

Title (en)
Flexible Drill Shaft

Title (de)
Flexible Bohrwelle

Title (fr)
Tige de foret flexible

Publication
EP 1983148 A1 20081022 (EN)

Application
EP 07106674 A 20070420

Priority
EP 07106674 A 20070420

Abstract (en)
A flexible drill shaft for drilling lateral boreholes comprising: a helical outer wire coil spring; and at least one inner helical wire coil spring residing concentrically within the outer coil spring, with the coils of adjacent springs having an opposite pitch; wherein the wire forming each helical spring has a cross section such that when the drill shaft is in a straight alignment there is planar contact between adjacent coils of the spring. There may be grooves (3) and ridges (2) on the contact surface of the coils.

IPC 8 full level
E21B 7/06 (2006.01); **E21B 17/20** (2006.01); **E21B 17/22** (2006.01)

CPC (source: EP US)
E21B 7/06 (2013.01 - EP US); **E21B 17/20** (2013.01 - EP US); **E21B 17/22** (2013.01 - EP US)

Citation (applicant)
• US 6220372 B1 20010424 - CHERRY DONALD EARL [CA]
• US 4658915 A 19870421 - GORIS GREGG A [US], et al
• GB 2030678 A 19800410 - FOSTER MILLER ASS

Citation (search report)
• [DX] US 4658916 A 19870421 - BOND LES [US]
• [X] GB 2030678 A 19800410 - FOSTER MILLER ASS
• [A] US 3000197 A 19610919 - HANS RUEGG, et al
• [A] US 4007797 A 19770215 - JETER JOHN D
• [A] US 434748 A 18900819
• [A] US 4151865 A 19790501 - LEHRER ALFRED [FR]
• [DA] US 6220372 B1 20010424 - CHERRY DONALD EARL [CA]

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

Designated extension state (EPC)
AL BA HR MK RS

DOCDB simple family (publication)
EP 1983148 A1 20081022; EP 1983148 B1 20110406; AT E504716 T1 20110415; CA 2628981 A1 20081020; CN 101333912 A 20081231; DE 602007013700 D1 20110519; US 2008257606 A1 20081023; US 2010147045 A1 20100617

DOCDB simple family (application)
EP 07106674 A 20070420; AT 07106674 T 20070420; CA 2628981 A 20080411; CN 200810087071 A 20080411; DE 602007013700 T 20070420; US 10348008 A 20080415; US 69520010 A 20100128