(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 2 107 141 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
30.04.2014 Bulletin 2014/18

(43) Date of publication A2:
07.10.2009 Bulletin 2009/41

(21) Application number: **09154200.1**

(22) Date of filing: **03.03.2009**

(51) Int Cl.:
D01H 1/115 *(2006.01)* ***D01H 4/02*** *(2006.01)*
D01H 13/14 *(2006.01)*

(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 MK MT NL NO PL PT RO SE SI SK TR
Designated Extension States:
AL BA RS

(30) Priority: **31.03.2008 JP 2008089633**

(71) Applicant: **Murata Machinery, Ltd.**
3 Minami Ochiai-cho, Kisshoin
Minami-ku, Kyoto-shi, Kyoto (JP)

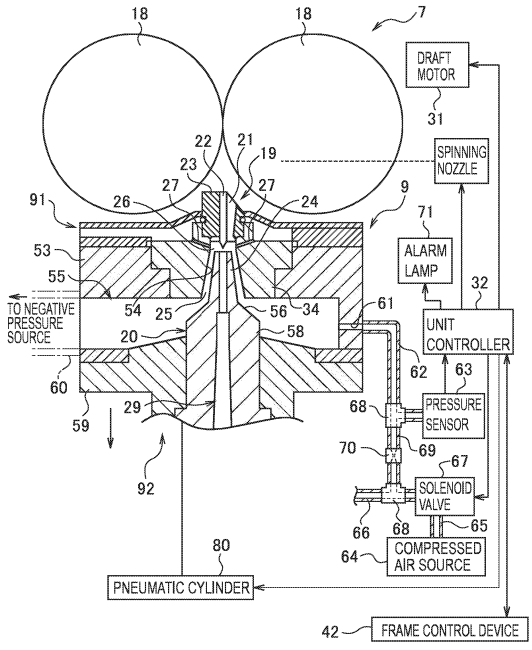
(72) Inventors:
- **Kawashima, Kiyotaka**
  Kyoto 612-8686 (JP)
- **Horiguchi, Kenji**
  Kyoto 612-8686 (JP)

(74) Representative: **Liedl, Christine et al**
Hansmann & Vogeser
Patent- und Rechtsanwälte
Maximilianstrasse 4b
82319 Starnberg (DE)

(54) **Spinning apparatus**

(57) The present invention provides a spinning apparatus that collectively manages pressures in a plurality of air spinning units (2). A spinning machine (1) includes a plurality of spinning units (2), and a unit controller (32) and a frame control device (42) which serve as a pressure collective management device. Each of the air spinning units (2) includes a whirling flow generating chamber (25) and a pressure sensor (63). The whirling flow generating chamber (25) internally generates a whirling air flow to twist fibers. The pressure sensor (63) detects pressure inside the whirling flow generating chamber (25). The unit controller (32) includes a receiving section (28) and a pressure abnormality determining section (37). The receiving section (28) can receive a pressure value signal from each of the pressure sensors (63). The pressure abnormality determining section (37) compares the pressure value with a predetermined threshold value to determine whether or not the pressure in each of the air spinning units (2) is abnormal.

FIGURE 3



EP 2 107 141 A3

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 09 15 4200

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	WO 2006/097008 A1 (RIETER AG MASCHF [CH]; JEHLE VOLKER [CH]; GAUTSCHI PHILIPP [CH]; STAHL) 21 September 2006 (2006-09-21) * claim 1; figure 1 * -----	1-7	INV. D01H1/115 D01H4/02 D01H13/14
A,D	EP 1 655 393 A2 (MURATA MACHINERY LTD [JP]) 10 May 2006 (2006-05-10) * the whole document * -----	1-7	
A	DE 10 2004 052510 A1 (STAHLECKER GMBH WILHELM [DE]) 27 April 2006 (2006-04-27) * paragraph [0021]; claim 1; figure 1 * -----	1-7	

TECHNICAL FIELDS SEARCHED (IPC)

D01H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	26 March 2014	Dupuis, Jean-Luc

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 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 09 15 4200

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.

26-03-2014

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2006097008 A1	21-09-2006	JP 2008533318 A	21-08-2008
		WO 2006097008 A1	21-09-2006
EP 1655393 A2	10-05-2006	CN 1769551 A	10-05-2006
		EP 1655393 A2	10-05-2006
		JP 3925533 B2	06-06-2007
		JP 2006132035 A	25-05-2006
		US 2006096271 A1	11-05-2006
DE 102004052510 A1	27-04-2006	CN 101044271 A	26-09-2007
		DE 102004052510 A1	27-04-2006
		EP 1802792 A1	04-07-2007
		JP 4500855 B2	14-07-2010
		JP 2008517180 A	22-05-2008
		US 2008190090 A1	14-08-2008
		WO 2006045492 A1	04-05-2006

EPO FORM P0459

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