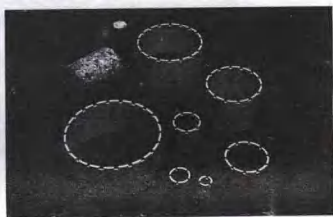


人造金刚石磨料与制品

专利定题检索资料



(3)

1 9 9 4

地 地 信 息 研 究 院 院 所

钢铁研究所
图书馆
藏书之章

309430

PATENT NO.: +CS-9004132A(920318).
TITLE : DIAMOND PARTICLES PURIFICATION.---BY SEPARATING
FROM WASTE GRINDING DISCS, TREATMENT WITH
NITRIC ACID, HYDROFLUORIC ACID AND SULPHURIC
ACID.
PATENTEE : CRYSTALEX SP.
PATE CODES : CRY-
IPC : B08B00700 ; B24D01800 ; C08J00514 ;
C09K00314.
D.W. NO. : J01; L02; P43; P61.
ACCE. NO : 92-332536.
LW/FW : 09241, 09241.
PRIORITY : 90082490CS-0004132.

专 利 号: (捷克)CS9004132A
专利权人: Crystalex Sp

优先权日: 1990.8.24

公 开 日:

专利简介: 金刚石颗粒净化--从废弃的磨盘中分离后经硝酸、氢氟酸和硫酸处理

PATENT NO.: +JP0423884A(920826).

TITLE : DIAMOND-CONTAINING SINTERED MATERIAL FOR CUTTING TOOLS, DIES, ETC.---HAS DIAMOND FORMED BY VAPOUR PHASE SYNTHESIS ON SURFACE OF SINTERED COMPACT CONTG. UP TO 40 VOL. PER CENT DIAMOND POWDER.

PATENTEE : IDEMITSU PETROCHEM CO.

PATE CODES : IDEM.

IPC : B23P01528 ; C04B04187.

D.W. NO. : L02; P56.

ACCE. NO : 92-335367.

LW/FW : 09241, 09241.

PRIORITY : 91011191JP-0002336.

ABS. : MATERIAL HAS DIAMOND FORMED BY VAPOUR PHASE SYNTHESIS ON THE SURFACE OF A SINTERED COMPACT CONTG. UP TO 40 VOL.% DIAMOND POWDER. USE - FOR CUTTING TOOLS, AND DIES, HAVING GOOD ADHERENCE BETWEEN THE SINTERED COMPACT, AS A MATRIX, AND THE DIAMOND FILM, AND HAVING GOOD CUTTING AND POLISHING PERFORMANCE. DWG.O/O.

专利号: (日本)JP0423884A

专利权人: Idemitsu Petrochem Co.

优先权日: 1991.1.19

公开日:

专利简介: 用于刀具、模具等含烧结物的金刚石-这种金刚石是在金刚石粉末占体积百分比达42%的烧结复合体的表层上通过气相合成而得的

PATENT NO.: +JP04260694A(920916).

TITLE : SMOOTHING OF DIAMOND-LIKE COAT LAYER---
COMPRISING MACHINING CUTTING TOOL USING METAL
WHICH FORMS SOLID SOLN. OF CARBONOR CARBONATE.

PATENTEE : SUMITOMO ELECTRIC CO.

PATE CODE : SUME.

IPC : B23B02714 ; B23P01528 ; C30B02904.

D.W. NO. : L02; M13; P54; P56.

ACCE. NO : 92-360571.

LW/PW : 09244, 09244.

PRIORITY : 91021891JP-0045732.

