

Title (en)
REAL TIME DULL GRADING

Title (de)
ECHTZEIT-VERSCHLEISSEINSTUFUNG

Title (fr)
ÉVALUATION DE L'USURE EN TEMPS RÉEL

Publication
EP 2356306 A1 20110817 (EN)

Application
EP 09832516 A 20091210

Priority
• US 2009067450 W 20091210
• US 33210708 A 20081210

Abstract (en)
[origin: US2010139987A1] A method of monitoring the wear of drill bits for drilling wells in earth formations, several embodiments of an improved drill bit for drilling a well in an earth formation, and methods of manufacture. In one embodiment, the bit is assembled by forming the bit, including a bit body and a plurality of cutting components; introducing a wear detector into the bit; and providing a module to monitor the wear detector and generate an indication of bit wear. The wear detector may be one or more electrical circuits that may experience a change in resistance or conductivity due to wear of the bit. The module may determine wear by detecting an open circuit. The wear detector may be introduced during or after formation of the bit. The bit wear may be displayed for an operator.

IPC 8 full level
E21B 10/00 (2006.01); **E21B 10/46** (2006.01); **E21B 12/02** (2006.01)

CPC (source: EP US)
E21B 10/00 (2013.01 - EP US); **E21B 12/02** (2013.01 - EP US)

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)
US 2010139987 A1 20100610; BR PI0923352 A2 20190924; CA 2746092 A1 20100617; EP 2356306 A1 20110817; EP 2356306 A4 20140514; MX 2011005675 A 20110804; RU 2011127916 A 20130120; WO 2010068727 A1 20100617

DOCDB simple family (application)
US 33210708 A 20081210; BR PI0923352 A 20091210; CA 2746092 A 20091210; EP 09832516 A 20091210; MX 2011005675 A 20091210; RU 2011127916 A 20091210; US 2009067450 W 20091210