

Title (en)  
ROTARY CUTTING TOOLS

Title (de)  
ROTIERENDE SCHNEIDWERKZEUGE

Title (fr)  
OUTILS DE COUPE ROTATIFS

Publication  
**EP 3405642 A4 20190904 (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  
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**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)

Citation (search report)  
• [X] US 2009095532 A1 20090416 - LAIRD TOMMY [US], et al  
• [X] US 2013256036 A1 20131003 - LYONS NICHOLAS J [BR]  
• [X] US 2013264122 A1 20131010 - RADFORD STEVEN R [US], et al  
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• [A] US 2846193 A 19580805 - JACK CHADDERDON  
• See references of WO 201712779A1

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

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