ABS. : FOR CUTTING TOOLS WITH DIAMOND-LIKE COATING,
THE TOOL IS MACHINED AT HIGH SPEED WITH A METAL CAPABLE
OF FORMING SOLID SOLN. OF CARBON OR CARBONATE, OPT. AFTER
HEATING (THE TOOL), SO THAT THE COAT LAYER BE SMOOTHENED
CHEMICALLY. OTHERWISE THE TOOL IS HEATED AND RUBBED
INTERMITTENTLY AGAINST A SURFACE OF SUCH METAL HAVING A
CONTOUR MATCHING THE TOOLS SURFACE. AN 8 MICRONS
THICK DIAMOND LAYER WAS COATED OVER THE SURFACE OF
THROWAWAY CHIPS CONSISTING OF SINTERED Si_3N_4 CONTG.
 Y_2O_3 , Al_2O_3 , ZrO_2 , AND AlN . USING A CHROMIUM-MOLYBDENUM
STEEL (SCM-415), THE SURFACE WAS MACHINED AT A CUTTING
SPEED OF 400 M/MIN. FOR 20 SECONDS ON A MILLING MACHINE.
ADVANTAGE - THE SMOOTHENING IS IMPLEMENTED IN A TOOLS
NORMAL USE ENVIRONMENT, WITHOUT RESTORING TO A SPECIAL
APPTS. OR A SPECIAL ATMOS. THE SMOOTHENING OF ONLY
NECESSARY PARTS SUCH AS THE CONTACT SURFACE OR CUTTING
EDGE REQUIRES VERY SHORT TIME. DWG.0/0.

专利号: (日本) JP04260694A
专利权人: Sumitomo Electric Co

优先权日: 1991.2.18

公开日:

专利简介: 类似金刚石涂层的磨光--用金属形成的碳或碳化物固溶体并以很快的
速度使涂层表面磨光

PATENT NO.: +JP04254584A(920909).

TITLE : COATED SINTER FOR CUTTING TOOLS---COMPRISES
CERAMIC SINTER BASE MATERIAL OF E.G. TUNGSTEN
CARBIDE, DIAMOND COATING FILM AND INTERMEDIATE
TITANIUM CARBIDE LAYER.

PATENTEE : SEIKO INSTR INC.

PATE CODS : DASE.

IPC : B23B02714 ; B23P01528 ; C04B04189 ;
C23C01406 ; C23C01622 ; C23C01626 ;
C30B02904.

D.W. NO. : I02; M13; P54; P56.

ACCE. NO : 92-353057.

LW/PW : 09243, 09243.

PRIORITY : 91020791JP-0016667.

ABS. : THE COATED SINTER COMPRISES CERAMIC SINTER AS
THE BASE MATERIAL MAINLY CONSISTING OF TUNGSTEN CARBIDE
OR TITANIUM TUNGSTEN; COATING FILM OF DIAMOND OR HARD
CARBON FORMED ON THE BASE MATERIAL AND INTERMEDIATE LAYER
CONSISTING OF TITANIUM CARBIDE WITH A NON-STOICHIOMETRIC
COMPSN. BETWEEN THE BASE MATERIAL AND THE COATING FILM.
USE/ADVANTAGE - USED FOR CUTTING TOOLS, ANTI-ABRASION
TOOLS, ANTI-ABRASION PARTS, AND ORNAMENTS. THE PROD. HAS
GOOD ADHESIVENESS, ANTI-ABRASION, ANTI-SHOCK OWING TO THE
CHARACTERISTICS OF INTERMEDIATE LAYER. IN AN
EXAMPLE, A HARD THROW-AWAY TIP OF TUNGSTEN CARBIDE -
COBALT (4WT.%) WAS COATED BY 1 MICRON OF TITANIUM CARBIDE
OF NON-STOICHIOMETRIC COMPSN. HAVING A FACE CENTRED CUBIC
STRUCTURE USING ION PLATING METHOD. THE COATING WAS
COVERED BY THE 5 MICRON FILM MAINLY CONSISTING OF DIAMOND
USING CH4 AND H2 GASES AS THE RAW MATERIALS APPLYING
MICROWAVE CVD METHOD. THE X-RAY DIFFRACTION SHOWED THAT
THE TOP COATING MAINLY CONSISTING OF DIAMOND HAD A HIGHLY
CRYSTALLINE STRUCTURE COMPARED WITH THE CASE OF FILM-
FORMING WITHOUT USING THE TITANIUM CARBIDE INTERMEDIATE
LAYER. DWG.0/0.

专利号: (日本) JP04254584A

专利权人: Seiko Instr Inc.

