

Title (en)

Steerable bit assembly and methods

Title (de)

Steuerbare Bohrmeißelanordnung und entsprechende Verfahren

Title (fr)

Ensemble trépan orientable et procédés

Publication

EP 1923534 A1 20080521 (EN)

Application

EP 08001582 A 20040913

Priority

- EP 04783755 A 20040913
- US 50305303 P 20030915

Abstract (en)

A drilling system includes a steerable bottomhole assembly (BHA) (108) having a steering unit (120) and a control unit (122) that provide dynamic control of drill bit (112) orientation or tilt. Exemplary steering units (120) can adjust bit orientation at a rate that approaches or exceeds the rotational speed of the drill string (110) or drill bit (112), can include a dynamically adjustable articulated joint having a plurality of elements that deform in response to an excitation signal, can include adjustable independently rotatable rings for selectively tilting the bit, and/or can include a plurality of selectively extensible force pads. The force pads are actuated by a shape change material that deforms in response to an excitation signal.

IPC 8 full level

E21B 10/62 (2006.01); **E21B 7/06** (2006.01); **E21B 10/60** (2006.01); **E21B 10/61** (2006.01); **E21B 17/10** (2006.01)

CPC (source: EP)

E21B 7/067 (2013.01); **E21B 10/61** (2013.01); **E21B 10/62** (2013.01); **E21B 17/1014** (2013.01)

Citation (applicant)

US 4291773 A 19810929 - EVANS ROBERT F

Citation (search report)

- [A] US 4291773 A 19810929 - EVANS ROBERT F
- [A] EP 1008717 A1 20000614 - SCHLUMBERGER HOLDINGS [VG], et al
- [A] US 6012536 A 20000111 - PUETTMANN FRANZ-JOSEF [DE], et al

Cited by

CN115095281A; EP3228809A1; GB2521548A; GB2521548B; US10370901B2; WO2017174482A1; WO2014041036A3

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