

Title (en)

METHOD AND APPARATUS FOR WARPING USING PROGRESSIVELY CONTROLLED TENSION ON A DYE BEAM AND DYE BEAM GEOMETRY THEREFOR

Publication

EP 0423250 A4 19911002 (EN)

Application

EP 89912693 A 19891031

Priority

- US 26576788 A 19881101
- US 42111589 A 19891013

Abstract (en)

[origin: WO9005206A1] A method and apparatus for winding yarn to produce a wound yarn package (40) having a variable density profile. The variable density profile in the wound yarn is produced by variably tensioning the yarn during the winding process by an electrical apparatus which is responsive to a programmed control signal to provide variable tension on the yarn. The density profile thus produced is preferably a progressively variable density profile. In a preferred embodiment, the method is carried out with a precision winding machine (34) with an electromagnetic tensioner (36). A controlled sequence of control signals is applied to the tensioner (36) to provide a correspondingly varying tension on the yarn. The application of controlled tensioning to dyeing beams by progressively increasing tensioning warping yarn along the length of the beam has also shown improved results in resisting dye liquor channeling and blowout and permitted a beam geometry with a greater capacity.

IPC 1-7

D06B 5/18; B65H 55/04; B65H 59/00

IPC 8 full level

D06B 9/02 (2006.01); **B65H 55/04** (2006.01); **B65H 59/00** (2006.01); **B65H 59/22** (2006.01); **B65H 75/14** (2006.01); **D02H 13/26** (2006.01); **D06P 7/00** (2006.01)

CPC (source: EP KR)

B65H 55/04 (2013.01 - EP); **B65H 59/225** (2013.01 - EP); **D06B 5/18** (2013.01 - KR); **B65H 2515/12** (2013.01 - EP);
B65H 2701/31 (2013.01 - EP); **B65H 2701/38** (2013.01 - EP)

Citation (search report)

- [A] EP 0185616 A1 19860625 - SCHAERER MASCHF [CH]
- [A] FR 1492410 A 19670818 - SUPERBA S A R L ETS
- See references of WO 9005206A1

Designated contracting state (EPC)

AT BE CH DE FR GB IT LI LU NL SE

DOCDB simple family (publication)

WO 9005206 A1 19900517; AU 4525189 A 19900528; CA 2001873 A1 19900501; DK 157990 A 19900801; DK 157990 D0 19900629;
EP 0423250 A1 19910424; EP 0423250 A4 19911002; FI 903318 A0 19900629; JP H04504143 A 19920723; KR 920700324 A 19920219

DOCDB simple family (application)

US 8904858 W 19891031; AU 4525189 A 19891031; CA 2001873 A 19891031; DK 157990 A 19900629; EP 89912693 A 19891031;
FI 903318 A 19900629; JP 51181189 A 19891031; KR 900701425 A 19900630