



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
06.07.2016 Bulletin 2016/27

(51) Int Cl.:
D01H 4/48 (2006.01) B65H 51/22 (2006.01)

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

(21) Application number: **12180222.7**

(22) Date of filing: **13.08.2012**

(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) Inventor: **Oka, Masaki**
Kyoto-shi, Kyoto 612-8686 (JP)

(74) Representative: **Zinkler, Franz et al**
Schoppe, Zimmermann, Stöckeler
Zinkler, Schenk & Partner mbB
Patentanwälte
Radtkoferstrasse 2
81373 München (DE)

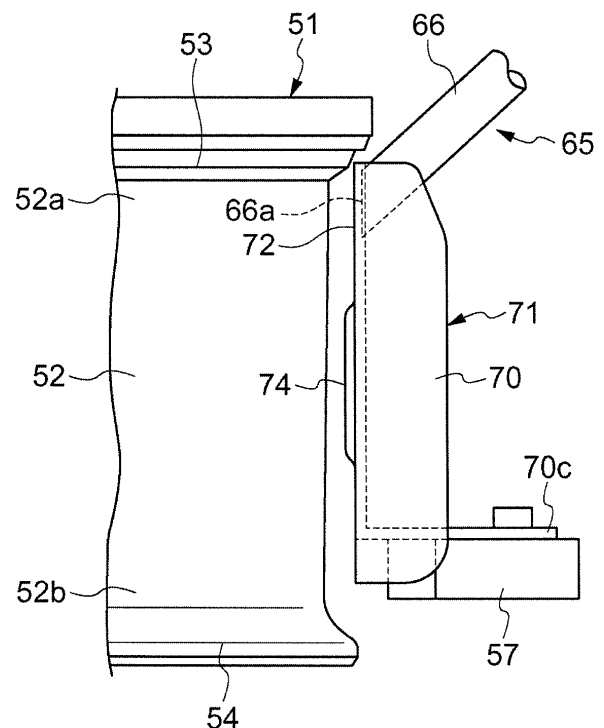
(30) Priority: **20.09.2011 JP 2011205329**

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

(54) **Spinning unit and spinning machine**

(57) A spinning unit includes a drafting device and a spinning device that supply a spun yarn, a winding device that winds the spun yarn to form a package, and a yarn pooling device that pools the spun yarn between a yarn supplying device and the winding device. The yarn pooling device includes a yarn pooling roller (51) around which the spun yarn is wound, and a first regulating portion (72). The first regulating portion (72) is arranged facing a base end section (52a) on a winding start side of a yarn pooling section (52) where the spun yarn is wound around the yarn pooling roller (51), and regulates a movement of an end of the spun yarn that sways about on the base end section (52a) side when a breakage of the spun yarn occurs on the spinning device side, such that the swaying end of the spun yarn is prevented from moving to a tip end section (52b) of the yarn pooling section (52) before the spun yarn is orderly unwound from the tip end section (52b) side.

FIG.10





EUROPEAN SEARCH REPORT

Application Number
EP 12 18 0222

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 25 58 419 A1 (SCHUBERT & SALZER MASCHINEN) 7 July 1977 (1977-07-07) * page 8, line 6 - line 14 * * page 12, line 33 - page 13, line 3 * * figures 1,3 *	1,2	INV. D01H4/48 B65H51/22
X	EP 2 298 971 A1 (MURATA MACHINERY LTD [JP]) 23 March 2011 (2011-03-23) * paragraph [0018] * * paragraph [0060] - paragraph [0061] * * figures 1,2,4,8 *	1-3,8-11	
X	EP 2 354 069 A2 (MURATA MACHINERY LTD [JP]) 10 August 2011 (2011-08-10) * column 0059 * * figures 1,2,3 *	1 8-11	
A			
			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 30 May 2016	Examiner Humbert, Thomas
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 03/02 (P04C01)

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

EP 12 18 0222

5 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.

30-05-2016

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 2558419 A1	07-07-1977	CH 594075 A5 DE 2558419 A1	30-12-1977 07-07-1977
EP 2298971 A1	23-03-2011	CN 101994174 A EP 2298971 A1 JP 2011037572 A	30-03-2011 23-03-2011 24-02-2011
EP 2354069 A2	10-08-2011	CN 102139820 A CN 104590944 A EP 2354069 A2 JP 2011157196 A	03-08-2011 06-05-2015 10-08-2011 18-08-2011