

State of the art

patent news archive 2004

US20040246464A1: Method and apparatus for examining a diamond

Applicant: none

Publication: 09/12/2004

Filed: 04/06/2004

Priority: 06/06/2003

Contents: Prior methods of measuring diamond proportions in order to construct a complete model, such as a three dimensional virtual wire-frame model, of a diamond have been found to be inadequate. In particular, there has been no commercially available, automated and objective method for measuring the dimensions of a diamond with similar or greater accuracy as compared with the accuracy that can be achieved with manual gauges or micrometers. The present invention provides a method of measuring a physical characteristic of a facet of a diamond, such as the location of one or more points on an edge of a facet. The method comprises illuminating the diamond to visually distinguish a facet from adjacent facets when viewed from a predetermined location, and then capturing an image of the diamond as viewed from this predetermined location. The image is then analysed to determine the location of at least one point located on an edge of a facet by identifying a discontinuity in the properties of light transmitted from the diamond to the viewing location.

Application

US20040248503A1: Vibratory material removal system, tool and method

Applicant: none

Publication: 09/12/2004

Filed: 09/06/2003

Contents: Material is removed from objects to be marked or machined by applying tools having cutouts arranged in a pattern on the objects, filling the cutouts with abrasive particles, pouring a molten metal over the tools to solidify as a backing, and then ultrasonically vibrating the backing to propel the abrasive particles through the cutouts to transfer the pattern to the objects.

Application

USD499352: Gem pavilion

Applicant: Dynamic Diamond Corp.

Publication: 07/12/2004

Filed: 09/10/2003

Contents: Design. Cushion.

Remarks: Partial design.

Granted

USD499353: Gem crown

Applicant: Dynamic Diamond Corp.

Publication: 07/12/2004

Filed: 09/10/2003

Contents: Design. Step cut cushion.

Remarks: Partial design.

Granted

WTOCD

USD499661: Gem pavilion

Applicant: Dynamic Diamond Corp.
Publication: 14/12/2004
Filed: 09/10/2003
Contents: Design. Cushion.
Remarks: Partial design.
Granted

USD499662: Gem pavilion

Applicant: Dynamic Diamond Corp.
Publication: 14/12/2004
Filed: 09/10/2003
Contents: Design. Cushion.
Remarks: Partial design.
Granted

WO04105999A1: A NOVEL LASER BRUTING MACHINE

Applicant: PATEL, Arvindbhai, Lavjibhai
Publication: 09/12/2004
Filed: 18/07/2003
Priority: 30/05/2003

Contents: Novel Laser Bruting machine consists of mainly three sections (i) Diamond Holder (ii) Set up device (iii) Processing device. Diamond holder consists of rough diamond, stitching die & magnetic die. Also the rough diamond stone to be centered and bruted is stitched on top of stitching die by adhesive & heat. The stitching die is then fixed on top of the magnetic die. Setup device consist of CNC interface & video system. The diamond which is to be centered and hence diamond holder is put vertically on motorized rotatable platform. After completion of centering the diamond the diamond holder is carried to processing device & fixed horizontally on motorized rotatable platform of processing device. Processing device consist of CNC Interface, Heat Exchanger, Video system, Beam delivery mechanism, Laser source, RF-Q Switch driver, Power supply & stabilizer. Beam delivery mechanism of processing device consists of (i) Bruting process system and (ii) Girdle polishing system. With the standard software computer suggest an optimal cut to have accurate rounded shape of the diamond taking dimensions & shape into account.

Application

JP2004194778: DIAMOND AND DIAMOND CUTTING METHOD

Applicant: GLOBAL CORPORATION:KK
Publication: 15/07/2004
Filed: 17/12/2002

Contents: To cut a diamond in such a manner as visually recognizing a cut pattern in a pavilion side from a crown side by using the pavilion side which is not used for cutting so far for the cutting of the diamond. One vertices of five square surfaces are collected in the bottommost part of the pavilion, the adjoining square surfaces share lower-side one sides respectively and, when a girdle part is used as a reference surface of the square surface, the square surfaces form at 40.5° - 41.5° to the reference surface. Ten triangle surfaces, which share upper-side one sides of the square surfaces and also share another sides with triangle surfaces alternately adjoining thereto, form at 41.5° - 42.5° to the reference surface. Ten square surfaces, whose vertices opposed to plane parts of the girdle and the crown part contact with the plane parts and which share one sides with square surfaces alternately adjoining thereto, form at 33.0° - 35.0° to the reference surface. The depth is set to 55%-65% of the diameter of the girdle part.

WTOCD

Application

RU2237113: METHOD OF MANUFACTURING DIAMONDS IN FANTASY RED COLOR

Applicant: none

Publication: 27/09/2004

Filed: 26/06/2003

Contents: The invention relates to treatment of diamonds to impart them a variety colors, which may find use in jeweller's art. Method consists in that, in crystalline lattice of naturally occurring type IA diamond containing A defects or naturally occurring high-nitrogen type IA diamond containing more than 800 ppm nitrogen impurities in the form of A and B1 defects, individual nitrogen atoms in substitution position (C defects) are formed. Naturally occurring type IA diamond containing A defects is annealed in high-pressure apparatus at temperature above 2150 and stabilization pressure 6.0-7.0 GPa and then exposed to electron beam $5 \times 10^{15} - 5 \times 10^{18} \text{ cm}^{-2}$ at 2-4 MeV, after which subjected to annealing in vacuo at temperature at least 1100. Naturally occurring high-nitrogen type IA diamond containing more than 800 ppm nitrogen impurities in the form of A and B1 defects is exposed to high-energy electron beam at radiation dose 10^{19} cm^{-2} , after which subjected to annealing in vacuo at temperature at least 1100. Products are diamonds in fantasy red color appropriate for brilliants with stable N-V coloration sites absorbing within wavelength range 400-640 nm.

Application

US6818280: Rectangular brilliant-cut diamond

Applicant: Hohoemi Brains, Inc.

Publication: 16/11/2004

Filed: 09/10/2003

Priority: 01/11/2002

Contents: A diamond is provided which is subjected to an improved rectangular brilliant-cut producing a facet configuration having an optimal shape for the purpose of increasing the visual-perceptible reflection ray amount. In the rectangular brilliant-cut diamond, the bezel facets at the four crown vertexes each is bent along the diagonal line parallel to the girdle, to yield the facet configuration in which the bezel facet is divided into the lower bezel facet and the upper bezel facet. The upper crown angle of an upper bezel facet can be made smaller than the crown angle of a lower bezel facet, and hence even without altering the crown height, by making the table facet slightly smaller, the tilt angles from the horizontal of the star facets and the second bezel facets, both provided with intense reflection, can be made small and the areas thereof can be made large. Thus, the reflection patterns become all alike in size in a manner preferable for the visual perception, and making the star facets and the second bezel facets have small tilt angles from the horizontal permits making the reflection extremely intense in cooperation with enlargement of the areas of the star facets and the second bezel facets.

Granted

US20040221795A1: Single crystal diamond prepared by CVD

Applicant: none

Publication: 11/11/2004

Filed: 13/02/2004

Priority: 15/06/2000; 20/03/2001

Contents: A single crystal diamond prepared by CVD and having one or more electronic characteristics; making the diamond suitable for electronic applications. Also provided is a method of making the single crystal CVD diamond.

WTOCD

Application

US20040229464A1: Optical quality diamond material

Applicant: none

Publication: 18/11/2004

Filed: 21/11/2003

Priority: 21/11/2002

Contents: A CVD single crystal diamond material suitable for use in, or as, an optical device or element. It is suitable for use in a wide range of optical applications such as, for example, optical windows, laser windows, optical reflectors, optical refractors and gratings, and etalons. The CVD diamond material is produced by a CVD method in the presence of a controlled low level of nitrogen to control the development of crystal defects and thus achieve a diamond material having key characteristics for optical applications.

Application

USD498170: Marquise cut precious stone design

Applicant: Rosy Blue N.V.

Publication: 09/11/2004

Filed: 28/03/2003

Priority: 19/06/2000

Contents: Design. Marquise

Granted

US6813007: Apparatus for generating data for determining a property of a gemstone and methods and computer programs for determining a property of a gemstone

Applicant: Overseas Diamonds Technologies

Publication: 02/11/2004

Filed: 25/03/2002

Priority: 13/12/2001

Contents: An apparatus for generating data for use in determining a property of a gemstone, such as a cut diamond, the apparatus comprising: a support structure for supporting a gemstone placed at an observation position, the support structure being arranged such that, if the gemstone has an axis of symmetry, the gemstone is supportable such that the axis of symmetry is parallel to an axis X passing through the observation position; illumination means arranged to illuminate a gemstone so placed with a spatially varied light pattern; rotation means arranged to cause relative rotation between the light pattern and the support structure generally about the axis X; a camera arranged to capture, at each of a plurality of rotational positions, an image of light returned by the gemstone and to output said images as image data.

