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

(11) EP 0 942 081 A3

(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
12.04.2000 Bulletin 2000/15

(43) Date of publication A2:
15.09.1999 Bulletin 1999/37

(21) Application number: **99103458.8**

(22) Date of filing: **23.02.1999**

(51) Int. Cl.[7]: **D01H 1/244**, D01H 1/32

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **13.03.1998 JP 6235998**
27.03.1998 JP 8092798

(71) Applicant:
MURATA KIKAI KABUSHIKI KAISHA
Kisshoin, Minami-ku Kyoto-shi 601 (JP)

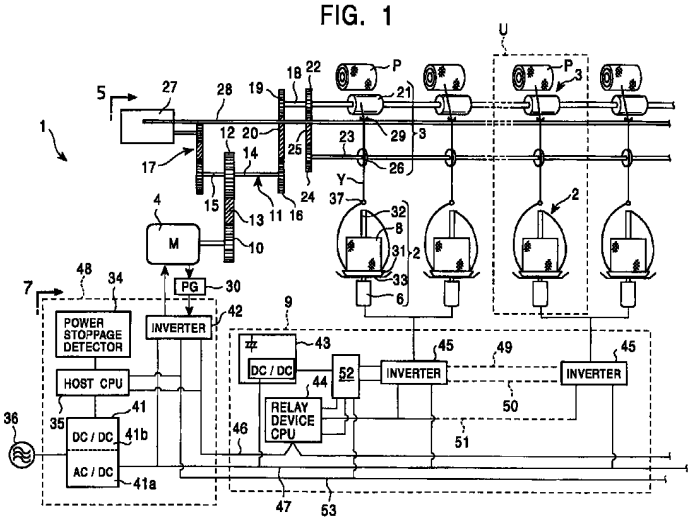
(72) Inventor: **Kuroda, Keiji**
Gamou-gun, Shiga (JP)

(74) Representative:
Liedl, Christine, Dipl.-Chem. et al
Albert-Rosshaupter-Strasse 65
81369 München (DE)

(54) Individual-spindle-drive type textile machine

(57) The present invention provides a individual-spindle drive type textile machine capable of operating upon power stoppage to use simple control means to decelerate and stop a spindle drive system and a drum drive system synchronously. The present invention provides an individual-spindle-drive type textile machine 7 for a multi-twister 1 using inverters 42 and 45 to drive a plurality of spindle drive motors 6 provided for the respective spindles and a winding drum drive motor 4 common to the plurality of spindle units, respectively. The individual-spindle-drive type textile machine 7 has a power stoppage means 34 for detecting power stoppage when the voltage decreases by a specified value or larger, stop instruction means 35, 46, 44, and 51 for outputting a stop instruction to each of the inverters 42 and 45, and stopping means 42 and 9 for providing feedback control in such a way as to stop each of the motors 4 and 6 within a predetermined time period based on said stop instruction.

FIG. 1



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EUROPEAN SEARCH REPORT

Application Number
EP 99 10 3458

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	US 5 196 769 A (OBATA TAKESHI ET AL) 23 March 1993 (1993-03-23) * abstract; claim 1 * ---	1,2	D01H1/244 D01H1/32
A	EP 0 806 501 A (HATTORI MOTONOBU) 12 November 1997 (1997-11-12) * column 18, line 43 - line 55; figure 14 * ---	1	
A	PATENT ABSTRACTS OF JAPAN vol. 016, no. 425 (C-0982), 7 September 1992 (1992-09-07) & JP 04 146224 A (HITACHI LTD), 20 May 1992 (1992-05-20) * abstract line 55; figure 14 * ---	1	
A	PATENT ABSTRACTS OF JAPAN vol. 096, no. 007, 31 July 1996 (1996-07-31) & JP 08 074133 A (TOYOTA AUTOM LOOM WORKS LTD), 19 March 1996 (1996-03-19) * abstract line 55; figure 14 * -----	1	

TECHNICAL FIELDS SEARCHED (Int.Cl.6)

D01H

~~The present search report has been drawn up for all claims~~

Place of search	Date of completion of the search	Examiner
THE HAGUE	5 July 1999	TAMME, H

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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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)

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-4, 8

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LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 99 10 3458

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-4, 8

   Individual-spindle-drive type textile machine with power stoppage detection means

2. Claims: 5-8

   Individual-spindle-drive type with a power supply to avoid voltage drop with a large number of winding units.

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 99 10 3458

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