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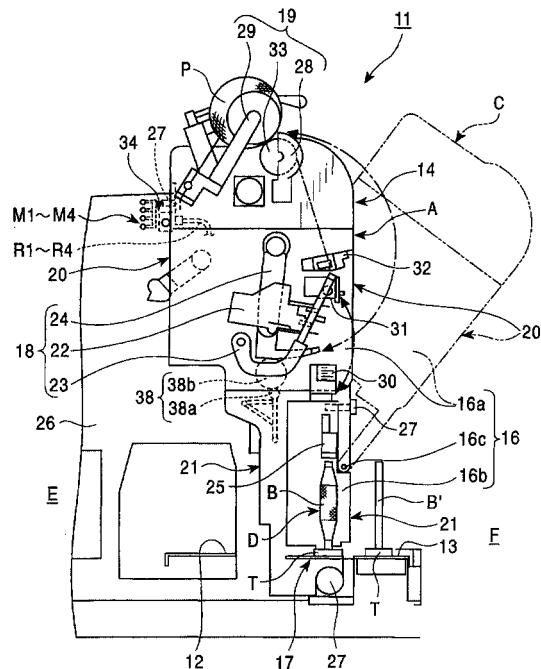
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(54) Automatic winder and its winding unit

(57) The present invention provides an automatic winder that eliminates the need to attach and remove a tray guide, as required in the prior art, and that can increase a tilting angle of a standing frame. The automatic winder has winding units 14 each comprising a bobbin supply and ejection device 17, a yarn joining device 18, and a winding device 19. The winding unit 14 is divided into a lower part 21 including the bobbin supply and ejection device 17 and an upper part 20 including the yarn joining device 18 and the winding device 19. The upper part 20 can be tilted from a winding position A where it is stood up to a tilted position C where it is tilted toward an operation passage side F.

FIG. 1





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EUROPEAN SEARCH REPORT

Application Number
EP 00 12 1696

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<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>24 April 2002</td> <td>D'Hulster, E</td> </tr> </table> <p>CATEGORY OF CITED DOCUMENTS</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">X : particularly relevant if taken alone</td> <td style="width: 33%;">T : theory or principle underlying the invention</td> </tr> <tr> <td>Y : particularly relevant if combined with another document of the same category</td> <td>E : earlier patent document, but published on, or after the filing date</td> </tr> <tr> <td>A : technological background</td> <td>D : document cited in the application</td> </tr> <tr> <td>O : non-written disclosure</td> <td>L : document cited for other reasons</td> </tr> <tr> <td>P : intermediate document</td> <td>& : member of the same patent family, corresponding document</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	THE HAGUE	24 April 2002	D'Hulster, E	X : particularly relevant if taken alone	T : theory or principle underlying the invention	Y : particularly relevant if combined with another document of the same category	E : earlier patent document, but published on, or after the filing date	A : technological background	D : document cited in the application	O : non-written disclosure	L : document cited for other reasons	P : intermediate document	& : member of the same patent family, corresponding document
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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