Granted

US20040200814A1: Laser machine for examination, planning and marking raw diamond

Applicant: none

Publication: 14/10/2004

Filed: 23/03/2004

Priority: 13/02/2002

Contents: The present invention comprises Laser planner which scans each and every point of diamond by rotating it 360° and thus gives individual coordinate of that diamond. It shows us the wire frame image on the computer monitor is a machine to scan the stone and to plan and mark for the best-fit diamond from that

WTOCD

stone. All the data of the diamond is stored in the computer. It is material saving, time saving, mass processing increase in productivity.

Application

EP1466041A1: COLOURED DIAMOND

Applicant: Element Six Limited

Publication: 13/10/2004

Filed: 13/12/2002

Contents: See WO03052177A1: A diamond layer of single crystal CVD diamond which is coloured, preferably which has a fancy colour, and which has a thickness of greater than 1 mm.

Application

EP1465508A2: A ROUNDED RECTANGULAR GEMSTONE

Applicant: Kedem, Michael

Publication: 13/10/2004

Filed: 16/10/2002

Priority: 19/10/2001

Contents: See WO03032765A2: A rounded rectangular gemstone which comprises a crown provided with a planar table, a pavilion whose facets converge at a cutlet being disposed below said crown, and a girdle extending from said crown to said pavilion, said girdle being substantially perpendicular to said table and assuming a rectangular shape when viewed thereabove and therebelow, wherein said crown and said pavilion have substantially circular cross-sections along a plane parallel to said table and the facets of said pavilion are arranged in rotational symmetry about said cutlet and in mirror symmetry about lines of symmetry passing through said cutlet and the midpoint of each side of said girdle and through said cutlet and each corner of said girdle.

Application

US6811610: Method of making enhanced CVD diamond

Applicant: Diamond Innovations, Inc.

Publication: 02/11/2004

Filed: 03/06/2002

Contents: Single crystal CVD diamond is heated to temperatures of 1500° C. to 2900° C. under a pressure that prevents significant graphitization. The result is a CVD diamond with improved optical properties.

Granted

US6813007: Apparatus for generating data for determining a property of a gemstone and methods and computer programs for determining a property of a gemstone

Applicant: Overseas Diamonds Technologies

Publication: 02/11/2004

Filed: 25/03/2002

Contents: An apparatus for generating data for use in determining a property of a gemstone, such as a cut diamond.

Granted

EP1001690B1: METHOD FOR DETERMINING A HIGH-REFLECTION CUT OF A GEM, METHOD FOR CUTTING A HIGH-REFLECTION GEM, AND THE CUT HIGH-REFLECTION GEM

Applicant: Bürger, Helmut

Publication: 27/10/2004

WTOCD

Filed: 30/07/1998

Contents: The invention relates to a method for determining a high-reflection cut of a gem, a method for cutting a high-reflection gem, and a cut high-reflection gem. According to the invention, the gems have at least three lower part main facets and at least three upper part main facets, the angle between the lower part main facets and the girdle plane being greater than the angle between the upper part main facets and the girdle plane. A table replaces the upper part main facets at an angle of 0° . The lower part main facet angle is between 41° and 46° and the upper part main facet angle corresponds to an angle from a group of predetermined preferred angles. Said group of angles is determined according to the average refraction of light n (between 1.50 and 3.00) of the raw material being cut and the lower part main facet angle.

Granted

USD497829: Gemstone

Applicant: Diamond 4U, Ltd

Publication: 02/11/2004

Filed: 05/02/2003

Contents: Design.

Granted

US20040194690A1: Coloured diamond

Applicant: none

Publication: 07/10/2004

Filed: 05/09/2003

Contents: A diamond layer of single crystal CVD diamond which is coloured, preferably which has a fancy colour, and which has a thickness of greater than 1 mm.

Application

EP1463849A2: BORON DOPED DIAMOND

Applicant: Element Six Limited

Publication: 06/10/2004

Filed: 13/12/2002

Contents: A layer of single crystal boron doped diamond produced by CVD and having a total boron concentration which is uniform. The layer is formed from a single growth sector, or has a thickness exceeding 100 nm, or has a volume exceeding 1 mm³, or a combination of such characteristics.

Application

US20040195114A1: Jewelry box with a viewer

Applicant: none

Publication: 07/10/2004

Filed: 03/04/2003

Contents: A container has a base including a support for an object to be viewed. A container also has a lid on top of the base, the lid having a light-conveying portion for illuminating an object to be viewed and a magnifying viewer for viewing an object to be viewed.

Application

JP2004155653A2: DIAMOND POLISHING METHOD

Applicant: SUMITOMO ELECTRIC IND LTD

Publication: 03/06/2004

Filed: 13/01/2004

WTOCD

Contents: This polishing method comprises dropping a liquid coating agent containing a material different from diamond on the surface of a diamond, hardening the coating agent to form a coating film having a spherical surface on the diamond, and removing, by dry etching, the coating film and the unevenness on the surface of the diamond under such conditions that both the coating film and the diamond can be etched, thus forming a spherical diamond surface.

Application

USD496300: Cut stone

Applicant: none

Publication: 12/09/2004

Filed: 17/07/2003

Contents: Design. Square mixed cut.

USD496516: Diamond

Applicant: My Diamond Place, Ltd

Publication: 28/09/2004

Filed: 13/05/2003

Contents: Design. Cut cornered square brilliant cut.

USD496603: Diamond

Applicant: M. Fabrikant & Sons, Inc.

Publication: 28/09/2004

Filed: 21/04/2003

Contents: Design. Round partial design (bottom).

US20040177803A1: Single crystal diamond

Applicant: none

Publication: 16/09/2004

Filed: 22/09/2003

Contents: A method of producing a large area plate of single crystal diamond from CVD diamond grown on a substrate substantially free of surface defects by chemical vapour deposition (CVD). The homoepitaxial CVD grown diamond and the substrate are severed transverse to the surface of the substrate on which diamond growth took place to produce the large area plate of single crystal CVD diamond.

Application

US20040180205A1: Boron doped diamond

Applicant: none

Publication: 16/09/2004

Filed: 03/09/2003

Contents: A layer of single crystal boron doped diamond produced by CVD and having a total boron concentration which is uniform. The layer is formed from a single growth sector, or has a thickness exceeding 100 μm , or has a volume exceeding 1 mm^3 , or a combination of such characteristics.

Application

US6794014: Gemstone

Applicant: Winter CVD Technik GmbH

Publication: 21/09/2004

Filed: 29/07/1999

Contents: A gemstone is provided and has a large surface-area, plate-shaped support having a surface with least one pyramid-shaped depression. A thin vapor phase deposit layer comprises a thin, surface-shaped precious synthetic gemstone layer

WTOCD

disposed on the large surface-area, plate-shaped support and has an upper surface facing away from the plate-shaped support and an underside having at least one pyramid-shaped projection disposed in and coinciding with the pyramid-shaped depression of the support. Side faces of the pyramid-shaped projections of the underside of the vapor phase deposit layer upon the plate-shaped support impart decorative, diamond-light-reflective qualities to the synthetic gemstone layer.

Granted

US6795171: Device for judging symmetry, brightness, and efficiency of light return in precious stones

Applicant: EightStar Diamond Company, Inc.

Publication: 21/09/2004

Filed: 31/08/2000

Contents: The invention is a multicolored reflecting surface that can be mounted beneath a lens for facilitating the grading of a gemstone's brightness and symmetry. The multicolored reflective surface may be a disc that has an opening or aperture surrounded by multicolored concentric rings through which the gemstone is viewed on the object side of the lens. Alternatively, the multicolored reflective surface may be a cylinder formed of multicolored bands through which the gemstone is viewed. Light reflecting from the multicolored rings or bands creates specific colors on the gemstone that allow symmetry and brightness of the stone to be evaluated.

Granted

US6795744: Method and apparatus for jewelry design

Applicant: Harry Winston Inc.

