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Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

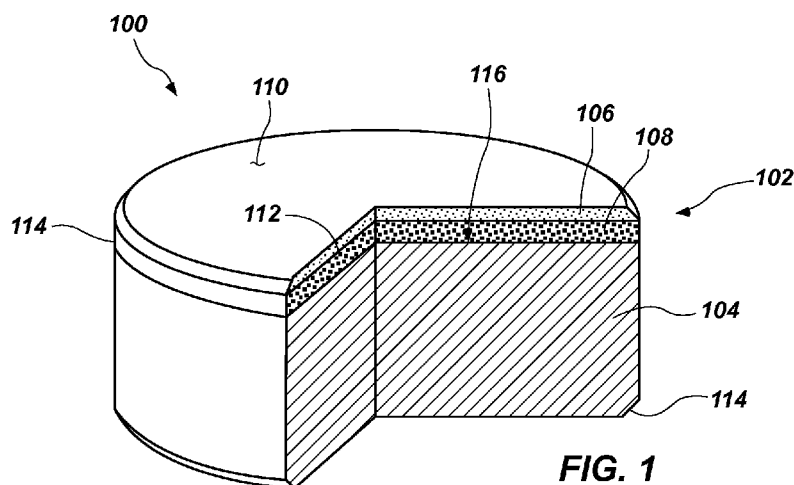
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(54) Title: POLYCRYSTALLINE TABLES, POLYCRYSTALLINE ELEMENTS, AND RELATED METHODS



(57) Abstract: Polycrystalline elements comprise a substrate and a polycrystalline table attached to an end of the substrate. The polycrystalline table comprises a first region of superabrasive material having a first permeability and at least a second region of superabrasive material having a second, lesser permeability, the at least second region being interposed between the substrate and the first region. Methods of forming a polycrystalline element comprise attaching a polycrystalline table comprising a first region of superabrasive material having a first permeability and at least a second region of superabrasive material having a second, lesser permeability to an end of a substrate, the at least a second region being interposed between the first region and the substrate. Catalyst material is removed from at least the first region of the polycrystalline table.



A. CLASSIFICATION OF SUBJECT MATTER*E21B 10/46(2006.01)i, C22C 26/00(2006.01)i, E21B 10/567(2006.01)i, E21B 10/573(2006.01)i, B24D 3/04(2006.01)i*

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

E21B 10/46; B24D 3/10; C01B 31/06; C09K 3/14; B24D 18/00; E21B 10/42

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: PDC, permeability, volume, grain and similar terms

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	US 2009-0095538 A1 (MIDDLEMISS, STEWART N.) 16 April 2009 See paragraphs 38, 41, 55, claims 1-4 and figure 3	1,5-9 2-4,19,20 10-18
Y A	US 2011-0042149 A1 (SCOTOT, DANNY E. et al.) 24 February 2011 See paragraph 27 and figure 2A	2,19,20 1,3-18
Y A	US 05469927 A (GRIFFIN, NIGEL D.) 28 November 1995 See column 4, line 27 - column 4, line 59 and figure 3	3,4 1,2,5-20
A	US 2009-0152015 A1 (SANI, MOHAMMAD N. et al.) 18 June 2009 See paragraphs 31-48 and figures 1-3	1-20

 Further documents are listed in the continuation of Box C. See patent family annex.

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"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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