

Title (en)

Device for detecting the rotation of roller cutters in a shield excavating machine

Title (de)

Vorrichtung zum Erfassen des Drehzustandes von Schneidrollen einer Schildvortriebsmaschine

Title (fr)

Dispositif pour détecter la rotation des molettes coupantes d'une machine de creusement à bouclier

Publication

EP 1503032 B1 20051228 (DE)

Application

EP 03017040 A 20030728

Priority

EP 03017040 A 20030728

Abstract (en)

[origin: EP1503032A1] Each cutting roller assembly (2) has a cutting ring (4) mounted on the outside of an outer bearing race carrier (5). The roller bearing (8) has two rows of conical rollers (9,10) running in inner and outer races. The rotational speed of the rollers is measured by a generator assembly (12) with a magnet carrier ring (11). The magnet is a permanent magnet (13). A coil carrier ring (14) supports an induction coil (15) laid on a zigzag path. Signal generators (16) are placed at regular intervals around the bearing and have wires (18) passing through channels (19) to antennas (20) transmitting signals to a control system.

IPC 1-7

E21D 9/087

IPC 8 full level

E21D 9/00 (2006.01); **E21D 9/08** (2006.01); **E21D 9/087** (2006.01)

CPC (source: EP US)

E21D 9/003 (2013.01 - EP US); **E21D 9/0879** (2016.01 - EP US)

Cited by

CN102080544A; DE102011114830B3; CN106065777A; US7997659B2; US9181800B2; WO2022121272A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

EP 1503032 A1 20050202; **EP 1503032 B1 20051228**; AT E314560 T1 20060115; DE 50302069 D1 20060202; DK 1503032 T3 20060515; ES 2256624 T3 20060716; PT 1503032 E 20060531; US 2005023882 A1 20050203; US 7014271 B2 20060321

DOCDB simple family (application)

EP 03017040 A 20030728; AT 03017040 T 20030728; DE 50302069 T 20030728; DK 03017040 T 20030728; ES 03017040 T 20030728; PT 03017040 T 20030728; US 90049304 A 20040728