Publication: 21/09/2004

Filed: 18/09/2002

Contents: The present invention utilizes a computer program to size and orient one or more feature items on a jewelry design having a feature path. Typically feature paths are necklines, wristbands, broaches or rings. A feature item is a gemstone, set of gemstones or metal designs such as a cross, circle or other artful shape. The program and computer system of the present invention selects a feature path, detects a starting location on the feature path and then orients a first feature item in three dimensions on this feature path with respect to a three dimensional surface representing the jewelry wearer. Orienting the feature item in three dimensions is critical so that the feature item is properly displayed on the jewelry when the jewelry is worn. Once the initial feature item has been oriented, subsequent feature items are automatically placed on the feature path, sized with respect to the initial feature item and oriented with respect to both the initial feature item and the three dimensional surface. This automatic sizing and orientation of subsequent feature items quickly creates a complete jewelry design.

Granted

US20040182308A1: Thick single crystal diamond layer method for making it and gemstones produced from the layer

Applicant: DE BEERS INDUSTRIAL DIAMONDS (PROPRIETARY) LIMITED

Publication: 23/09/2004

Filed: 19/12/2003

Contents: This invention relates to diamond and more particularly to diamond produced by chemical vapour deposition (hereinafter referred to as CVD). According to a first aspect of the invention, there is provided a layer of single crystal CVD diamond of high quality having a thickness of at least 2 mm.

Application

WTOCD

EP1455616A1: COLLET FOR PRECIOUS STONES

Applicant: Stilnovo S.r.l

Publication: 15/09/2004

Filed: 26/11/2002

Contents: Collet system for embedding and clamping precious and non-precious stones on a support to create a jewel where the stone is mounted, is formed from straight or round polygonal contour with number of grooved projections.

Application

WO04076058A1: METHOD OF ENCAPSULATING MATERIAL FROM HUMANS OR ANIMALS IN A NATURAL GEMSTONE AND ITS PRODUCT

Applicant: 1061803 ALBERTA LTD.

Publication: 10/09/2004

Filed: 25/04/2004

Contents: A method of creating a diamond includes the steps of creating entry points and internal passages in a natural or synthetic diamond, infiltrating a mixture comprising ashes produced from living human and animal parts or deceased human or animal parts into the diamond, and crystallizing the mixture. The diamond may then be repolished or refaceted. The invention also includes diamonds having discrete internal portions comprising ashes made from living human and animal parts, which internal portion are substantially transparent and which have an index refraction substantially matching that of the diamond.

Application

JP2004148023A2: IMPROVED QUADRILATERAL BRILLIANT CUT FOR DIAMOND

Applicant: HOHOEMI BRAINS INC

Publication: 27/05/2004

Filed: 01/11/2002

Contents: In this quadrilateral brilliant cut for diamond, each of the bezel facets on the 4 crown apices is bent on diagonals parallel to a girdle and has a facet structure divided into an upper bezel facet and a lower bezel facet. Because the upper crown angle of the upper bezel facet can be smaller than that of the lower bezel facet, the angles of the star facet having a strong reflection and a second bezel facet to the horizontal line can be reduced. The area can be enlarged by slightly reducing the table facet for even if the crown height is the same. With this cut, the reflection pattern becomes a visually-preferred equally-sized pattern. This effect and the effect of enlarging the areas of the star facet and the second bezel facet make the reflection extremely large.

Application

US6788714: Laser marking system and method

Applicant: none

Publication: 07/09/2004

Filed: 04/10/2002

Contents: Diamonds are marked by a laser beam having a characteristic that is changeable by positioning a selected aperture in the beam within a resonant cavity of a laser source. Guidelines are positioned in advance on the diamonds, and the marking is subsequently performed between the guidelines.

Granted

US20040175499A1: Coloured diamond

Applicant: none

Publication: 09/09/2004

WTOCD

Filed: 05/09/2003

Contents: A method of producing a single crystal CVD diamond of a desired colour which includes the steps of providing single crystal CVD diamond which is coloured and heat treating the diamond under conditions suitable to produce the desired colour. Colours which may be produced are, for example, in the pink-green range.

Application

US6788411: Method and apparatus for adjusting illumination angle

Applicant: PPT Vision, Inc.

Publication: 07/09/2004

Filed: 10/07/2000

Contents: In a machine-vision system for inspecting a part or either object, the invention provides a method and apparatus providing illumination with high-speed changing and/or automatic adjustment of not only the illumination's angle, but also the dispersion, intensity, and/or color. Optionally, a light source emits polarized light, a machine-vision imager obtains an image, and a processor receives the image and generates a quality parameter based on the image. One or more of the various means described selectively direct the light in a predetermined pattern based on its polarization and based on the quality parameter of the image. A machine-vision method includes setting one or more illumination parameters, illuminating the object based on the one or more illumination parameters, obtaining an image of the illuminated object, generating a quality parameter based on an image quality of a predetermined region of interest in the image, and iterating using a different illumination parameter.

Granted

US6786733: Computer-implemented method of and system for teaching an untrained observer to evaluate a gemstone

Applicant: Overseas Diamonds Inc.

Publication: 07/09/2004

Filed: 15/10/2002

Contents: A computer-implemented method teaches a user to evaluate a gemstone, such as a cut diamond. The method includes providing a computer system connected to an apparatus capable of capturing an image of a gemstone. The computer system is arranged to process a received image of a gemstone to determine one or more optical properties of the gemstone. In one aspect, the method presents on a display of the computer system a series of pre-stored screens comprising a graphical representation how the cut of a gemstone affects its light handling ability, and a user interface screen. The user interface screen allows the user to control the operation of the apparatus to measure the one or more optical properties of a particular gemstone provided to the apparatus, to view an image of the gemstone measured, and to view representations of the measured one or more optical properties.

Granted

EP1454553A1: Gemstone formation

Applicant: D. Swarovski & Co.

Publication: 08/09/2004

Filed: 09/02/2004

Contents: Schmucksteinformation mit einer Vielzahl von Schmucksteinen, wobei die Schmucksteine teilweise in eine Silikonschicht eingebettet sind.

Application

GB2383997B2: High temperature/high pressure colour change of diamond

Applicant: ELEMENT SIX

WTOCD

Publication: 25/08/2004

Filed: 02/04/2001

Contents: Changing of grey type IIb diamond from grey to blue or enhancing the color of type IIb diamond by creating reaction mass, and subjecting the reaction mass to specified temperature and pressure.

Granted

GB2378945B2: High temperature/high pressure colour change of diamond

Applicant: ELEMENT SIX

Publication: 25/08/2004

Filed: 02/04/2001

Contents: Changing the color of brown type IIa diamond from brown to pink involves creating reaction mass by providing diamond in pressure transmitting medium, and subjecting the reaction mass to specified temperature and pressure.

Granted

GB2378944B2: High temperature/high pressure colour change of diamond

Applicant: ELEMENT SIX

Publication: 25/08/2004

Filed: 02/04/2001

Contents: Changing the color of brown type IIa diamond from brown to colorless involves creating reaction mass by providing diamond in pressure transmitting medium, and subjecting the reaction mass to specified temperature and pressure.

Granted

WO2004071735: DIAMOND CUTTING METHOD AND DIAMOND PROVIDED BY THE METHOD

Applicant: AOYAGI TAKESHI (JP); TOKYO SHINZYU CO LTD (JP)

Publication: 26/08/2004

Filed: 12/02/2004

Priority: 13/02/2003

Contents: A diamond cutting method, comprising the steps of forming five pavilion main facets so that a position on a diamond displaced by approx. 15 from the ridge line of crystal shapes on the pavilion forming side of the diamond becomes the ridge line of the pavilion main facets and, in reference with the main facets, forming ten pavilion main facets. The ten pavilion main facets are formed on the pavilion side of the diamond about an acute-angled curette, and twenty lower girdle facets are formed therebetween.

Application

JP2004086828A2: BUSINESS MODEL FOR QUALITY CERTIFICATION AND ANTITHEFT SYSTEM FOR JEWEL

Applicant: OUCHI KAZUMI

Publication: 18/03/2004

Filed: 27/08/2002

Contents: Marks (bar code, 2-dimensional bar code, own fingerprint, and the like) are incused on a surface of a diamond by a laser beam. The marks incused on each of the diamonds enable quality, polishing completion data and the legitimate owner to be searched on line by reading the marks with a mark reader when required.

