

Title (en)
Method and device for winding conical bobbins

Title (de)
Verfahren und Vorrichtung zur Garnaufwicklung auf einen konischen Spulenkörper

Title (fr)
Dispositif et procédé pour le bobinage de bobines coniques

Publication
EP 0950631 B1 20030806 (DE)

Application
EP 98102591 A 19980214

Priority
EP 98102591 A 19980214

Abstract (en)
[origin: EP0950631A1] To wind a yarn on a conical bobbin (A), the bobbin is driven by a single motor (3). The motor speed is controlled and set by a computer (9) according to the laying position of the reciprocating yarn guide (5) and the bobbin diameter. The reciprocating yarn guide (5) has a single motor (7) for its to and fro movement, preferably a step motor. The switch pulses are taken by the computer (9) as control values to set the speed of the motor (7) according to the yarn laying position. The separate bobbins (A) are powered by friction drive rollers (2) acting on the bobbin surface, rotated by a dedicated motor (3). The bobbin can be powered directly by its own motor, and the bobbin diameter is monitored during the bobbin winding cycle, to be used by the computer (9) to set the motor speed according to the actual bobbin diameter during winding. The surface speed of the rotating bobbin is measured at two separate points along the bobbin length, and the ratio between their values is set. The variation value, to alter the ratio, is an additional control value in computing the rotary speed of the bobbin motor. In a multi-station bobbin winder, the reciprocating yarn guides for each station are operated by a common rod powered by a motor and preferably a step motor. The laying position is registered by a sensor, at least at one yarn guide, with its signals transmitted to the computer (9) to set the working of the yarn guide motor (7) according to the yarn laying position. The translatory movement speed of the reciprocating yarn guide (5) is modified according to the yarn laying position so that the speed is at a maximum rate in the smaller diameter zone of the conical bobbin, and is at a minimum speed at the larger diameter zone of the bobbin. An Independent claim is included for a bobbin winding assembly with a swing bobbin carrier frame (1) to hold a bobbin (A) and a single motor (3) to drive the bobbin. A reciprocating yarn guide (5) has a motor (7) which also registers the position of the guide over the bobbin length, and a sensor registers the bobbin diameter. A computer control (9) takes the yarn guide position and the bobbin diameter to produce control values to vary the speed of the motor (3) which are passed to the motor.

IPC 1-7
B65H 59/38; **B65H 54/28**

IPC 8 full level
B65H 54/02 (2006.01); **B65H 54/06** (2006.01); **B65H 54/28** (2006.01); **B65H 54/44** (2006.01); **B65H 59/38** (2006.01)

CPC (source: EP US)
B65H 54/103 (2013.01 - EP US); **B65H 54/2821** (2013.01 - EP US); **B65H 54/2887** (2013.01 - EP US); **B65H 59/385** (2013.01 - EP US); **B65H 2511/14** (2013.01 - EP US); **B65H 2511/22** (2013.01 - EP US); **B65H 2513/11** (2013.01 - EP US); **B65H 2701/31** (2013.01 - EP US)

Cited by
DE102008015907A1; DE102016002762A1; CZ306349B6; CN102320494A; EP1319622A1; CN105347102A; CN101823650A; EP1318097A1; CN102442584A; CZ300588B6; CN115258822A; DE102004003173A1; EP1518809A1; FR2860221A1; CN1323919C; EP2366649A3; DE102012002579A1; EP2626324A3; US8099869B2; WO2012010275A1; WO2007045302A1; EP3214029A1; US9868611B2; DE102016002762B4

Designated contracting state (EPC)
CH DE FR GB IT LI

DOCDB simple family (publication)
EP 0950631 A1 19991020; **EP 0950631 B1 20030806**; CN 1135202 C 20040121; CN 1225890 A 19990818; CZ 46899 A3 19990915; DE 59809204 D1 20030911; HK 1020330 A1 20000414; JP 2000034060 A 20000202; US 6196491 B1 20010306

DOCDB simple family (application)
EP 98102591 A 19980214; CN 99102212 A 19990214; CZ 46899 A 19990211; DE 59809204 T 19980214; HK 99105545 A 19991129; JP 3366499 A 19990212; US 24968899 A 19990212