优先权日: 1991.2.7

公开日:

专利简介: 用于切削工具的涂层烧结体一包含陶瓷烧结体基片材料如碳化钨, 金
刚石涂层和碳化钛中间媒介层

PATNET NO.: +JP03271109A(911203).

TITLE : PRODUCING DIAMOND BY EXPLOSION OF ORGANIC COMPSN. IN WATER—EXPLOSIVE AND ORGANIC COMPSN. WITH NEGATIVE OXYGEN BALANCE IS EXPLODED IN WATER AND TREATED WITH ACIDS TO GIVE DIAMOND.

PATENTEE : AGENCY OF IND SCI TECH.

PATE CODS : AGEN.

IPC : B01J00308 ; C01B03106.

D.W. NO. : E36; I02.

ACCE. NO : 92-021407.

LW/FW : 09203, 09203.

PRIORITY : 90032290JP-0072655.

ABS. : DIAMOND IS PRODUCED BY EXPLODING AN ORGANIC COMPOSITION WHICH HAS NEGATIVE OXYGEN BALANCE (OB) IN WATER. OB IS GIVEN BY THE AMT. OF OXYGEN LEFT AFTER ONE GRAM OF EXPLOSIVE IS BURNT OUT. IT IS GIVEN BY THE EQ. FOR AN ORGANIC EXPLOSIVE OF C_xH_yO_zN_w AS: $OB = -16(2x + y/2 - z)/M$. M IS THE MOLECULAR WEIGHT OF THE CPD. THE ORGANIC COMPOSITION IS PREF. EXPLODED IN A TUBE. USE/ADVANTAGE - USED TO PRODUCE DIAMOND IN A TUBE PLACED IN WATER. EXPLOSION CAN BE REDUCED AS COMPARED WITH CONVENTIONAL PRODNS. CARRIED OUT IN AIR. IN AN EXAMPLE THE GRAMS OF A MIXT. WHICH CONTAINS 76.2 WT.% HMX EXPLOSIVE (CYCLOTETRAMETHYLENE TETRA-NITRAMINE), 19.5% OF 2,6-DIBROM-4-NITROPHENOL, AND 4.3 WT.% PARAFFIN WERE MOULDED AND LOADED IN A 2 CC TUBE; THE CYLINDER WAS PUT IN A STEEL CYLINDER AND IMMERSSED IN WATER 1.2 MM DEEP; THE MIXT. WAS EXPLODED. THE RESULTAN MIXT. WAS TREATED WITH AQUA REGIA, A MIXT. OF HCL AND HNO₃, THEN A MIXT. OF HF AND HNO₃ TO OBTAIN DIAMOND. 4PP DWG.NO.0/0.

专利号: (日本) JP03271109A
专利权人: Agency of Ind Sci Tech.

优先权日: 1990.3.22

公开日:

专利简介: 在水中有机混合物爆炸生产金刚石—含有负氧差额的爆炸物和有机混合物在水中爆炸后经酸处理生产金刚石

PATENT NO.: JP920591098(920921) +JP62099082A(870508).
TITLE : DIAMOND CONTG. ABRASIVES USED IN GRINDING PAPER
MFR.—OBTD. BY COATING DIAMOND ABRASIVES WITH
METAL E.G. NICKEL, COATING WITH E.G. RUBBER AND
OPT. SILICON CARBIDE.

PATENTEE : SHOKEN KOGYO KK.

PATE CODES : SHOK-

IPC : B24D00328 ; B24D01100.

D.W. NO. : A88; L02; P61.

ACCE. NO : 87-166988.

LW/FW : 09242, 08724.

PRIORITY : 85102485JP-0239160.

