

Title (en)
A drag-type Rotary Drill Bit

Title (de)
Drehbohr-Fräsmeißel

Title (fr)
Trépan racleur rotatif

Publication
EP 1006257 B1 20040225 (EN)

Application
EP 99309665 A 19991201

Priority
• US 11085398 P 19981204
• US 44705999 A 19991122
• US 44407299 A 19991122

Abstract (en)
[origin: EP1006257A2] There is provided a rotary drag-type drill bit comprising a bit body (8) having a leading surface (10) comprising a plurality of pads (11), at least some of the pads (11) each having a wearable abrasive surface including particles of superhard material and defining an outer profile of the pad, at least a part of the outer profile of at least one of the pads (11) being disposed inwardly or outwardly of the outer profile of the other pads (11). With this arrangement, during initial drilling through softer formation, most of the removal of formation will be effected by the outermost of the abrasive pads (11) and little or no formation will be removed by the more inward pads (11). Accordingly, the bit will act as a lighter set bit and good rates of penetration may be achieved. As drilling proceeds and the bit wears, which may occur more rapidly as the bit meets harder formations, the more outwardly disposed pads (11) will wear down more than the inwardly disposed pads (11) so that the inwardly disposed pads (11) will begin to contribute more to the cutting action of the bit, so that the bit effectively becomes heavier set. As drilling progresses to a point where all of the pads (11) wear down to the same level, the bit will then act as a conventional heavy set bit where all the abrasive surfaces lie on the same profile. <IMAGE>

IPC 1-7
E21B 10/46

IPC 8 full level
E21B 10/42 (2006.01); **E21B 10/54** (2006.01)

CPC (source: EP US)
E21B 10/42 (2013.01 - EP US); **E21B 10/54** (2013.01 - EP)

Cited by
US8857541B2; US9482056B2; US8579053B2; US9447642B2; US8573330B2; US9470043B2

Designated contracting state (EPC)
BE DE FR GB IT

DOCDB simple family (publication)
EP 1006257 A2 20000607; **EP 1006257 A3 20000913**; **EP 1006257 B1 20040225**; DE 69915009 D1 20040401; DE 69915009 T2 20041230

DOCDB simple family (application)
EP 99309665 A 19991201; DE 69915009 T 19991201