Title (en)

Method for operating a creel and creel for a winding machine

Title (de)

Verfahren zum Betrieb eines Spulengatters und Spulengatter für eine Wickelanlage

Title (fr)

Méthode d'utilisation d'un cantre et cantre pour une machine d'enroulage

Publication

EP 1162295 B1 20091021 (DE)

Application

EP 01810404 A 20010425

Priority

- EP 01810404 A 20010425
- EP 00810425 A 20000517

Abstract (en)

[origin: EP1162295A1] To draw yarns off their bobbins at a creel, for a warp winder, the actual tension of each yarn is monitored constantly between leaving the creel and reaching the winder, for comparison with a nominal value. On a deviation, the individual yarn brake is controlled by its drive motor (20) to bring the actual yarn tension value to the nominal level. In drawing yarns from creel bobbins for a warp winder, the yarns pass through an initial tensioning unit (16,17) in front of the brake, in the direction of yarn travel. They are given an additional braking action according to the measured actual tension value or they are set at a constant base level. The warp winder has a monitor to register the tension of the band of warp yarns, shortly before the winding point, to give an actual value for comparison with a nominal tension value. On a deviation, all the yarn brakes are operated simultaneously under control, to bring the actual tension value to the nominal level. An Independent claim is included for a bobbin creel with at least one yarn tension monitor (9) for each yarn, between the nearest bobbins at a side of the creel and the winding beam of the warp winder (3), to give a constant measurement of the actual yarn tension values. The actual yarn tension values are processed in a comparator (30,30') for comparison with a nominal value. On a deviation, the motors of the yarn brakes are activated to correct the yarn tensions. Preferred Features: The tension monitors register a force by a stretch component across the yarn, to measure the applied force on it as it deflects the yarn path. A number of yarn tension monitors are in a row for each level of the bobbins in the creel, with a separate housing around each monitor. Each yarn passes through an individual initial tension unit, in front of the yarn brake, where an additional braking force is applied independently of the yarn brake or at a base setting. The initial tensioning unit has an eyelet tensioner (16) and/or a crepe tensioner (17) with adjustable units around it. Identical initial tensioners are set by a common drive motor for a vertical row of bobbins, or each has an independent motor. The yarn brakes are operated by step motors, to act on the yarn brakes through self-locking gearings. The yarn brake deflects the yarn path at an adjustable angle, or it is a plate brake (18) with an adjustable spring force on the plates. Each bobbin has an individual yarn monitor to register yarn breaks or control the yarn movement path. Each bobbin point has an optical signal unit to identify the bobbin station and/or assist bobbin insertion. All the electrical units at the bobbins, and especially the drive motors for the yarn brakes, are linked to a central control through serial interfaces. The yarn tension monitors are placed in front of the winding point for the warps at the winder, and between a lease and a warping reed to gather the yarns together. The plates of the yarn brakes in a vertical row are rotated by a common drive motor or by separate motors. All the brake motors are controlled by the yarn tension monitors or the yarn break monitors, so that a yarn brake is deactivated when it does not carry a yarn.

IPC 8 full level

D02H 13/24 (2006.01)

CPC (source: EP)

D02H 13/24 (2013.01)

Cited by

EP1595985A1; GB2530880A; GB2530880B; EP1707656A1; CN107604642A; EP4045704A4; US7770271B2; WO2006103156A1

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)

EP 1162295 A1 20011212; **EP 1162295 B1 20091021**

DOCDB simple family (application)

EP 01810404 A 20010425