ABS. : DIAMOND BEARING ABRASIVES ARE OBTD. BY MIXING
DIAMOND ABRASIVES WITH AN ORGANIC HIGH MOLECULAR
SUBSTRATE SUCH AS NATURAL RUBBER, SYNTHETIC RUBBER,
SYNTHETIC RESIN ETC., AFTER COATING THE SURFACE OF
DIAMOND ABRASIVES WITH A METAL COATING SUCH AS NI
COATING, CU COATING OR LIKE METAL COATINGS OR WITH A SIC
COATING. A VULCANISING AGENT COATING MAY BE FURTHER
FORMED ON THE METAL COATINGS OR SIC COATING. METAL
COATING CAN BE FORMED ON THE SURFACE OF THE DIAMOND
ABRASIVES BY KNOWN METAL PLATING MEANS SUCH AS A CHEMICAL
PLATING METHOD. SIC COATING CAN BE FORMED ON THE SURFACE
OF DIAMOND ABRASIVES BY CVD PROCESS. USE/ADVANTAGE -
THE MIXT. OF DIAMOND ABRASIVES AND HIGH MOLECULAR CPD.
MAY BE CAST AS A GRINDING WHEEL IN A METALLIC DIE (MOULD)
OF A VULCANISING PRESS AT ABOUT 160 DEG.C FOR ABOUT 10
MIN. UNDER HIGH PRESSURE, OR MAY BE APPLIED (COATED) ON
THE SURFACE OF PAPER, CLOTH, ETC., SO AS TO OBTAIN
GRINDING PAPER OR CLOTH. DIAMOND ABRASIVES CAN BE TIGHTLY
BONDED TO THE HIGH MOLECULAR COMPOUND, BY COATING THE
SURFACE OF ABRASIVES WITH METAL COATING OR SIC COATING IN
ADVANCE. (J62099082-A).

专利号: (日本) JP920591098

专利权人: Shoken Kogyo KK.

优先权日: 1985.10.24

公开日:

专利简介: 用于制造砂纸的含金刚石磨料—金刚石表面用化学镀法镀镍或铜金属
镀层或作化学汽相沉积法沉积硅涂层, 在金属镀层或硅涂层上再涂硫化物

PATENT NO.: =DE-3781780G(921022) +EP--272418A(880629)E =ZA-
8707921A(880421) =AU-8781951A(880623) =BR-
8706982A(880726) =JP63182297A(880727) =IL---
84526A(910916) =EP--272418B(920916)E.

TITLE : CVD PROD. OF DIAMOND---USING HEATED HYDROGEN-
HYDROCARBON GAS STREAM, SUBSTRATE AND A WAVE
ENERGY SOURCE FOR GENERATING PLASMA.

PATENTEE : GENERAL ELECTRIC CO.

PATE CODES : GENE.

IPC : B01J01912 ; C01B03106 ; C23C01626 ;
C23C01650 ; C30B02502 ; C30B02510 ;
C30B02904.

D.W. NO. : E36; L02; L03; M13; X25.

ACCE. NO : 88-176587.

LW/FW : 09244, 08826.

PRIORITY : 86122286US-0944729.

ABS. : APPTS. FOR PROD. OF DIAMOND BY CVD COMPRISES:

A REACTION CHAMBER; AN INLET FOR AN H₂/HYDROCARBON GAS
STREAM, AN EXHAUST OUTLET; A METALLIC RESISTANCE HEATER
ADJACENT THE GAS INLET; A SUBSTRATE ADJACENT THE HEATER
SO THAT THE HEATED GAS FLOWS OVER IT; AND A WAVE ENERGY
SOURCE (I) WHICH GENERATES A GAS PLASMA INCLUDING H
ATOMS, ADJACENT THE SUBSTRATE CAUSING CONDENSATION AND
DIAMOND DEPOSITION ON THE SUBSTRATE. (I) IS PREF. A
MICROWAVE SOURCE. ADVANTAGE - GOOD PROCESS CONTROL CAN
BE ACHIEVED AND A HIGH PROD. YIELD IS OBTD.

专利号: (德国) DE3781780G
专利权人: General Electric Co

优先权日: 1986.12.28

公开日:

专利简介: 化学汽相沉积金刚石生产--加热的氢和碳氢化合物流过基片,波能源使
呈等离子状态,靠近基片时引起凝缩和金刚石沉积于基片上

PATENT NO.: =IL—83266A(920906) +EP—254941A(880203)G =DE—
 3706868A(880211) =AU—8776228A(880204) =ZA—
 8705360A(880205) =BR—8703906A(880405)
 =JP63074566A(880405) =DK—8703939A(880131) =PT—
 —35459A(880729) =US—4805586A(890221) =CN—
 8705212A(880330) =DD—270264A(890726) =CA—
 1273801A(900911) =EP—254941B(920129) =DE—
 3776448G(920312) =ES—2029676T(920901).

