

Title (en)

ULTRA-HARD MATERIAL CUTTING ELEMENTS, METHODS OF FORMING THE SAME, AND BITS INCORPORATING THE SAME

Title (de)

SCHNEIDEELEMENTE FÜR ULTRAHARTE MATERIALIEN, VERFAHREN ZUR HERSTELLUNG DAVON UND BOHRMEISSEL DAMIT

Title (fr)

ÉLÉMENTS DE COUPE DE MATÉRIAUX ULTRA-DURS, LEURS PROCÉDÉS DE FORMATION ET TRÉPANS DOTÉS DE CEUX-CI

Publication

EP 2909418 A4 20160720 (EN)

Application

EP 13848276 A 20130919

Priority

- US 201261717070 P 20121022
- US 201313837609 A 20130315
- US 2013060661 W 20130919

Abstract (en)

[origin: US2014110180A1] The present disclosure relates to cutting tools incorporating polycrystalline diamond bodies used for subterranean drilling applications, and more particularly, to a polycrystalline diamond body joined to a substrate by a fastening member to form a cutting element. The polycrystalline diamond body may be binderless polycrystalline diamond, non-metal catalyst polycrystalline diamond, leached polycrystalline diamond, carbonate polycrystalline diamond or polycrystalline cubic boron nitride. The polycrystalline diamond body includes an aperture and a fastening member extending through the aperture and metallurgically bonded to the substrate by a HPHT process.

IPC 8 full level

E21B 10/46 (2006.01); **B23B 27/12** (2006.01); **B24D 3/10** (2006.01); **E21B 10/42** (2006.01); **E21B 10/62** (2006.01)

CPC (source: CN EP US)

B28D 1/146 (2013.01 - EP US); **E21B 10/46** (2013.01 - EP US); **E21B 10/55** (2013.01 - US); **E21B 10/5735** (2013.01 - CN EP US);
E21B 10/62 (2013.01 - EP US); **E21B 10/5676** (2013.01 - US)

Citation (search report)

- [XII] US 2011114393 A1 20110519 - DOLAN GERARD [US], et al
- [A] US 2012211284 A1 20120823 - DIGIOVANNI ANTHONY A [US]
- [A] US 2010146865 A1 20100617 - SATO TAKESHI [JP], et al
- [A] US 2128416 A 19380830 - HOWARD JOHN H, et al
- [A] US 5302032 A 19940412 - NIWA KOSABURO [JP], et al
- [A] US 2233724 A 19410304 - BRYANT BANNISTER, et al
- [A] US 2011297454 A1 20111208 - SHEN YUELIN [US], et al
- [A] QIAN J ET AL: "High pressure, high temperature sintering of diamond-sic composites by ball-milled diamond-si mixtures", JOURNAL OF MATERIALS RESEARCH, MATERIALS RESEARCH SOCIETY, WARRENDALE, PA, US, vol. 17, no. 8, 1 August 2002 (2002-08-01), pages 2153 - 2160, XP002904877, ISSN: 0884-2914
- See also references of WO 2014065965A1

Designated contracting state (EPC)

AL 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 RS SE SI SK SM TR

DOCDB simple family (publication)

US 2014110180 A1 20140424; CA 2888354 A1 20140501; CN 104812988 A 20150729; EP 2909418 A1 20150826; EP 2909418 A4 20160720;
WO 2014065965 A1 20140501

DOCDB simple family (application)

US 201313837609 A 20130315; CA 2888354 A 20130919; CN 201380061913 A 20130919; EP 13848276 A 20130919;
US 2013060661 W 20130919