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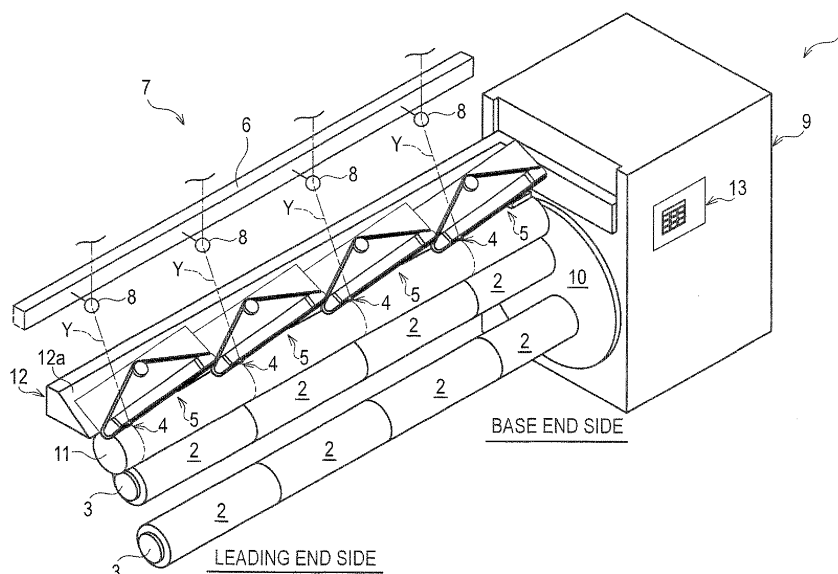
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(54) **Yarn winding apparatus, take-up winder using yarn winding apparatus, yarn winding method and taper end package**

(57) The present invention provides a yarn winding apparatus configured to allow monofilaments to be cross-wound to form a taper end package. A yarn winding apparatus 1 includes bobbin holders 3 each configured to support a plurality of take-up tubes 2 around which respective plural supplied yarns Y are wound, a plurality of belt type traverse devices 5 each including a yarn guide 4 configured to be able to catch the corresponding yarn

Y, the traverse device 5 reciprocating the yarn guide 4 to traverse the yarn Y with respect to the corresponding take-up tube 2, and a contact roller 11 provided between the set of the plurality of traverse devices 5 and the bobbin holders 3 and pressed against packages Q formed on the respective take-up tubes 2. Each of the belt type traverse devices 5 is configured to be able to change the reciprocation range of reciprocating motion of the yarn guide 4.

FIG. 1





EUROPEAN SEARCH REPORT

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 14 September 2012	Examiner Guisan, Thierry
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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**ANNEX TO THE EUROPEAN SEARCH REPORT
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