Application

EP1140413B1: CUTTING OF ULTRA-HARD MATERIALS

Applicant: ELEMENT SIX (PTY) LTD

Publication: 18/08/2004

WTOCD

Filed: 21/12/1999

Priority: 22/12/1998

Contents: A method of cutting an ultra-hard material including the step of using a laser beam to effect the cut; characterised in that the laser beam is a slab laser beam.
Granted

EP1392139A4: FACETED MIXED CUT GEMSTONE FOR CONTROLLED BRILLIANCE

Applicant: MARDKHA, JOSEPH

Publication: 18/08/2004

Filed: 18/01/2002

Contents: A mixed cut gemstone having a crown with a girdle break, a table break and a table. The table break is cut with triangular shaped facets and the girdle break is cut with triangular and quadrilaterally shaped facets. The pavilion has a width and length formed by two pairs of opposing pavilion sides and four pavilion corners. The pavilion is composed of four steps including: a first step descending from said girdle to a first step facet junction, a second step descending from the first step facet junction to a second step facet junction, a third step descending from the second step facet junction to a third step facet junction, and a fourth step descending from the third step facet junction to a culet. This mixed cut gemstone enables the appreciation of the desirable characteristics of a diamond in ways that prior art cuts do not allow.
Application

US20040159641A1: Laser marking system

Applicant: none

Publication: 19/08/2004

Filed: 26/01/2004

Contents: A laser energy microinscribing system, comprising a semiconductor excited Q-switched solid state laser energy source; a cut gemstone mounting system, allowing optical access to a mounted workpiece; an optical system for focusing laser energy from the laser energy source onto a cut gemstone; a displaceable stage for moving said gemstone mounting system with respect to said optical system so that said focused laser energy is presented to desired positions on said gemstone, having a control input; an imaging system for viewing the gemstone from a plurality of vantage points; and a rigid frame supporting said laser, said optical system and said stage in fixed relation, to resist differential movements of said laser, said optical system and said stage and increase immunity to vibrational misalignments. The laser energy source is preferably a semiconductor diode excited Q-switched Nd:YLF laser with a harmonic converter having an output of about 530 nm.

Remarks: is a continuation of US2002000237329 2002-09-06 (granted)
US6684663 issued 2004-02-03 Microinscribed gemstone

Application

US6782715: Gemstone arrangement

Applicant: none

Publication: 31/08/2004

Filed: 01/11/2002

Contents: A gemstone arrangement is described including a primary gem and at least one complementary gem. The primary gem includes a crown and a pavilion. The pavilion has an external wall defining an outer surface. The complementary gem has a crown defining a table. The table is in juxtaposition to and aligned with the pavilion wall for the maximum passage of ambient light from the complementary gem into the primary gem to enhance its visual appearance. In addition, the complemen-

WTOCD

tary gem can be positioned and aligned to receive light losses from a primary gem and return those light losses through the crown of the complementary gem.
Granted

W004066894A1: MARKING OF DIAMOND

Applicant: ELEMENT SIX LIMITED; KEMP, Mark

Publication: 12/08/2004

Filed: 29/01/2004

Contents: A method of marking or colouring a diamond article, such as a surgical blade, wire die, diamond anvil, laser window, or the like, to generate a reference mark which may subsequently be modified, reduced or removed by an annealing technique. The method of colouring uses particles such as electrons, ions, neutrons, or gammas, which are preferably of high energy, and preferably in the form of a controlled beam. The treatment is such that the particles or beam used in the treatment cause local damage or defect centres in the material, such defect centres then generating the desired colour or mark.

Application

USD494496: Gem crown

Applicant: Dynamic Diamond Corp.

Publication: 17/08/2004

Filed: 09/10/2003

Contents: Design. Rounded rectangular.

Remarks: Partial design

USD494497: Gem crown

Applicant: Dynamic Diamond Corp.

Publication: 17/08/2004

Filed: 09/10/2003

Contents: Design. Cushion.

Remarks: Partial design

USD494498: Gem pavilion

Applicant: Dynamic Diamond Corp.

Publication: 17/08/2004

Filed: 09/10/2003

Contents: Design. Rounded rectangular.

Remarks: Partial design

USD494499: Gem pavilion

Applicant: Dynamic Diamond Corp.

Publication: 17/08/2004

Filed: 09/10/2003

Contents: Design. Rounded rectangular.

Remarks: Partial design

USD493744: Precious stone

Applicant: none

Publication: 03/08/2004

Filed: 17/04/2003

Contents: Design. Octagonal shape.

Granted

USD493745: Pear-shaped faceted gemstone crown

WTOCD

Applicant: none
Publication: 03/08/2004
Filed: 12/11/2003
Contents: Design. Pear shape.
Remarks: Partial design
Granted

USD493742: Gem pavilion

Applicant: Dynamic Diamond Corp.
Publication: 03/08/2004
Filed: 09/10/2003
Contents: Design. Rounded rectangular.
Remarks: Partial design
Granted

USD493743: Gem pavilion

Applicant: Dynamic Diamond Corp.
Publication: 03/08/2004
Filed: 09/10/2003
Contents: Design. Rounded rectangular.
Remarks: Partial design
Granted

USD494083: RB2-73 round cut precious stone design

Applicant: Rosy Blue N.V.
Publication: 10/08/2004
Filed: 20/03/2003
Contents: Design. Round.
Granted

USD494094: Precious stone

Applicant: Nippon Star, naamloze vennootschap
Publication: 10/08/2004
Filed: 07/11/2003
Contents: Design. Round.
Granted

USD494085: Tulip stone

Applicant: none
Publication: 10/08/2004
Filed: 10/07/2003
Contents: Design.
Granted

USD494086: Gem crown

Applicant: Dynamic Diamond Corp.
Publication: 10/08/2004
Filed: 09/10/2003
Contents: Design.
Remarks: Partial design. Cushion crown.

USD494087: Gem crown

Applicant: Dynamic Diamond Corp.
Publication: 10/08/2004

WTOCD

Filed: 09/10/2003
Contents: Design.
Remarks: Partial design. Cushion crown.

USD494088: Gem pavilion

Applicant: Dynamic Diamond Corp.
Publication: 10/08/2004
Filed: 09/10/2003
Contents: Design.
Remarks: Partial design. Cushion pavilion.

USD494089: Gem crown

Applicant: Dynamic Diamond Corp.
Publication: 10/08/2004
Filed: 09/10/2003
Contents: Design.
Remarks: Partial design. Rounded rectangular.

USD494090: Gem pavilion

Applicant: Dynamic Diamond Corp.
Publication: 10/08/2004
Filed: 09/10/2003
Contents: Design.
Remarks: Partial design. Rounded square.

USD494091: Gem pavilion

Applicant: Dynamic Diamond Corp.
Publication: 10/08/2004
Filed: 09/10/2003
Contents: Design.
Remarks: Partial design. Cushion pavilion.

USD494092: Gem pavilion

Applicant: Dynamic Diamond Corp.
Publication: 10/08/2004
Filed: 09/10/2003
Contents: Design.
Remarks: Partial design. Cushion.

USD494093: Gem pavilion

Applicant: Dynamic Diamond Corp.
Publication: 10/08/2004
Filed: 08/10/2003
Contents: Design.
Remarks: Partial design. Rectangular cushion.

USD492910: Diamond

Applicant: My Diamond Place Ltd.
Publication: 13/07/2004
Filed: 07/07/2003
Contents: Design. Round brilliant derivative
Granted

USD493119: Gemstone

WTOCD

Applicant: Star Diamond Group, Inc.
Publication: 20/07/2004
Filed: 31/01/2003
Contents: Design. Round brilliant derivative
Granted

USD493120: Twelve point round cut precious stone

Applicant: Rosy Blue N.V.
Publication: 20/07/2004
Filed: 11/04/2003
Contents: Design. Round brilliant derivative
Granted

USD493381: Five petal flower gemstone

Applicant: Rosy Blue N.V.
Publication: 20/07/2004
Filed: 11/07/2003
Contents: Design. 5 petal flower shape.
Granted

USD493382: Gemstone

Applicant: K.P. Sanghvi & Sons
Publication: 20/07/2004
Filed: 03/09/2003
Contents: Design. Hexagonal cut.
Granted

USD493383: Gemstone

Applicant: Astra-Diamond Manufacturers Ltd.
Publication: 20/07/2004
Filed: 24/10/2003
Contents: Design. Hexagonal cut.
Granted

USD492614: Gemstone

Applicant: A. Dalumi Diamonds Ltd.
Publication: 06/07/2004
Filed: 07/07/2003
Contents: Design. Hexagonal cut.
Published

US6761044: Gemstone cut

Applicant: Premier Gem Corp
Publication: 13/07/2004
Filed: 11/04/2002
Contents: A novel gemstone cut comprising a crown, a girdle, and a pavilion, wherein the gemstone includes precious gemstones (such as diamonds) and semi-precious gemstones. The crown includes an octagonal table, which is surrounded by eight triangular star facets. Eight table bezels are disposed in-between the star facets and eight mid-bezels are disposed in-between the table bezels. Furthermore, the gemstone's pavilion has eight concentrically arranged culet pavilion facets, a girdle pavilion facet and a bottom small break facet that are disposed in-between the culet pavilion facets. The gemstone's girdle has eight left top half facets and eight right top half facets (located in-between the girdle bezels of the crown), and eight left bot-

WTOCD

tom half facets and eight right bottom half facets (disposed in-between the girdle pavilion facets and bottom small break facets).

