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(54) **Yarn winding device, yarn winding method, and yarn winding system**

(57) A winding unit (2) of an automatic winder includes a yarn supplying section (11) adapted to hold a yarn supplying bobbin (8), and a winding section (13) adapted to wind a yarn (Y) unwound from the yarn supplying bobbin (8) to form a package (P). A winding range in which the yarn (Y) is wound in the yarn supplying bobbin (8) is divided into seven individual setting ranges, and a package winding speed is set for each of the seven individual setting ranges.

FIG. 2

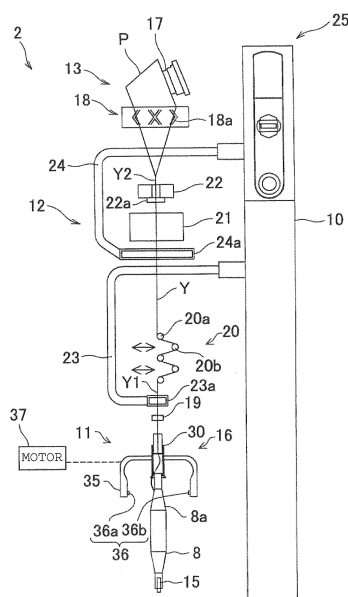
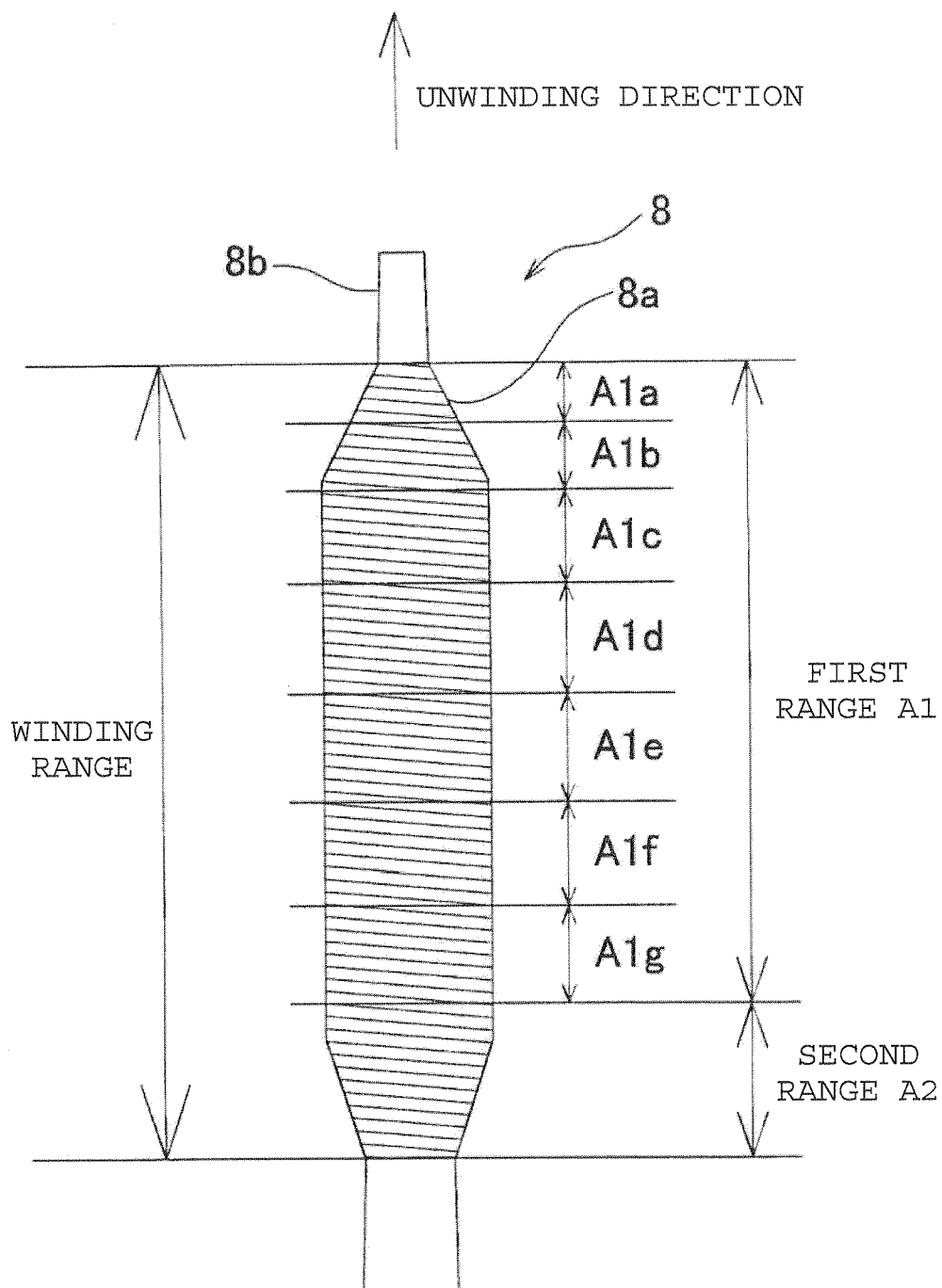


FIG. 4





EUROPEAN SEARCH REPORT

Application Number
EP 13 16 6618

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DOCUMENTS CONSIDERED TO BE RELEVANT			
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A	US 5 142 159 A (VEIT NORBERT [DE] ET AL) 25 August 1992 (1992-08-25) * column 5, lines 1-15; figures 3,4 *	1,6	
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A,D	JP H09 77374 A (MURATA MACHINERY LTD) 25 March 1997 (1997-03-25) * abstract; figure 1 *	1-9	TECHNICAL FIELDS SEARCHED (IPC)
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A	US 3 304 015 A (RUDOLF JENNY) 14 February 1967 (1967-02-14) * claims 1-9; figures 3,4 *	7-9	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 12 February 2015	Examiner Pussemier, Bart
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: 1-6

A yarn winding device comprising a yarn supplying section, a winding section, a speed setting section and a winding control section, whereby the speed setting section divides the winding range of the supplying bobbin to a plurality of individual setting ranges and sets the winding speed for each of the plurality of individual setting ranges.

2. claims: 7-9

A yarn winding device comprising a yarn supplying section, a winding section, a winding control section, an unwinding position detecting section and an abnormality information storage section, whereby the winding control section specifies a drawback of a spinning device from the stored abnormality information.

**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
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12-02-2015

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