TITLE : GRINDING DISC DRESSING TOOL—HAVING HIGH
 PARTICLE DENSITY LAYER OF ARTIFICIALLY
 ROUGHENED DIAMONDS.

PATENTEE : WINTER E SOHN C.

PATE CODES : WINT—

IPC : A44CO2700 ; B24B00300 ; B24B05304 ;
 B24B05312 ; B24D00302 ; B24D00310 ;
 B24D00500 ; B24D01800 ; B26D00112 ;
 B28D00104 ; C04B01432 ; C09K00314 ;
 C25D00300.

D.W. NO. : L02; P23; P61; P62; P64.

ACCE. NO : 88-030202.

LW/FW : 09242, 08805.

PRIORITY : 86073086DE-3625754 87030487DE-3706868.

ABS. : A GRINDING DISC DRESSING TOOL CONSISTS OF A
 SUBSTRATE WITH A COATING OF DIAMONDS IN A METALLIC
 BINDER, THE NOVELTY BEING THAT THE DIAMOND PARTICLES ARE
 ARTIFICIALLY ROUGHENED SO THAT THEIR SURFACE AREA IS AT
 LEAST TWICE THAT OF THE NATURAL SURFACE AREA, THE
 PARTICLE DENSITY BEING SUCH THAT EACH DIAMOND PARTICLE
 DIRECTLY CONTACTS SEVERAL ADJACENT PARTICLES. ADVANTAGE -
 THE DIAMOND SURFACE TOPOGRAPHY PROVIDES INTIMATE
 ANCHORING OF THE DIAMOND PARTICLES ESP. IN AN
 ELECTRODEPOSITED METAL BINDER. THIS TOPOGRAPHY AND THE
 HIGH PARTICLE DENSITY RESULTS IN IMPROVED PERFORMANCE OF
 THE DRESSING TOOL.

专利号: (意大利) IL83266A

专利权人: Winter E & Sohn & C

优先权日: 1986.7.30

公开日:

专利简介: 研磨盘修整工具—在基体上用金属粘结剂形成一金刚石涂层, 金刚石
 表面经过粗化, 每粒金刚石与几粒金刚石接触

PATENT NO.: JP92057633B(920914) +JP59162186A(840913).
TITLE : COMPOSITE SINTERED BODY MFR. USEFUL FOR E.G.
CUTTING TOOLS—INVOLVES SUPERIMPOSING PRESS-
MOULDED BODY OF DIAMOND AND GRAPHITE ON METAL
FILM.

PATENTEE : SHOWA DENKO KK.

PATE CODS : SHOW.

IPC : B22F00702 ; B24D00316 ; B32B00900 ;
B32B01504 ; C04B03552 ; C04B03900.

D.W. NO. : I02; P53; P61; P73.

ACCE. NO : 84-266274.

LW/FW : 09241, 08443.

PRIORITY : 83030183JP-0031774.

ABS. : FILM OF METAL OF HIGH M.P.T. IS OVERLAID ON AN
ULTRAHARD ALLOY SUPPORT (I), AND PRESS MOULDED BODY (II)
MADE OF A MIXED POWDER COMPRISING DIAMOND AND GRAPHITE IS
SUPERPOSED ON THE FILM. A THIN LAYER OF DIAMOND
TRANSFORMATION CATALYSER (III) IS INTERLAID BETWEEN (I)
AND (II). THE ASSEMBLAGE IS SET IN AN ULTRA-HIGH PRESSURE
GENERATING APPTS. AND SUBJECTED TO A TEMP. HIGHER THAN
1300 DEG.C AND HIGH PRESSURE AT WHICH DIAMOND IS STABLE.
(III) IS E.G. FE, CO, NI OR AN ALLOY OF THESE METALS AND
IS USED IN AMT. (0.5-2)--FOLD (BY WT.) OF GRAPHITE (I) IS
PREF. ALLOY OF WC-CO. USE/ADVANTAGE - COMPOSITE
SINTERED BODY HAVING HIGH HARDNESS AND HIGH ABRASION-
RESISTANCE IS USEFUL FOR VARIOUS CUTTING TOOLS, WIRE
DRAWING DIES, ETC. (J59162186-A).

