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EUROPEAN PATENT APPLICATION

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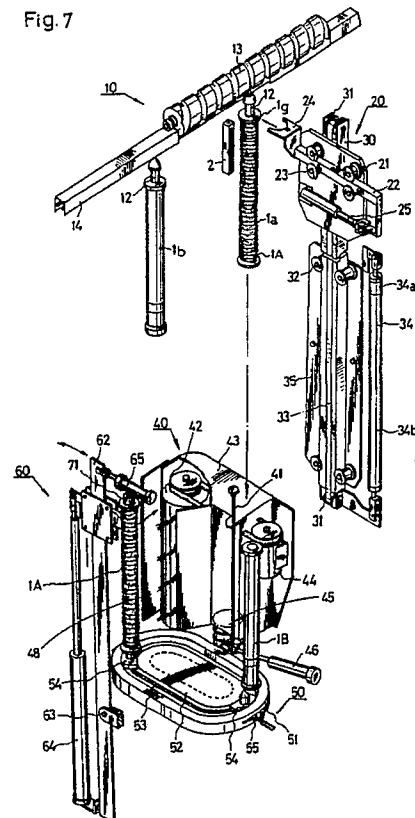
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54 **Remained roving bobbin exchanging device.**

57 The present invention relates to a remained roving bobbin exchanging device (3) for making all the roving bobbins (1a) to be transported to a roving frame into vacant bobbins (1b) and discloses the remained roving bobbin exchanging device (3) comprising a fixing or removal device (20) for detecting the bobbins having the remained rovings adhered thereto on the bobbin transporting line and exchanging them with vacant bobbins and a tray transporting device (50) for receiving the remained roving bobbins from the fixing or removal device (20) and supplying the vacant bobbins to the fixing or removal device, in which the tray transporting device (50) is made such that a tray can be circulated and at the same time the remained roving cutter device (60) and the remained roving removal device (40) are arranged to remove the remained roving from the remained roving bobbin.

Fig. 7



EP 0 420 158 A3



EUROPEAN SEARCH
REPORT

EP 90 11 8410

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.5)														
A	EP-A-0 323 400 (HOWA MACHINERY) * the whole document * - - -	1,7	D 01 H 1/38 D 01 H 9/18														
A	EP-A-0 307 806 (K.K. TOYODA JIDOSHOKKI SEISAKUSHO) * column 5, line 53 - column 6, line 21 * - - -	1,7															
A	US-A-4 842 206 (KAWASAKI ET AL.) * column 4, line 28 - column 5, line 36 * * figures 1,7,8 * - - -	1,4,7															
A	PATENT ABSTRACTS OF JAPAN vol. 9, no. 237 (C-305)(1960) September 24, 1985 & JP-A-60 094 629 (K.K. TOYODA JIDOSHOKKI SEISAKUSHO) May 27, 1985 * the whole document * - - -	1,7															
A	PATENT ABSTRACTS OF JAPAN vol. 12, no. 333 (C-526)(3180) September 8, 1988 & JP-A-63 092 735 (MURAO BOKI K.K.) April 23, 1988 * the whole document * - - - - -	8															
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)														
			D 01 H														
The present search report has been drawn up for all claims																	
Place of search The Hague		Date of completion of search 14 May 91	Examiner RAYBOULD B.D.J.														
<table><tr><td>CATEGORY OF CITED DOCUMENTS</td><td>E : earlier patent document, but published on, or after the filing date</td></tr><tr><td>X : particularly relevant if taken alone</td><td>D : document cited in the application</td></tr><tr><td>Y : particularly relevant if combined with another document of the same category</td><td>L : document cited for other reasons</td></tr><tr><td>A : technological background</td><td></td></tr><tr><td>O : non-written disclosure</td><td>& : member of the same patent family, corresponding document</td></tr><tr><td>P : intermediate document</td><td></td></tr><tr><td>T : theory or principle underlying the invention</td><td></td></tr></table>				CATEGORY OF CITED DOCUMENTS	E : earlier patent document, but published on, or after the filing date	X : particularly relevant if taken alone	D : document cited in the application	Y : particularly relevant if combined with another document of the same category	L : document cited for other reasons	A : technological background		O : non-written disclosure	& : member of the same patent family, corresponding document	P : intermediate document		T : theory or principle underlying the invention	
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