

Title (en)
Device to monitor a belt guide

Title (de)
Vorrichtung zur Überwachung der Riemenführung

Title (fr)
Appareil pour la surveillance du guidage d'une courroie

Publication
EP 1837426 A2 20070926 (DE)

Application
EP 07001936 A 20070130

Priority
CH 4692006 A 20060324

Abstract (en)

The device for monitoring of a lateral guidance of a circulating, continuous belt (R), which is led for the formation of a cotton reel (WW), over deflection pulleys in a loop around a core (H), comprises a press-contact element (12), a deflection spring (22) and a distance sensor (44) for detecting the movement of the element, which is movably mounted over the spring towards a lateral edge of the belt. The core is held between two winding discs (W1, W2) that radially protrude from the core. The sensor is connected with a control unit and is accommodated within a casing. The device for monitoring of a lateral guidance of a circulating, continuous belt (R), which is led for the formation of a cotton reel (WW), over deflection pulleys in a loop around a core (H), comprises a press-contact element (12), a deflection spring (22) and a distance sensor (44) for detecting the movement of the element, which is movably mounted over the spring towards a lateral edge of the belt. The core is held between two winding discs (W1, W2) that radially protrude from the core. The sensor is connected with a control unit and is accommodated within a casing. The element and the spring are surrounded partly with the casing. A press-tip of the element provided with a contact surface protrudes from an opening of the casing in the direction of the lateral edge. The spring is connected with the casing at one of its ends and is attached to the element at the other end. The sensor lies between the attachment of the spring and the element at a distance facing the spring. A dead stop is intended, which limits the movement of the element towards the belt caused by the spring effect. The contact surface is formed from a wear-resistant coating and is annealed or hardened. The press-tip is connected with a machine frame by an electrically conductive line. The casing is adjustably fastened transverse to the belt direction. The distance between the casing and the edge of the belt is greater than the distance between the winding disk arranged at the same side of the belt, and the edge of the belt, when seen across the direction of movement of the belt. The casing is provided with two further openings, which are attached to the oppositely-lying sides of the casing. The control unit is connected with adjusting mechanisms for influencing the direction of movement of the belt. The control unit is provided with a special program, which serves for the evaluation of the signals delivered continuously or intermittently by the sensor and for the initiation of appropriate measures or control commands.

Abstract (de)

Die Erfindung bezieht sich auf eine Vorrichtung zur Überwachung der Seitenführung eines umlaufenden, endlosen Riemens (R), der zur Bildung eines Wattewickel (WW) in einer Schlaufe (S) um einen Kern (H) über mehrere Umlenkrollen (R1 - R6) geführt wird, wobei der Kern zwischen zwei, den Kern in radialer Richtung überragenden Wickelscheiben (W1, W2) gehalten wird. Um eine Überwachungsvorrichtung für den Riemenlauf zu erhalten, welche unempfindlich gegen Verschmutzungen, Verschleissarm und kostengünstig ausgebildet ist, wird eine Vorrichtung (10) vorgeschlagen welche aus einem Tastelement (12) besteht, welches über ein Federelement (22) in Richtung eines Seitenrandes (R S) des Riemens (R) bewegbar gelagert ist, wobei ein, die Bewegung des Tastelementes (12) erfassender Sensor (44) vorgesehen ist, der mit einer Steuereinheit (ST) verbunden ist, und das Tastelement (12) und Federelement (22) mindestens teilweise mit einer Verschalung (16) umgeben sind, wobei der mit einer Tastfläche (14) versehene Tastkopf (13) des Tastelementes (12) aus einer Öffnung (18) der Verschalung (16) in Richtung des Seitenrandes (R S) des Riemens (R) herausragt.

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