U 专利号: (日本) JP92057633B
专利权人: Showa Denko KK

优先权日: 1983.3.1

公开日:

专利简介: 用于切削具的复合烧结体的制造—超硬合金支承, 高熔点金属片, 触媒
片和金刚石与石墨的冷模压块依次重叠放置, 再经高温高压烧结而成

PATENT NO.: =JP04231470A(920820) +EP=464012A(920102) =NO-9102305A(911216) =ZA-9104344A(920325).

TITLE : COATED CEMENTED CARBIDE WEAR RESISTANT BODY FOR ROCK DRILLING—COMPRISES CEMENTED CARBIDE CORE AND PART COVERING DIAMOND OR CUBIC BORON NITRIDE COATING LAYER ON METAL CARBIDE-BINDER METAL SUBSTRATE.

PATENTEE : SANDVIK AB.

PATE CODS.: SANV.

IPC : C22C02902 ; C23C01406 ; C23C01626 ;
C23C01630 ; C23C03000 ; E21B01046.

D.W. NO. : H01; L02; M13; Q49.

ACCE. NO : 92-009570.

LW/FW : 09241, 09202.

PRIORITY : 90061590SE-0002136.

ABS. : BODY HAS A SUBSTRATE CONTG. METAL CARBIDE(S) AND A BINDER METAL, AND IS PARTLY COVERED BY A COATING CONTG. DIAMOND OF CUBIC BORON NITRIDE (CBN) LAYER(S) DEPOSITED BY CVD OR PVD. (I) CORE OF CEMENTED CARBIDE CONTAINS ETA-PHASE AND THE SURFACE ZONE OF CEMENTED CARBIDE IS FREE OF ETA PHASE, (II) THE BINDER PHASE CONTENT IN A ZONE CLOSE TO THE ETA-PHASE-CONTG. CORE IS HIGHER THAN THE NOMINAL BINDER PHASE CONTENT, AND (III) THE BINDER PHASE CONTENT IN THE SURFACE ZONE IS 0.1-0.9 OF THE NOMINAL CONTENT. USE/ADVANTAGE - HIGHLY IMPROVED WEAR RESISTANCE IN ROCK-DRILLING COMPARED WITH CONVENTIONAL DIAMOND COATED CEMENTED CARBIDE BODIES. 10PP DWG.NO.0/0.

专利号: (日本) JP04231470A

专利权人: Sandvik Ab.

优先权日: 1990.6.15

公开日:

专利简介: 用于钻进岩石的涂层硬质合金抗磨损体—由硬质合金芯和在金属破物即粘接金属基片上部分的金刚石或立方氮化硼涂层组成

PATENT NO.: =JP04232282A(920820) +EP---467404A(920122) =AU-
9177103A(920123) =CA-2042777A(920121) =ZA-
9103931A(920429) =BR-9103102A(920428) =US-
5126207A(920630).

TITLE : DIAMOND WITH MULTIPLE COATINGS FOR IMPROVED
RETENTION IN MATRIX---HAS DIAMOND SUBSTRATE
BONDED TO LAYER OF CHROMIUM CARBIDE WITH
TITANIUM NITRIDE CONTG. LAYER AND TUNGSTEN
LAYER DEPOSITED ON TOP.

PATENTEE : NORTON CO.

PATE CODS : NORT.

IPC : B23F00500 ; B24B00508 ; B24D00306 ;
B24D00310 ; B24D00314 ; C09C00168 ;
C09K00314 ; C22C02600 ; C23C01602 ;
C23C01608 ; C23C02800 ; C30B02904.

D.W. NO. : L02; M13; P56; P61.

ACCE. NO : 92-026242.

LW/FW : 09241, 09204.

PRIORITY : 50072090US-0556069.

