

Title (en)

METHOD AND CIRCUIT FOR PREDICTING AND REGULATING A PAPER WINDING PARAMETER IN A PAPER WINDING DEVICE

Title (de)

VERFAHREN UND ANORDNUNG ZUR VORHERSAGE UND REGELUNG EINER PAPIERWICKELKENNGRÖSSE BEI EINER PAPIERWICKELVORRICHTUNG

Title (fr)

PROCEDE ET DISPOSITIF POUR PREDIRE ET REGULER UNE CARACTERISTIQUE D'ENROULAGE DE PAPIER DANS UN DISPOSITIF D'ENROULAGE DE PAPIER

Publication

EP 1037842 B1 20020605 (DE)

Application

EP 98965599 A 19981201

Priority

- DE 9803531 W 19981201
- DE 19754878 A 19971210

Abstract (en)

[origin: US6363297B1] When winding a paper web, in order to achieve a constant reeling layer thickness, which represents a significant quality parameter in the production process of paper, the line force or the web tension of the paper is corrected as an influencing force. Using measurements, the relationship between force and layer thickness is determined and used to set a controller. In winding devices, winding from the parent reel generally takes place on a winding station, so that the invention makes use of the relationship between the winding and unwinding operation to the effect that the change in the layer thickness is measured and these measured values are used to train a predictor. In continuous operation, in order to regulate a paper winding device, a measured variable which can be registered is measured, and this measured variable is used to determine the layer thickness change or another correlated quality parameter. In order to compensate for the dead time which arises as a result of the measurement, the predictor is supplied with the specified quality parameters and predicts precisely that variable which will result after the dead time has elapsed, so that in relation to the measurement, the predicted value corresponds to the actual measured value. This variable is used to form the control difference and is fed to the controller, which calculates from it the correction force with which the actual desired influencing force of the paper winding device is corrected.

IPC 1-7

B65H 23/18

IPC 8 full level

B65H 18/26 (2006.01); **B65H 23/04** (2006.01); **B65H 23/18** (2006.01); **B65H 77/00** (2006.01)

CPC (source: EP US)

B65H 18/26 (2013.01 - EP US); **B65H 23/04** (2013.01 - EP US); **B65H 2301/4148** (2013.01 - EP US); **B65H 2511/13** (2013.01 - EP US); **B65H 2511/14** (2013.01 - EP US); **B65H 2515/31** (2013.01 - EP US); **B65H 2515/34** (2013.01 - EP US); **B65H 2557/2644** (2013.01 - EP US)

Designated contracting state (EPC)

AT BE CH DE DK ES FI FR GB IT LI NL PT SE

DOCDB simple family (publication)

US 6363297 B1 20020326; AT E218493 T1 20020615; BR 9813509 A 20001003; CA 2313461 A1 19990617; DE 19754878 A1 19990624; DE 59804370 D1 20020711; DK 1037842 T3 20020930; EP 1037842 A1 20000927; EP 1037842 B1 20020605; ES 2178304 T3 20021216; NO 20002995 D0 20000609; NO 20002995 L 20000609; NO 317470 B1 20041101; PT 1037842 E 20021129; WO 9929604 A1 19990617

DOCDB simple family (application)

US 58100200 A 20000606; AT 98965599 T 19981201; BR 9813509 A 19981201; CA 2313461 A 19981201; DE 19754878 A 19971210; DE 59804370 T 19981201; DE 9803531 W 19981201; DK 98965599 T 19981201; EP 98965599 A 19981201; ES 98965599 T 19981201; NO 20002995 A 20000609; PT 98965599 T 19981201