

Title (en)
ROTARY CUTTING TOOLS

Title (de)
ROTIERENDE SCHNEIDWERKZEUGE

Title (fr)
OUTILS DE COUPE ROTATIFS

Publication
EP 3405642 A1 20181128 (EN)

Application
EP 17742086 A 20170123

Priority
• GB 201601130 A 20160121
• US 2017014484 W 20170123

Abstract (en)
[origin: GB2546518A] A rotary cutting tool for incorporation into a drill string to enlarge a borehole underground or mill out tubing within a borehole has a tool body insertable into a drill string with a plurality of projecting or extendable cutter assemblies at positions distributed azimuthally around the longitudinal axis of the tool body wherein each cutter assembly includes a supporting structure 48 bearing a plurality of cutters 53, 211 - 216 with exposed hard cutting surfaces facing in a direction of rotation of the tool. The support structure of a cutter assembly has at least one surface 220 positioned to contact the conduit wall and this support structure is made as a body of particulate material infiltrated with a metal binder. The particulate material includes material such as tungsten carbide having a Knoop hardness of at least 1000. The support structure may have a functionally graded composition with hard material to contact the wall and steel in a region which will be machined during manufacture.

IPC 8 full level
E21B 10/32 (2006.01); **E21B 10/56** (2006.01); **E21B 17/00** (2006.01)

CPC (source: EP GB US)
E21B 7/28 (2013.01 - GB); **E21B 7/30** (2013.01 - GB); **E21B 10/26** (2013.01 - GB); **E21B 10/32** (2013.01 - GB);
E21B 10/322 (2013.01 - EP GB US); **E21B 10/46** (2013.01 - EP US); **E21B 10/567** (2013.01 - EP GB US); **E21B 29/005** (2013.01 - EP US)

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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
GB 201601130 D0 20160309; **GB 2546518 A 20170726**; BR 112018014869 A2 20181211; CA 3011812 A1 20170727; EP 3405642 A1 20181128; EP 3405642 A4 20190904; US 2019071930 A1 20190307; WO 2017127779 A1 20170727

DOCDB simple family (application)
GB 201601130 A 20160121; BR 112018014869 A 20170123; CA 3011812 A 20170123; EP 17742086 A 20170123; US 2017014484 W 20170123; US 201716071506 A 20170123