Granted

US6766658: Segmented jewelry item

Applicant: Adipaz, Ltd.

Publication: 27/07/2004

Filed: 16/11/2002

Contents: A gem setting for use with a ring or other jewelry item with internal divisions having pluralities of stones in each division. Each division houses a different type or color of stone, such that the groupings of similar stones are preferably restricted to a particular region on the jewelry face. The divisions may take the form of a variety of shapes and geometric configurations.

Granted

US20040134415A1: High pressure/high temperature apparatus with improved temperature control for crystal growth

Applicant: General Electric Company

Publication: 15/07/2004

Filed: 31/10/2003

Contents: A high temperature/high pressure (HP/HT) apparatus for converting feed-stock housed in a capsule into product crystals, comprising at least two electrical heating paths for independent control of both the mean temperature in the reaction cell and the temperature gradient across the reaction cell.

Application

US20040141320A1: Method and apparatus for object viewing, observation, inspection, identification, and verification

Applicant: none

Publication: 22/07/2004

Filed: 12/01/2004

Contents: In an object verifier having a housing and an object holder, an object may be placed in the object holder for observation by an operator. The object is illuminated using a collimated beam of white light that is generated by a light generator. The collimated beam of white light is passed through a beam splitter with the two portions of the collimated beam of white light presented to the object at a 90 degree angle one from the other. The interior of the housing includes a reflective surface for maximal illumination of the object. The observer may view the illuminated object through a viewing window and/or through a magnification window. The magnification window provides for the viewing of the object in greater detail.

Application

US20040144761A1: Gemstone marking system and method

Applicant: none

Publication: 29/07/2004

Filed: 15/01/2004

Contents: Diamonds are marked by applying apertured stencils bearing identifying indicia to the girdles, applying a fusible coating material over the apertured stencils, and then heating the coating material to fuse the material on the girdles. The stencils can be eliminated, and the indicia can be formed by directing a source of radiant energy at the coating material, and by moving the source and/or the girdle relative to each other.

Remarks: This application claims the benefit of U.S. Provisional Application Serial No. 60/219,475, filed Jul. 20, 2000.

WTOCD

Application

US20040146451A1: High pressure/high temperature production of colorless and fancy-colored diamonds

Applicant: General Electric Co.; Lazare Kaplan International, Inc.

Publication: 29/07/2004

Filed: 15/12/2003

Contents: The present invention is directed to a method for changing the color of colored natural diamonds. The method includes placing a discolored natural diamond in a pressure-transmitting medium which is consolidated into a pill. See also WO04060548A2.

Remarks: This application claims benefit under 35 U.S.C. § 120 to U.S. application Ser. No. 09/162,206, filed Sep. 28, 1998, and U.S. application Ser. No. 08/966,642, filed Nov. 10, 1997, which is a continuation-in-part of and U.S. application Ser. No. 08/953,701, filed Oct. 17, 1997, all of which are herein incorporated by reference in their entirety.

Application

EP1110472B1: Cut gemstone, especially cut diamond

Applicant: MONTBLANC-SIMPLO GmbH

Publication: 28/07/2004

Filed: 25/11/2000

Contents: Cut gem constituted of diamond or a stone having at least a ternary crystallographic axis of symmetry and an index of refraction and a dispersion substantially equal to those of diamond, comprising a first predetermined number of facets cut in the crown and a second predetermined number of facets cut in the pavilion about a central geometric axis of symmetry, said crown facets and pavilion facets being disposed about said central geometric axis of symmetry in a substantially hexagonal arrangement, characterized by the fact that the girdle separating the crown and the pavilion has a contour of lobed shape with six rounded projecting portions and six rounded hollow portions and by the fact that said central geometric axis of symmetry corresponds to a ternary crystallographic axis of symmetry of the gem.
Granted

WO04063430A1: HIGH-SPEED DIAMOND GROWTH USING A MICROWAVE PLASMA IN PULSED MODE

Applicant: CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE-CNRS; UNIVERSITE PARIS NORD (PARIS XIII) INSTITUT GALILEE

Publication: 29/07/2004

Filed: 18/06/2003

Contents: Method for manufacturing a diamond film of electronic quality at a high rate using a pulsed microwave plasma, in which, in a vacuum chamber, a plasma of finite volume is formed near a substrate by subjecting a gas containing at least hydrogen and carbon to a pulsed discharge, which has a succession of low-power states and of high-power states, and having a peak absorbed power P_c , so as to obtain at least carbon-containing radicals in the plasma and to deposit the said carbon-containing radicals on the substrate in order to form a diamond film thereon.

Application

WTOCD

US6752294: Device for mounting an item

Applicant: L'Oreal, SA
Publication: 22/06/2004
Filed: 10/08/2001

Contents: The invention relates generally to a mounting device and, more particularly, to a device for mounting an item, for example, an ornamental object, such as a natural or synthetic stone or the like.

Granted

EP1321063A3: Wax pattern, process for setting precious and non-precious stones and jewel obtained

Applicant: High Prototyping S.a.s.
Publication: 23/06/2004
Filed: 18/12/2002

Contents: The invention is a new wax pattern for the production of jewels set with stones, provided with protrusions to create the stone seats, wherein said protrusions have inclined side walls and the top side shorter than the base. According to the process adopted to set stones on wax patterns with protrusions, each stone is pressed into its seat and deforms the inclined walls of said protrusions, creating recesses that have exactly the same size as the edge of the stone itself.

Application

USD491836: Gem stone

Applicant: Delta Diamonds Ltd.
Publication: 22/06/2004
Filed: 26/09/2002

Contents: Design. Octagonal brilliant.

Granted

USD491837: Diamond

Applicant: M. Fabrikant & Sons, Inc.
Publication: 22/06/2004
Filed: 30/06/2003

Contents: Design. Cut cornered mixed cut square.

Granted

US20040112087A1: Method and article of manufacture for identifying and tracking rough gemstones

Applicant: none
Publication: 17/06/2004
Filed: 10/11/2003

Contents: A method, system, and article of manufacture for marking and identifying gemstones, mined materials or objects, precious metals, or other similar valuable materials by encasing selected gemstones within removable casing. Identifiers may be included within the casing or actually branded directly onto mined objects. The identifier may be a chemical composition of the casing, a tag, logo, or similar mark, or an encoded identifier such as a bar-code, matrix, or data glyph. Information within the identifiers provide different types of information including information relating to the origin, identify, chain of possession, and owner of the gemstone.

Application

WTOCD

US20040115116A1: Method for creating diamond

Applicant: Hokkaido University

Publication: 17/06/2004

Filed: 04/09/2003

Contents: An organic chemical made of acetamide, urea and the like is mixed with water to form a mixture thereof, which is heated to form a given reacted sample. In order to remove water and volatile organic matters, the reacted sample is frozen and dried, and then, heated under vacuum condition to create diamond.

Application

USD491093: Round cut stone design

Applicant: Rosy Blue, N.V.

Publication: 08/06/2004

Filed: 31/12/2002

Priority: 19/06/2002

Contents: The ornamental design for a round cut stone design

USD491094: Marquise cut stone design

Applicant: Rosy Blue, N.V.

Publication: 08/06/2004

Filed: 02/01/2003

Contents: The ornamental design for a marquise cut stone design

US6745596: Princess cut diamond

Applicant: Samuel Aaron, Inc.

Publication: 08/06/2004

Filed: 31/05/2003

Contents: A princess cut gemstone having a pavilion, a girdle, and a crown. In the presently preferred embodiment, the princess cut gemstone is a diamond with 101 facets: a pavilion of 64 facets, a girdle of 4 facets, and a crown with 33 facets (including the table).

Remark: This application claims priority from U.S. Provisional Patent Application Serial No. 60/294,895 which was filed on May 31, 2001.

Granted

US6747242: Gemstone marking system and method

Applicant: none

Publication: 08/06/2004

Filed: 28/01/2003

Contents: Diamonds are marked by applying apertured stencils bearing identifying indicia to the girdles, applying a fusible coating material over the apertured stencils, and then heating the coating material to fuse the material on the girdles. The stencils can be eliminated, and the indicia can be formed by directing a source of radiant energy at the coating material, and by moving the source and/or the girdle relative to each other.

