

Title (en)
Soft roll and apparatus using such a roll

Title (de)
Elastische Walze und Vorrichtung mit einer solchen Walze

Title (fr)
Rouleau élastique et dispositif utilisant un tel rouleau

Publication
EP 1063352 A2 20001227 (DE)

Application
EP 00107313 A 20000404

Priority
DE 19928754 A 19990623

Abstract (en)
The elastic calender roller, to polish the surfaces of paper webs, has an elastic cladding (3) around the hard metal core (2) of an elastic matrix material (4) containing light-conductive filling materials (7,7',7). The filling materials (7,7',7) receive light (9) from an end side (5) of the roller (1), and transmit it to the other end side (6), and deliver the transmitted light (10) from the second end side (6) of the roller (1). Fibers are used as the light-conductive filling materials (7,7',7), in an uninterrupted lie between the roller end sides (5,6) and/or they are structured to receive and transmit and deliver visible light and/or the fibers are of glass or plastics. The light-conductive fibers (7,7',7) are distributed evenly through the elastic roller cladding layer (3) in the peripheral direction and/or axially and/or radially and/or they are held in generally concentrated layers. The light conductivity of the matrix material is less than the filling fibers (7,7',7), and the matrix material is especially impermeable to light and/or the matrix is of heat-setting plastics or a thermoplastic. An Independent claim is included for a calender roller assembly to polish paper web surfaces, with a pair of rollers where one has a hard metal mantle and the other is a roller (1) with an elastic mantle. At least one light transmitter (8) is at one end side (5) of the cladding (3) of the elastic roller (1), and at least one light receiver (11) is at the other end side (6) of the roller (1). Preferred Features: The light receiver (11) is linked to an evaluation unit (12) which generates a control signal, especially to switch off (13) the roller, in the event of no light reception after a given time span and/or on a failure to achieve a set received light level for a given time span. The light transmitter (8) and receiver (11) are at the end sides (5,6) of the mantle cladding (3) of the elastic roller (1), aligned accurately against each other and/or they are structured to work with light of identical wavelengths and especially in the visible light spectrum. The light beam (9) from the transmitter (8) is passed without physical contact into the roller mantle cladding (3) and/or the transferred light (10) is received at the receiver (11) without contact with the roller mantle cladding (3) and/or the roller is fitted with a number of light transmitters (8) and receivers (11).

Abstract (de)
Es wird eine Walze (1), insbesondere zum Glätten von Papierbahnen, mit einem insbesondere aus Metall bestehenden harten Walzenkern (2) beschrieben. Der Walzenkern (2) ist an seiner Außenseite mit einer ein elastisches Matrixmaterial (4) umfassenden elastischen Bezugsschicht (3) versehen. In dem Matrixmaterial (4) sind lichtleitende Füllstoffe (7,7',7'') vorgesehen, wobei die Füllstoffe (7,7',7'') zum Aufnehmen von auf einer Stirnseite (5) der Walze (1) auftreffendem Licht (9), zum Übertragen des aufgenommenen Lichts (9) zu der anderen Stirnseite (6) der Walze (1) und zum Abgeben des übertragenen Lichts (10) an dieser anderen Stirnseite (6) ausgebildet sind. Weiterhin wird eine Vorrichtung mit einer solchen Walze (1) sowie einer Licht aussendenden Sendeeinheit (8) und einer Licht aufnehmenden Empfangseinheit (11) sowie ein Verfahren zum Prüfen einer solchen Walze beschrieben. <IMAGE>

IPC 1-7
D21G 1/02

IPC 8 full level
D21G 1/02 (2006.01)

CPC (source: EP)
D21G 1/0233 (2013.01)

Designated contracting state (EPC)
DE FI FR GB SE

DOCDB simple family (publication)
EP 1063352 A2 20001227; EP 1063352 A3 20011114; EP 1063352 B1 20040623; DE 19928754 A1 20001228; DE 50006871 D1 20040729

DOCDB simple family (application)
EP 00107313 A 20000404; DE 19928754 A 19990623; DE 50006871 T 20000404