

Title (en)

ROLLER-CONE BITS, SYSTEMS, DRILLING METHODS, AND DESIGN METHODS WITH OPTIMIZATION OF TOOTH ORIENTATION

Title (de)

ROLLENMEISSEL, SYSTEME, BOHRVERFAHREN UND KONSTRUKTIONSMETHODEN MIT OPTIMIERUNG DER ZAHNORIENTIERUNG

Title (fr)

TREPANS A CONES, SYSTEMES DE FORAGE, PROCEDES DE FORAGE ET PROCEDES DE CONCEPTION PRESENTANT UNE ORIENTATION DES DENTS OPTIMISEE

Publication

**EP 1117894 A2 20010725 (EN)**

Application

**EP 99945376 A 19990831**

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Abstract (en)

[origin: WO0012860A2] A novel and improved roller cone drill bit and method of design are disclosed. A roller cone drill bit for drilling through subterranean formations having an upper connection for attachment to a drill string, and a plurality of cutting structures rotatably mounted on arms extending downward from the connection. A number of teeth are located in generally concentric rows on each cutting structure. The actual trajectory by which the teeth engage the formation is mathematically determined. A straight-line trajectory is calculated based on the actual trajectory. The teeth are positioned in the cutting structures such that each tooth having a designed engagement surface is oriented perpendicular to the calculated straight-line trajectory.

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**WO 0012860 A2 20000309; WO 0012860 A3 20000608; WO 0012860 A9 20001123**; AU 5798499 A 20000321; EP 1117894 A2 20010725; EP 1117894 A4 20020814; EP 1117894 B1 20031203; EP 1117894 B2 20100303; EP 1371811 A2 20031217; EP 1371811 A3 20040102; EP 1371811 B1 20110330; EP 1498572 A2 20050119; EP 1498572 A3 20060412; EP 1500781 A2 20050126; EP 1500781 A3 20060412; EP 1500782 A2 20050126; EP 1500782 A3 20060412; EP 1500783 A2 20050126; EP 1500783 A3 20060412; ID 28893 A 20010712; MX PA01002208 A 20030327

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