Granted

WO04046427A1: OPTICAL QUALITY DIAMOND MATERIAL

Applicant: ELEMENT SIX LIMITED

Publication: 03/06/2004

Filed: 20/11/2003

Priority: 21/11/2001

Contents: A CVD single crystal diamond material suitable for use in, or as, an optical device or element. It is suitable for use in a wide range of optical applications such

WTOCD

as, for example, optical windows, laser windows, optical reflectors, optical refractors and gratings, and etalons. The CVD diamond material is produced by a CVD method in the presence of a controlled low level of nitrogen to control the development of crystal defects and thus achieve a diamond material having key characteristics for optical applications.

Application

BE1014912: MARQUAGE DE DIAMANTS AU LASER

Applicant: SARIN TECHNOLOGIES LTD

Publication: 01/06/2004

Filed: 14/06/2001

Priority: 08/09/2000

Contents: Fixation de marquage de diamants comprenant un laser, pour un appareil de cartographie de diamant en trois dimensions et procédé de marquage au laser de la surface d'un diamant par l'intermédiaire d'un matériau qui est capable d'interagir avec le faisceau laser soit de telle sorte que ce matériau soit changé de manière permanente et se transforme en une marque carbonisée qui adhère à la surface du diamant, soit de telle sorte qu'une marque permanente soit gravée dans la surface du diamant à travers le matériau.

Granted

USD490340: Pear cut diamond

Applicant: Nelson Jewellery Arts Company Ltd.

Publication: 25/05/2004

Filed: 03/01/2003

Contents: Design. Polygonal pear shape.

Granted

WO04041019A1: GEMSTONE ARRANGEMENT

Applicant: RUTH, Gregg

Publication: 21/05/2004

Filed: 31/10/2003

Priority: 01/11/02

Contents: A gemstone arrangement is described including a primary gem and at least one complementary gem. The primary gem includes a crown and a pavilion. The pavilion has an external wall defining an outer surface. The complementary gem has a crown defining a table. The table is in juxtaposition to and aligned with the pavilion wall for the maximum passage of ambient light from the complementary gem into the primary gem to enhance its visual appearance. In addition, the complementary gem can be positioned and aligned to receive light losses from the primary gem and return those light losses through the crown of the complementary gem to the primary gem.

Application

USD490741: Gemstone

Applicant: none

Publication: 01/06/2004

Filed: 30/01/2003

Contents: Design. Cut cornered square.

Granted

USD490742: Diamond cut

Applicant: Tycoon

Publication: 01/06/2004

WTOCD

Filed: 21/07/2003
Contents: Design. Cut cornered square step cut.
Granted

USD490743: Diamond

Applicant: K. R. Gems & Diamonds International
Publication: 01/06/2004
Filed: 18/06/2003
Contents: Design. Round.
Granted

USD489638: Diamond

Applicant: K.R. Gems & Diamonds International
Publication: 11/05/2004
Filed: 21/04/2003
Contents: Design. Round.
Granted

USD490014: High faceted precious stone design V (RB1-73)

Applicant: Rosy Blue N.V.
Publication: 18/05/2004
Filed: 12/03/2002
Contents: Design. Round.
Granted

RU2223547: METHOD FOR EVALUATING DIAMOND BALANCE FACTOR

Applicant: none
Publication: 10/02/2004
Filed: 06/05/2002
Contents: The method depends on superposition of electronic image of diamond being analyzed onto image of virtual diamond; mismatch between images of investigated and virtual diamonds is presented in same color and diamond image area, in different color; then diamond balance factor is evaluated by percentage of mismatch surface areas and diamond image area.

USD490082: Apparatus for testing and viewing jewelry

Applicant: Overseas Diamonds N.V.
Publication: 18/05/2004
Filed: 14/05/2002
Contents: The ornamental design for an apparatus for testing and viewing jewelry, as shown and described.
Granted

EPO805965B1: GEMSTONE EVALUATION SYSTEM

Applicant: UGTS, INC.
Publication: 06/05/2004
Filed: 23/01/1996
Contents: The invention relates to evaluation of gemstones and other transparent specimens and in particular to color grading of gemstones. The device utilizes a band pass filter which transmits light through lenses onto the detector array to obtain the spectral response of a complete image. The gemstone is illuminated with annular light ring, which receives light from a light source located in the right half compartment, in a way that provides for analysis of both reflected and transmitted light. The

WTOCD

device utilizes multiple lighting angles to construct a composite image that is used to perform the grading of the gemstones.

Granted

EP1414770A2: A PROCESS FOR CONVERTING A METAL CARBIDE TO DIAMOND BY ETCHING IN HALOGENS

Applicant: THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS

Publication: 06/05/2004

Filed: 04/04/2002

Contents: A process for the synthesis of carbon coatings on the surface of metal carbides, preferably SiC, by etching in a halogen-containing gaseous etchant, and optionally hydrogen gas, leading to the formation of a carbon layer on the metal carbide. The reaction is performed in gas mixtures containing 0 to two moles of hydrogen for every two moles of halogen gas, preferably about 0.5 to one mole of hydrogen gas for every two moles of halogen gas, at temperatures from about 100 DEG C to about 4,000 DEG C, preferably about 800 DEG C to about 1,000 DEG C, over any time range, maintaining a pressure of preferably about one atmosphere.

Application

EP1415022A1: SYSTEM AND METHOD FOR PRODUCING SYNTHETIC DIAMOND

Applicant: Apollo Diamond, Inc.

Publication: 06/05/2004

Filed: 08/08/2001

Contents: Synthetic monocrystalline diamond compositions having one or more monocrystalline diamond layers formed by chemical vapor deposition, the layers including one or more layer having an increased concentration of one or more impurities (such as boron and/or isotopes of carbon), as compared to other layers or comparable layers without such impurities. Such compositions provide an improved combination of properties, including color, strength, velocity of sound, electrical conductivity, and control of defects. A related method for preparing such a composition is also described, as well as a system for use in performing such a method, and articles incorporating such a composition.

Application

US20040089642A1: Method and system for laser marking a gemstone

Applicant: none

Publication: 13/05/2004

Filed: 05/11/2003

Contents: A system for laser marking a gemstone is provided. A pulsed laser generates a laser pulse which is then directed towards a focusing element through optical means. Lens focuses the laser pulse into focused pulse. The focused pulse is projected onto a surface of gemstone which is mounted in fixture. A computer control system allows a user to input and control a predetermined path of displacement between the gemstone and the focused laser pulse.

Application

US20040083757A1: Gemstone arrangement

Applicant: none

Publication: 06/05/2004

Filed: 01/11/2002

Contents: A gemstone arrangement is described including a primary gem and at least one complementary gem. The primary gem includes a crown and a pavilion. The pavilion has an external wall defining an outer surface. The complementary gem

WTOCD

has a crown defining a table. The table is in juxtaposition to and aligned with the pavilion wall for the maximum passage of ambient light from the complementary gem into the primary gem to enhance its visual appearance. In addition, the complementary gem can be positioned and aligned to receive light losses from the primary gem and return those light losses through the crown of the complementary gem to the primary gem.

Application

US20040084152A1: Apparatus for large-scale diamond polishing

Applicant: none

Publication: 06/05/2004

Filed: 19/09/2003

Contents: An apparatus for the polishing of diamond surfaces, wherein the diamond surface is subjected to plasma-enhanced chemical etching using atomic oxygen polishing plasma source, is presented. In the apparatus, a magnetic filter passes a plume of high-density, low-energy, atomic oxygen plasma. The plasma is capable of uniformly polishing diamond surfaces utilizing low energy atomic oxygen ions to chemically etch a diamond surface at moderate temperatures.

Application

US20040086691A1: Rectangular brilliant-cut diamond

Applicant: none

Publication: 06/05/2004

Filed: 09/10/2003

Contents: A diamond is provided which is subjected to an improved rectangular brilliant-cut producing a facet configuration having an optimal shape for the purpose of increasing the visual-perceptible reflection ray amount. In the rectangular brilliant-cut diamond, the bezel facets at the four crown vertexes each is bent along the diagonal line parallel to the girdle, to yield the facet configuration in which the bezel facet is divided into the lower bezel facet and the upper bezel facet. The upper crown angle of an upper bezel facet can be made smaller than the crown angle of a lower bezel facet, and hence even without altering the crown height, by making the table facet slightly smaller, the tilt angles from the horizontal of the star facets and the second bezel facets, both provided with intense reflection, can be made small and the areas thereof can be made large. Thus, the reflection patterns become all alike in size in a manner preferable for the visual perception, and making the star facets and the second bezel facets have small tilt angles from the horizontal permits making the reflection extremely intense in cooperation with enlargement of the areas of the star facets and the second bezel facets.

