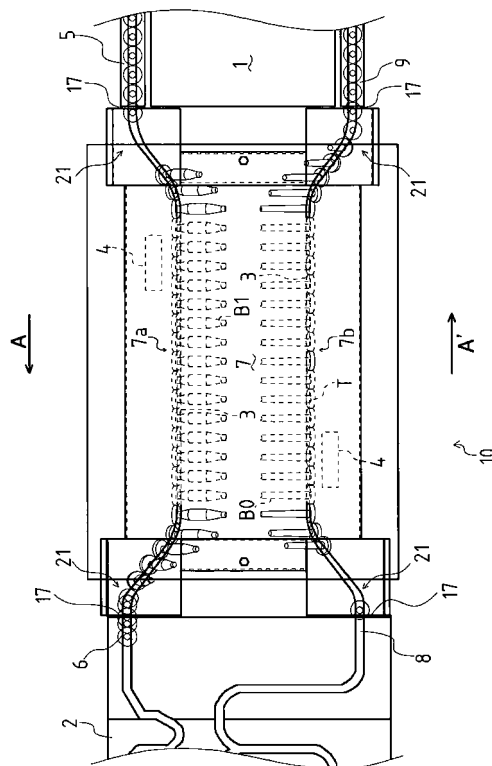
(30) Priority: **30.03.2007 JP 2007092538**

(71) Applicant: **Murata Machinery, Ltd.**
Kyoto 601 (JP)

(54) **Bobbin transport system**

(57) A bobbin transport system composed of an automatic winder, a fine spinning frame and a transport device is provided in such that a tray equipped with a bobbin can be efficiently transported by increasing or decreasing a speed to transport bobbins (or the amount of bobbins transported per unit time) in accordance with circumstances without increasing a burden to feeding means. In the bobbin transport system composed of the automatic winder 2, the fine spinning frame 1, and the bobbin transport device 10 having the bobbin transport path 7 for connecting the automatic winder 2 and the fine spinning frame 1, the bobbin transport device 10 includes transport guide means 3 for guiding the tray T equipped with the bobbin B along the bobbin transport path 7, and the feeding means 4 having the movable member 24 for moving the tray T by reciprocating, wherein a speed to transport bobbins on the bobbin transport path 7 can be changed in accordance with a process capability of the automatic winder 2 by changing the transport amount of bobbins in the feeding means 4 (Fig. 1).

Fig.1



EP 1 975 289 A3



EUROPEAN SEARCH REPORT

 Application Number
 EP 08 00 6107

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	JP 09 132828 A (TOYODA AUTOMATIC LOOM WORKS) 20 May 1997 (1997-05-20) * paragraphs [0005] - [0010], [0027] - [0032], [0040]; figures 1,6(b) *	1-8	INV. D01H9/18 B65H67/06
Y	DE 37 31 497 A1 (MURATA MACHINERY LTD [JP]) 7 April 1988 (1988-04-07) * column 2, line 42 - column 3, line 30 * * column 3, line 61 - column 4, line 33; figure 1 *	1	
Y	US 4 730 450 A (TONE SHOICHI [JP]) 15 March 1988 (1988-03-15) * column 4, line 45 - column 5, line 13; figures 3,5,10 * * column 6, line 61 - column 7, line 34; figure 8 *	1	
Y,D	JP 03 110071 U (-----) 12 November 1991 (1991-11-12) * figure 1 *	1	
Y	JP 57 161133 A (HOWA MACHINERY LTD; NISSHIN SPINNING) 4 October 1982 (1982-10-04) * abstract; figure 4 *	1	
A	US 4 660 369 A (KONISHI YUJI [JP] ET AL) 28 April 1987 (1987-04-28) * column 11, lines 14-20; figures 1-3 *	1	TECHNICAL FIELDS SEARCHED (IPC) B65H D01H
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 2 September 2009	Examiner Dreyer, Claude
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			

 3
 EPO FORM 1503 03.02 (P04C01)

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

EP 08 00 6107

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.

02-09-2009

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 9132828	A	20-05-1997	NONE	
DE 3731497	A1	07-04-1988	IT 1211789 B	03-11-1989
			JP 63082285 A	13-04-1988
			US 4875572 A	24-10-1989
US 4730450	A	15-03-1988	DE 3629983 A1	12-03-1987
			IT 1196602 B	16-11-1988
			JP 62056269 A	11-03-1987
JP 3110071	U	12-11-1991	JP 7056288 Y2	25-12-1995
JP 57161133	A	04-10-1982	JP 63009050 B	25-02-1988
US 4660369	A	28-04-1987	DE 3501796 A1	25-07-1985
			ES 8604827 A1	01-08-1986
			IT 1182133 B	30-09-1987