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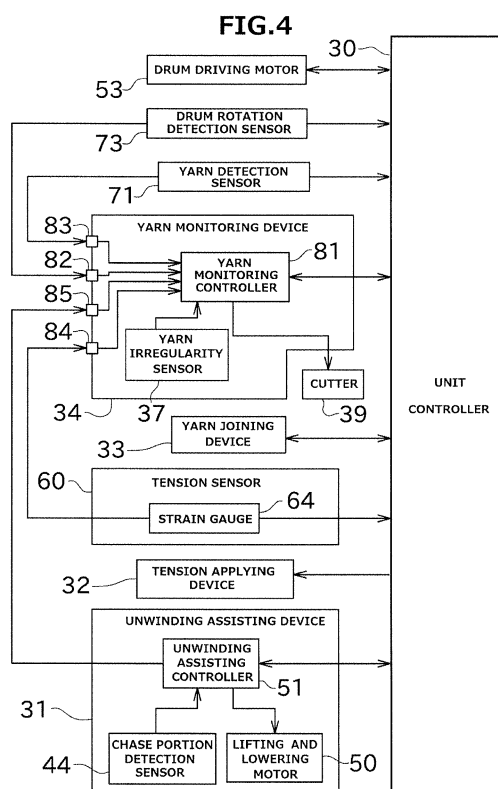
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(54) **Yarn monitoring device and yarn winding machine**

(57) A yarn monitoring device (34) includes a yarn irregularity sensor (37) and a yarn monitoring controller (81). The yarn irregularity sensor (37) monitors a yarn (21) that is being wound by an automatic winder (1). The yarn monitoring controller (81) performs a determination based on information acquired from the yarn irregularity sensor (37) and information pertaining to, for example, a traverse position of the yarn (21) acquired from the yarn detection sensor (71) of the automatic winder (1), and outputs a cutter operation signal based on the determination to operate a cutter (39). Furthermore, the yarn monitoring device (34) includes a yarn detection receiving section (83) to receive a yarn detection signal output by the yarn detection sensor (71).





EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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A	EP 2 423 144 A2 (MURATA MACHINERY LTD [JP]) 29 February 2012 (2012-02-29) * paragraphs [0030], [0034], [0035], [0042], [0048], [0051]; figures *	1-4,8-10	
X	DE 40 25 696 A1 (SCHLAFHORST & CO W [DE]) 20 February 1992 (1992-02-20) * column 1, line 36 - column 2, line 19 * * column 2, line 64 - column 3, line 48; figures *	1-5,8-10	
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A	EP 2 072 440 A2 (MURATA MACHINERY LTD [JP]) 24 June 2009 (2009-06-24) * paragraphs [0028], [0032], [0045], [0053]; figures *	7	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 16 March 2015	Examiner Lemmen, René
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	

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due 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 those claims for which no payment was due.

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:

☐ The present supplementary 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 (Rule 164 (1) EPC).



LACK OF UNITY OF INVENTION **SHEET B**

Application Number

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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, 6, 8-10

Yarn monitoring device with a determining section adapted to perform a determination based on a first information from a sensor and a second information from a status acquiring section, wherein the second information includes at least a tension on the yarn in the yarn winding machine

2. claims: 1-4, 7-10

Yarn monitoring device with a determining section adapted to perform a determination based on a first information from a sensor and a second information from a status acquiring section, wherein the second information includes at least one of a position of an unwinding assisting member and hairiness of the yarn

3. claims: 1-5, 8-10

Yarn monitoring device with a determining section adapted to perform a determination based on a first information from a sensor and a second information from a status acquiring section, wherein the second information includes at least a traverse position of the yarn

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

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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.

16-03-2015

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