Application

US20040083759A1: Coatings for gemstones and other decorative objects

Applicant: none

Publication: 06/05/2004

Filed: 04/11/2002

Contents: The invention provides a decorative object comprising a transparent or translucent substrate having a body and at least one surface bearing a thin film coating. The coating imparts in the substrate a body color that appears substantially constant at different angles of observation. This body color is imparted in the substrate at least in part by absorption of visible radiation that is transmitted through said coating. The coating includes a high absorption layer comprising film that is highly absorptive of visible radiation. Also provided are methods of coating gems and other decorative objects, as well as methods of heat treating coated gems and other decorative objects.

WTOCD

Application

WO04035264A1: A DISCRETE ANGLE ADJUSTMENT MECHANISM FOR A TANG

Applicant: EFD DIAMOND MANUFACTURERS AND EXPORTERS LTD.

Publication: 29/04/2004

Filed: 17/10/2002

Contents: A tang enabling simple, consistent and accurate adjustment and readjustment of the angle of a diamond during the polishing and faceting process thereof. The tang comprises an elongated body to which is attached a discrete angle adjustable device adapted for holding a diamond dop. The discrete angle adjustable device comprises two orthogonally arranged rotatable mechanisms, each of which is formed with a pattern of radially extending grooves on an outer face, for insertion therein of an engagement device. Upon rotation of each rotatable mechanism, insertion of the appropriate engagement device within the grooves is accompanied by an audible click. The precise angular adjustment of the device may therefore be calculated by counting the number of clicks, where the precise angular difference between adjacent grooves is known. The discrete angular adjustment device may be used in conjunction with a continuous angle adjustment device to enable continuous angular adjustment of the dop.

Application

USD488740: Precious stone design

Applicant: Kronfeld-Freund Diamonds, Ltd.

Publication: 20/04/2004

Filed: 08/04/2002

Contents: Design. Round 16 symmetry.

Granted

EP1319942B1: Apparatus for generating data for determining a property of a gemstone and methods for determining a property of a gemstone

Applicant: Overseas Diamonds N.V.

Publication: 28/04/2004

Filed: 13/12/2001

Contents: An apparatus for generating data for use in determining a property of a gemstone, such as a cut diamond, the apparatus comprising: a support structure for supporting a gemstone placed at an observation position, the support structure being arranged such that, if the gemstone has an axis of symmetry, the gemstone is supportable such that the axis of symmetry is parallel to an axis X passing through the observation position; illumination means arranged to illuminate a gemstone so placed with a spatially varied light pattern; rotation means arranged to cause relative rotation between the light pattern and the support structure generally about the axis X; a camera arranged to capture, at each of a plurality of rotational positions, an image of light returned by the gemstone and to output said images as image data.

Granted

USD489283: Princess cut diamond

Applicant: Samuel Aaron, Inc.

Publication: 04/05/2004

Filed: 31/05/2002

Contents: Design

Application

USD489284: Diamond--121

Applicant: M. Fabrikant & Sons, Inc.

WTOCD

Publication: 04/05/2004
Filed: 25/09/2002
Priority: 11/06/2002
Contents: Design
Application

WO04035197A1: BORON DOPED BLUE DIAMOND AND ITS PRODUCTION

Applicant: GENERAL ELECTRIC COMPANY

Publication: 29/04/2004

Filed: 16/10/2002

Contents: A method for synthesizing boron doped diamond for improving the oxidation resistance of said diamond crystals includes forming a fully dense core (mixture) of graphite, catalyst/solvent metals, optional diamond seed crystals, and a source of boron. This mixture is subjected to diamond-formed high pressure/high temperature (HP/HT) conditions for a time adequate for forming diamond. The thus-formed diamond product is recovered to contain boron substituted into the diamond structure. The fully dense core is substantially devoid of air / nitrogen (N) content.

Application

WO04035261A1: FINE-TUNABLE TANG FOR POLISHING AND FACETING SMALL DIAMONDS

Applicant: EFD DIAMOND MANUFACTURERS AND EXPORTERS LTD.

Publication: 29/04/2004

Filed: 17/10/2002

Contents: A fine-tunable tang for use in the process of shaping of small diamonds that facilitates performing slight changes in the angle of a dop. The tang comprises an elongated body (34) that widens towards its rear end so as to insure stability, and an angle adjustment member located towards its front end, to which is attachable a small diamond dop. The angle adjustment member comprises a spring-loaded mechanism acting on a mediator contained within a housing and operated by an adjustment screw, such that rotation of the screw causes fine angular adjustment of the dop. The tang may further include a screw-operated leveling member situated between the angle adjustment member and the elongated member. The tang further comprises adjustable legs for horizontal leveling of the tang.

Application

CA2445030: DEVICE FOR CONTROLLING GEMSTONE POLISHING ASSEMBLY MOVEMENT

Applicant: BOTHA MICHIEL J

Publication: 01/03/2004

Filed: 14/10/2003

Contents: The present invention pertains to a device for controlling polishing assembly movement. The device comprises a vertical rod, a motive power means for lowering and lifting, and rotating, oscillating, or both rotating and oscillating the vertical rod about an axis of rotation coaxial with the vertical rod. The device also comprises a pin that is offset from the axis of rotation and connected to the vertical rod for mounting the polishing assembly. Optionally, the device may comprise a sensor for activating movement of the vertical rod.

Application

WO04023920A2: AN ENHANCED DIAMOND AND METHOD FOR MAKING THE SAME

Applicant: EISENBERG, Baruch

Publication: 25/03/2004

WTOCD

Filed: 08/08/2003

Priority: 12/09/2002

Contents: The present invention provides a brilliant diamond comprised of a crown portion with a table facet, a plurality of upper main facets, star facets, and upper girdle facets. The upper girdle facets form upper girdle intersecting sides and upper main facet intersecting sides. A pavilion portion is provided with a plurality of lower main facets and lower girdle facets, which form in a substantially aligned arrangement with the upper girdle facets. The lower girdle facets include a lower girdle intersecting side and a lower main facet intersecting side. A girdle surface is provided in between the crown and the pavilion portions, where the profile of the girdle surface includes a wide portion at areas of intersection with the upper main facet intersecting sides and a narrow portion at areas of intersection with the upper girdle facet intersecting sides.

Application

WO2004027123A1: SINGLE CRYSTAL DIAMOND

Applicant: ELEMENT SIX LTD; KEMP MARK

Publication: 01/04/2004

Filed: 19/09/2003

Contents: A method of producing a large area plate of single crystal diamond from CVD diamond grown on a substrate substantially free of defects by chemical vapour deposition (CVD).

Application

US20040072137A1: Computer-implemented method of and system for teaching an untrained observer to evaluate a gemstone

Applicant: none

Publication: 15/04/2004

Filed: 15/10/2002

Contents: A computer-implemented method teaches a user to evaluate a gemstone, such as a cut diamond. The method includes providing a computer system connected to an apparatus capable of capturing an image of a gemstone. The computer system is arranged to process a received image of a gemstone to determine one or more optical properties of the gemstone. In one aspect, the method presents on a display of the computer system a series of pre-stored screens comprising a graphical representation how the cut of a gemstone affects its light handling ability, and a user interface screen. The user interface screen allows the user to control the operation of the apparatus to measure the one or more optical properties of a particular gemstone provided to the apparatus, to view an image of the gemstone measured, and to view representations of the measured one or more optical properties.

Application

US20040071623A1: Synthetic diamonds prepared from roses

Applicant: none

Publication: 15/04/2004

Filed: 07/10/2003

Contents: The present invention relates to a method of making a more permanent remembrance from a gift that includes organic material, wherein the gift has ephemeral beauty and symbolizes the feelings of a gift-giver toward a recipient. This method includes transforming the ephemeral beauty of the gift to a more permanent or eternal manifestation that symbolizes the feelings of the gift-giver toward the recipient. This result is conveniently achieved by converting the organic material of the gift to a synthetic diamond. The synthetic diamond can be prepared by transforming

WTOCD

the organic material of the gift to a carbon or carbon-containing compound; and then converting the carbon or carbon-containing compound into the synthetic diamonds.
Application

US20040069209A1: Heteroepitaxial diamond and diamond nuclei precursors

Applicant: Board of Trustees of Michigan State University

Publication: 15/04/2004

Filed: 05/08/2003

Contents: A process for growing by chemical vapor deposition a heteroepitaxial single crystal diamond is disclosed. The process provides a substrate which enables the growth of single crystal diamond which is vapor coated on an iridium film. An intermediate process for producing a composite composition with diamond nuclei is also described. Further described are composite compositions of metal oxide, iridium and single crystal diamond films or diamond nuclei.