ABS. : A DIAMOND ELEMENT HAVING GOOD BONDING

PROPERTIES COMPRISES; I) DEPOSITING A LAYER OF CR ONTO
THE DIAMOND TO FORM A CHROME CARBIDE LAYER, II)
DEPOSITING A LAYER OF TI ON TO THE CHROME CARBIDE LAYER,
III) NITRIDING THE TI-COATING LAYER TO FORM A LAYER
CONTNG. TITANIUM NITRATE, IV) DEPOSITING A LAYER OF W OR
MO ONTO THE TITANIUM NITRIDE CONTNG. LAYER. THE
INTERMEDIATE TITANIUM NITRATE CONTNG. LAYER BONDS WELL TO
BOTH THE UNDERLYING CHROME CARBIDE AND THE OVERLYING W,
AND FORMS A PROTECTIVE BARRIER AGAINST ATTACK BY HALIDE
CONTG GAS ON THE CHROME CARBIDE DURING THE W DEPOSITION
PROCESS. USE/ADVANTAGE - DIAMOND IS USED IN SAWING,
DRILLING, DRESSING AND GRINDING OPERATIONS. IT IS
TYPICALLY BONDED TO OR MECHANICALLY HELD IN A METAL OR
RESIN MATRIX CONNECTED TO A TOOL BODY, HOWEVER,
MECHANICAL BONDS ARE RELATIVELY WEAK AND THE DIAMOND IS
EASILY LOST AS THE SURROUNDING MATRIX IS ABRADED AWAY.
THE PRESENT INVENTION PROVIDES AN IMPROVED RETENTION OF
DIAMOND IN A MATRIX. 5PP DWG.NO.0/0.

专利号: (日本) JP04232282A

专利权人: Norton Co.

优先权日: 1990.7.20

公开日:

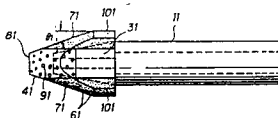
专利简介: 多层键合金刚石在胎体中提高固结性—在金刚石表面沉积一层铬形成碳
化铬层,再沉积一层钛形成氮化钛层,其上再沉积一层钨或钼

N.23 USP 5,123,217 18 pp; T. Ishikawa *et al.*, KK Fujikoshi
(Aug 31, 1989—Japan)

Drill for use in drilling hard and brittle materials

The drill comprises a shank and a drilling portion attached to one end. The drilling portion, an example of which is shown in Fig 1b, includes a tapered primary cutting edge 41 located adjacent to a centre of rotation of the drill, a first secondary cutting surface 71 extending from, and having an angle of taper Θ , substantially identical to, the primary cutting edge, and a second secondary cutting surface 101 extending from the first secondary cutting surface and containing a line substantially parallel to a central axis of the drill. The primary cutting surface

Fig 1b



USP 5,123,217

is provided with a first abrasive grain layer and the first and second secondary cutting surfaces are provided with a second abrasive layer. Both first and second abrasive grain layers have a binder made from a material selected from the group consisting of metal, resin and glass. 3 claims, 7 fig.

专利号: (美国) US5123217

专利权人: KK Fujikoshi

优先权日: 1989.8.31

公开日:

专利简介: 用于硬脆材料的钻头—钻头部分包括位于钻头回转中心的锥形主切削刃41, 锥度为0的第一切削前缘71和平行于轴的第二次前缘101 (8页, 7图)

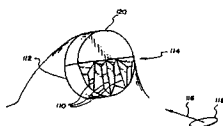
USP 5,115,873 (11) 001 P. E. Pastusek, Baker Hughes Inc

(Jan 24, 1991)

Method and apparatus for directing drilling fluid to the cutting edge of a cutter

The cutters of a drill bit comprise a lower section including a cutting tip and an upper section including one or more fluid flow channels provided for the purpose of focusing the flow of drilling fluid directed towards the cutting tip for cooling and cleaning thereof. Various embodiments of the cutter are envisaged and include cutters with flow channels for directing the flow of drilling fluid both towards the cutting tip and away from the cutting tip towards a cutting chip formed as the drill bit encounters a formation. Fig 11 shows a PDC cutter 114 with:

Fig 11



USP 5,115,873

flow channels 110 formed in the upper section 112 for directing fluid flow at cutting tip 120. 21 claims, 14 fig.

