

Title (en)
WINDING SPINDLE HAVING AN INCREASED NATURAL FREQUENCY

Title (de)
SPULSPINDEL MIT ERHÖHTER EIGENFREQUENZ

Title (fr)
BROCHE A BOBINER A FREQUENCE PROPRE ACCRUE

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Application
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Abstract (en)
[origin: WO03055778A1] The invention relates to a winding spindle for clamping a number of winding spools (10). The winding spindle is formed by an inner tube (3) and by an outer tube (1) that encircles the inner tube (3). The inner tube (3) is connected to a drive shaft (5). A clamping device (2) is situated between the inner tube (3) and the outer tube (1) and has a number of clamping elements (4), which can be extended through openings (9) of the outer tube (1) and are provided for tensioning the winding spools (10). According to the invention, the outer tube (1) situated on the periphery of the inner tube (3) is tensioned by a number of supporting means (12) that are interspaced between the inner tube (3) and the outer tube (1). To this end, the supporting means (12) produce a radially acting tension force between the inner tube (3) and the outer tube (1).

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WO 03055778 A1 20030710; AU 2002358133 A1 20030715; CN 1273365 C 20060906; CN 1602279 A 20050330; DE 10163832 A1 20030703; DE 50210525 D1 20070830; EP 1456108 A1 20040915; EP 1456108 B1 20070718; JP 2005512923 A 20050512; KR 20050008645 A 20050121; TW 200301215 A 20030701; TW I293940 B 20080301; US 2004222328 A1 20041111; US 7007886 B2 20060307

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