



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
20.05.2015 Bulletin 2015/21

(51) Int Cl.:
B65H 71/00 (2006.01) D01H 13/30 (2006.01)

(43) Date of publication A2:
13.03.2013 Bulletin 2013/11

(21) Application number: **12165118.6**

(22) Date of filing: **23.04.2012**

(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:
• **Shoda, Yuichi**
Kyoto, Kyoto 612-8686 (JP)
• **Yokota, Itaru**
Kyoto, Kyoto 612-8686 (JP)

(30) Priority: **08.09.2011 JP 2011196332**

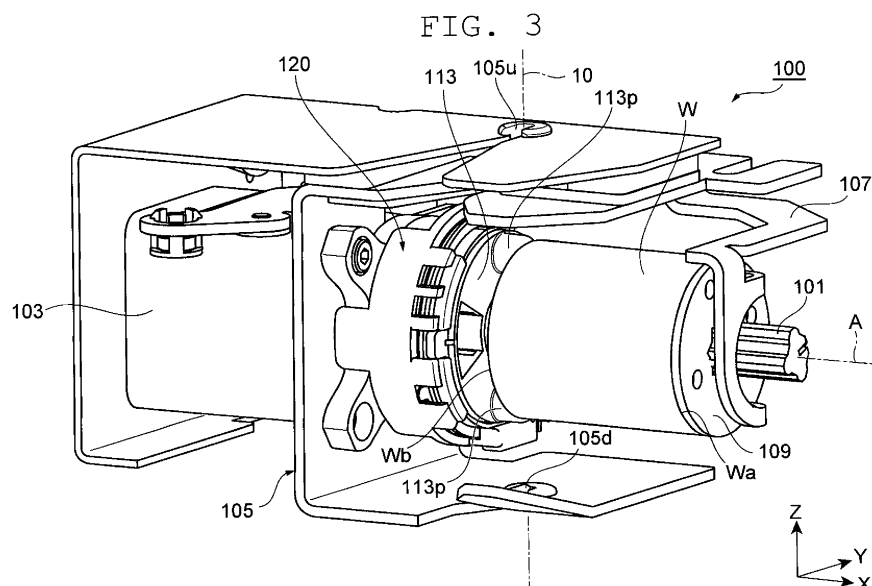
(74) Representative: **Weickmann & Weickmann**
Maximilianstrasse 4b
82319 Starnberg (DE)

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

(54) **Waxing device, spinning unit, and spinning machine**

(57) A waxing device (100) includes a rotation shaft (101) adapted to hold a wax body (W) to apply wax to a travelling spun yarn (10), a wax pin (113) provided to make contact with the wax body (W) held by the rotation shaft (101) and adapted to position the wax body (W) with respect to the spun yarn (10), a base (105) adapted to movably support the wax pin (113) in an advancing-and-receding direction with respect to the wax body (W),

a compression spring (119) adapted to urge the wax pin (113) in a direction of moving away from the wax body (W) with respect to the base, and a spacer unit (120) adapted to position the wax pin (113) with respect to the base (105) by being sandwiched and detachably held by the wax pin (113) and the base (105) urged by the compression spring (119).





EUROPEAN SEARCH REPORT

Application Number
EP 12 16 5118

5

10

15

20

25

30

35

40

45

50

55

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	DE 10 2006 018838 A1 (SAURER GMBH & CO KG [DE] OERLIKON TEXTILE GMBH & CO KG [DE]) 4 January 2007 (2007-01-04)	1,11, 13-15	INV. B65H71/00 D01H13/30
A	* paragraph [0074] - paragraph [0093] * * figures 1-4 *	2-10,12	
A	----- EP 0 069 082 A1 (SAVIO SPA [IT]) 5 January 1983 (1983-01-05) * page 3, line 27 - page 5, line 23 * * figures 1, 2 *	1-15	
A,D	----- JP 2008 290872 A (MURATA MACHINERY LTD) 4 December 2008 (2008-12-04) * paragraph [0053] * * figures 1, 2 *	1-15	
A	----- JP 2001 270658 A (MURATA MACHINERY LTD) 2 October 2001 (2001-10-02) * abstract; figure 6 *	1-15	
A	----- DE 15 60 460 B1 (SCHWEITER AG MASCHF) 7 January 1971 (1971-01-07) * column 4, line 30 - column 5, line 3 * * figure 1 *	1-15	TECHNICAL FIELDS SEARCHED (IPC) D01H B65H
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 8 April 2015	Examiner Hausding, Jan
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			

EPO FORM 1503 03.82 (F04C01)

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

EP 12 16 5118

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.

08-04-2015

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 102006018838 A1	04-01-2007	CN 1884649 A	27-12-2006
		DE 102006018838 A1	04-01-2007
EP 0069082 A1	05-01-1983	EP 0069082 A1	05-01-1983
		IT 1146488 B	12-11-1986
		JP S588151 A	18-01-1983
JP 2008290872 A	04-12-2008	NONE	
JP 2001270658 A	02-10-2001	NONE	
DE 1560460 B1	07-01-1971	AT 255947 B	25-07-1967
		BE 678040 A	01-09-1966
		CH 422610 A	15-10-1966
		DE 1560460 B1	07-01-1971
		GB 1089224 A	01-11-1967
		US 3358641 A	19-12-1967