专利号: (美国) US5115873

专利权人: Baker Hughes Inc

优先权日: 1991.1.24

公开日:

专利简介: 使泥浆流向切削刀具刃上的方法和器具一切器具上部有多个泥浆通道引导泥浆流向切削具的端刃上,起冷却和净化作用(11页,14图)

L5B USP 5,119,714 (9 pp) D. E. Scott, S. R. Jurewicz,
Hughes Tool Company

(Mar 1, 1991)

Rotary rock bit with improved diamond filled compacts

The invention relates to roller cone-type earth boring bits and to improvements in gauge and heel row compacts for such bits. Compacts are formed by filling the open interior of a hard metal jacket with diamond material, subjecting the diamond-filled jacket to a temperature and pressure sufficient to sinter the diamond material and form a diamond core integrally within the metal jacket, reducing the outer dimensions of the jacket, the jacket being characterised as having a top surface comprised of exposed diamond surrounded by a ring of jacket material, wherein at least 75% of the top surface of the compact is exposed-diamond, and installing the compact in the insert pocket provided on the rotatable cutter of a roller cone bit. 5 claims, 12 fig.

专 利 号: (美国)US5119714

专利权人: Hughes Tool Company

优先权日: 1991.3.1

公 开 日:

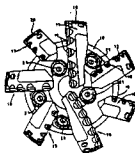
专利简介: 装有改进的金刚石压块的牙轮钻头—金刚石材料装入硬质金属套管中
经高温高压烧结, 研成有完整金刚石蕊柱的压块且出露金刚石至少75%

L5b UKPA 2,252,574 (22 pp) M. R. Taylor, A. Keohane,
Reed Tool Company Ltd
(Feb 1, 1991)

Rotary drill bits and methods of designing such drill bits

A rotary drill bit, an example of which is shown in Fig 1, is generally of the type comprising a bit body 10 having a shank for connection to a drill string, a plurality of polycrystalline diamond cutter assemblies 18, 19 mounted on the bit body and a passage in the bit body for supplying drilling fluid. Certain cutter assemblies 19 on the bit body are adapted to exhibit a volume factor (volume of material removed by the cutter per revolution) which is significantly greater than the volume factor of other cutter assemblies 18 on the bit body, with increase of rate of

Fig 1



UKPA 2,252,574

penetration, and at least the majority of the cutter assemblies 19 of higher volume factor are better adapted for cutting softer formations than at least the majority of the other cutter assemblies 18. 12 claims, 3 fig.

专利号: (英国) UK2252574
专利权人: Reed tool Company Ltd

优先权日: 1991.2.1

公开日:

专利简介: 回转钻头及其设计方法—图1所示,聚晶金刚石切削翼片18、19安装在钻头体上,翼片19的每转切削体积及对软地层和适应性都优于翼片18

E111 USP 5,096, 736 (8 pp) T. R. Anthony *et al*, General Electric Company

(Aug 7, 1990)

CVD diamond for coating twist drills

A method for coating elongate objects such as twist drills with CVD diamond is disclosed. The coating of the entire outside surface of at least a portion of a plurality of stationary elongate objects comprises passing a feed hydrogen/hydrocarbon mixture through an elongate metal tube disposed within a reactor. The tube has a plurality of apertures which hold elongate objects disposed radially inwardly and a cooling pipe in thermal contact with the outside of the tube. The gas mixture is heated to a temperature adequate to initiate hydrocarbon dissociation by means of a filament located within the tube, whereby the elongate objects to be coated are also heated. Cooling fluid is passed through the cooling pipe at a temperature and flow rate to maintain the elongate objects at a CVD diamond-forming temperature. 5 claims, 6 fig.

专利号: (美国) US5096736

专利权人: General Elec. Company

优先权日: 1990.8.7

公开日:

专利简介: 化学气相沉积金刚石涂层的麻花钻头—加热反应器中氢/碳氢化合物的混合气体到一适宜温度,混合气体起裂分解,在细长物体上沉积(8页)