

Title (en)  
Energy storage for a yarn take-up device

Title (de)  
Energiespeicher für eine Vorrichtung zum Aufwickeln eines Fadens

Title (fr)  
Accumulateur d'énergie pour un dispositif de bobinage d'un fil

Publication  
**EP 1004532 A1 20000531 (DE)**

Application  
**EP 98122210 A 19981123**

Priority  
EP 98122210 A 19981123

Abstract (en)  
At a bobbin winder, energy is stored during the reciprocating movements of the yarn guide to be used at the direction change points. The energy is stored by a torsion rod (16) held under tension between a rotating unit (15) at the powered drive wheel (12) for the reciprocating yarn guide mounting (8) and a fixed unit (17). The torsion rod (16) builds up a non-linear reassertion force during the stroke movement of the yarn guide, without additional aids. One end of the rod (16) is secured to the rotating unit (15), and its other end can slide longitudinally at the fixed unit (17). The speed ratio between the drive wheel (12) and the rotating unit (15) is set so that, on a maximum stroke length of the yarn guide, there is a rotation of less than plus or minus 150 degrees from the center of the stroke length, and not more than plus or minus 120 degrees. The rotating unit (15) is a cogwheel, which is engaged by a pinion (14) on the shaft of the motor (11) which drives the wheel (12). The torsion rod (16) is a beam with a non-symmetrical cross section, preferably rectangular or elliptical, selected to give the required torque pattern curve run. The desired torque curve gives a deflection of the torsion beam (16) on a circular path in a Cartesian co-ordinate system with unequal reassertion forces in the x- and y-directions. The torque curve gives a linear run up to 90 degrees of the rotary movement of the rotating unit (15), and then the smallest possible increase in the reassertion torque. Two torsion beams (16) can be used, positioned symmetrically to the rotary axis of the rotating unit (15).

Abstract (de)  
Die Vorrichtung zum Aufwickeln eines Fadens weist einen Fadenführer, ein über ein motorisch antreibbares Treibrad (12) laufendes und den Fadenführer tragendes Changierelement (8) und einen mit dem Treibrad (12) verbundenen Energiespeicher auf. Der Energiespeicher ist durch ein stabförmiges, zwischen einem mit dem Treibrad (12) verbundenen, drehbaren Element (15) und einem ortsfesten Element (17) eingespanntes und ausserhalb der Drehachse liegendes, Verbindungselement (16) gebildet. Das Verbindungselement (16) ist mit seinem einen Ende am drehbaren Element (15) befestigt und mit seinem anderen Ende am ortsfesten Element (17) in Längsrichtung verschiebbar gelagert. <IMAGE>

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Citation (search report)  
• [XDA] EP 0453622 A1 19911030 - SSM AG [CH]  
• [A] EP 0838422 A1 19980429 - SSM AG [CH]  
• [A] EP 0302461 A1 19890208 - SCHUBERT & SALZER MASCHINEN [DE]

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EP1880963A3; CN111601764A; EP1880964A3

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