Application

US20040068417A1: Method for digital color grading of gems and communication thereof

Applicant: none

Publication: 08/04/2004

Filed: 11/08/2003

Contents: A computer based expert system and method of grading gems by their inherent properties of shape and color, including hue-tone-saturation. Each of the properties is variable over a practical range derived from a data-base; the database prepared by digital methods from real gems.

Application

EP0991337B1: ORNAMENTAL STONES

Applicant: Winter CVD Technik GmbH

Publication: 07/04/2004

Filed: 20/04/1999

Contents: The invention relates to an ornamental stone used with jewellery or for decorating interior decorating and/or utilitarian objects. Said ornamental stone comprises at least one, preferably smooth, visible surface which supports a structured and preferably shiny material layer.

Granted

WO04028288A2: THREE DIMENSIONAL GEMSTONE-IMAGING SYSTEM AND METHOD

Applicant: DIALIT LTD.; PORAT, Zvi

Publication: 08/04/2004

Filed: 24/09/2003

Priority: 27/09/2002

Contents: The invention is of a gemstone imaging system and method of use of the system in the measurement and defining of processing parameters of gemstones including at least one imaging device, said at least one imaging device configured to producing continuous images of the gemstone; a gemstone securing means for securing said gemstone; a gemstone rotational displacement element, attached to said gemstone securing means, for rotational displacement of said gemstone in relation to said at least one imaging device; a device for producing a high level of illumination; and a computer processing unit for viewing said gemstone.

Application

EP1403627A1: Apparatus for measuring the weight of small items

WTOCD

Applicant: D.A.T.A. Diamond Advanced Technology Ltd.

Publication: 31/03/2004

Filed: 24/09/2003

Priority: 19/12/2002

Contents: The invention provides an apparatus for measuring the mass and calculating the weight of individual objects to be held thereby, comprising forceps having a proximal portion and a distal portion, the proximal portion being adapted to grasp and hold a selected object, means associated with the forceps for initiating vibration of the same while the object is held thereby and means for measuring the oscillating frequency of the forceps while the object is held thereby, and for utilizing the measured higher oscillating frequency of the empty forceps to compute the mass and the weight of the selected object.

Application

US20040055333A1: Faceted circular cut diamond

Applicant: none

Publication: 25/03/2004

Filed: 23/09/2003

Contents: A circular cut diamond, with appropriate dimensions, to greatly enhance the brilliancy, scintillation, and dispersion of a circular cut diamond and to produce a larger-looking diamond per unit volume as compared to the current standard Ideal Cut.

Application

US6713715: Method and system for laser marking a gemstone

Applicant: Potomac Photonics, Inc.

Publication: 30/03/2004

Filed: 15/01/2002

Contents: A gemstone laser marking system comprising: a gemstone mounted on a fixture;

a pulsed laser for generating a laser pulse having a pulse duration of less than 1 nanosecond;

focusing means for focusing said laser pulse onto a surface of said gemstone to be marked;

means for displacing said gemstone with respect to said laser pulse in a three orthogonal axes mode of operation.

Granted

EP1119653B1: SIMULATED DIAMOND GEMSTONES FORMED OF ALUMINUM NITRIDE AND ALUMINUM NITRIDE:SILICON CARBIDE ALLOYS

Applicant: CREE, INC.

Publication: 31/03/2004

Filed: 08/10/1999

Contents: Simulated diamond gemstones are produced by faceting and polishing bulk single crystals of colorless synthetic aluminum nitride or aluminum nitride:silicon carbide alloys.

Granted

WO04022821A1: COLOURED DIAMOND

Applicant: ELEMENT SIX LIMITED; DONALD, Heather, June

Publication: 18/03/2004

Filed: 05/09/2003

Contents: A method of producing a single crystal CVD diamond of a desired colour which includes the steps of providing single crystal CVD diamond which is coloured

WTOCD

and heat treating the diamond under conditions suitable to produce the desired colour. Colours which may be produced are, for example, in the pink-green range.

Application

EP1398401A2: Method for creating diamond

Applicant: HOKKAIDO UNIVERSITY

Publication: 17/03/2004

Filed: 09/09/2003

Contents: An organic chemical made of acetamide, urea and the like is mixed with water to form a mixture thereof, which is heated to form a given reacted sample. In order to remove water and volatile organic matters, the reacted sample is frozen and dried, and then, heated under vacuum condition to create diamond.

Application

USD487711: Diamond

Applicant: My-Diamond Place Ltd.

Publication: 23/03/2004

Filed: 29/04/2003

Contents: Design. Marquise.

Granted

USD487712: Natural gemstone, artificial gemstone ornamental object made of glass

Applicant: Swarovski Aktiengesellschaft

Publication: 23/03/2004

Filed: 13/05/2003

Contents: Design.

Granted

USD487713: Natural gemstone, artificial gemstone; ornamental object made of glass

Applicant: Swarovski Aktiengesellschaft

Publication: 23/03/2004

Filed: 13/05/2003

Contents: Design.

Granted

US6710943: Viewer for laser-inscribed diamonds

Applicant: none

Publication: 23/03/2004

Filed: 17/05/2003

Contents: A hand-held gemstone viewing scope includes a slidable armature movable relative to a base and defining a viewer housing a lens. A platform is rotatably connected to a top end of the base and configured to adjustably mount a gemstone or ring in line with the lens. A gem laser inscription is determined by mounting a ring or gemstone in line with the lens, moving the armature to focus the lens on the gemstone, and rotating the platform until the gem inscription is located.

Granted

US6708618: Method and apparatus of using a security feature which includes plural patterned microscopic markers for authentication and to prevent counterfeiting of objects

Applicant: none

Publication: 23/03/2004

WTOCD

Filed: 04/02/2003

Contents: An apparatus for authenticating an object on the basis of incorporating onto the object at least one security feature known as a microdot which includes plural unique microscopic patterned markers each of which include indicia and the method of making such microdots.

Granted

US20040050097A1: Enhanced diamond and method for making same

Applicant: none

Publication: 18/03/2004

Filed: 12/09/2002

Contents: The present invention is directed to a brilliant diamond comprised a crown portion having a table facet, a plurality of upper main facets, star facets, and upper girdle facets. The upper girdle facets form upper girdle intersecting sides and upper main facet intersecting sides. A pavilion portion has a plurality of lower main facets and lower girdle facets, which are formed in a substantially aligned arrangement with the upper girdle facets. The lower girdle facets including a lower girdle intersecting side and a lower main facet intersecting side. A girdle surface is located in between the crown and the pavilion portions, where the profile of the girdle surface includes a wide portion at areas of intersection with the upper main facet intersecting sides and a narrow portion at areas of intersection with the upper girdle facet intersecting sides.

Application

US20040051861A1: Diamond cut scoring system and method

Applicant: none

Publication: 18/03/2004

Filed: 09/06/2003

Contents: A gemstone rating system is provided particularly for rating the cut of diamonds in which particular cuts and features are measured and the results compared with and provided with a predetermined score depending upon deviations from a theoretical perfect cut; and wherein the deviation scores are summed and then subtracted from an initially perfect score to provide a universally comparable indication of quality of cut.

Application

US6705114: Decorative stone made of glass

Applicant: D. Swarovski & Co.

Publication: 16/03/2004

Filed: 29/05/2003

Contents: A decorative stone made of glass is provided with a faceted front and a mirrored rear converging from the periphery of the stone to a point provided with an adhesive, wherein the angle between opposite surfaces of the rear of the stone is more than 150°.

Granted

US6698239: Brilliant cut diamond

Applicant: Samuel Aaron, Inc.

Publication: 02/03/2004

Filed: 25/02/2003

Contents: A brilliant-cut gemstone having a pavilion, girdle, and crown is disclosed. The pavilion of the gemstone has 56 facets: specifically, 8 lower diamond-shaped facets, 16 middle kite-shaped facets, and 32 upper triangular facets. The girdle and table may be formed of one or more facets. In one preferred embodiment, the total

WTOCD

number of crown facets (excluding the table) is 56, making a total of 114 facets (including the table). In another preferred embodiment, the total number of crown facets (excluding the table) is 64, making a total of 122 facets (including the table).
Granted

EP1394293A1: A process for imparting and enhancement of colours in gemstone minerals and gemstone minerals obtained thereby

Applicant: Gupta, Samir; Goyal, Manuj

Publication: 03/03/2004

Filed: 30/08/2002

Contents: A process for imparting colour to, or enhancing the colour of, gemstones such as topaz and sapphire involves the coating of the gemstone substrate with a colour-inducing or colour-enhancing material, and heating to a temperature in the range 900°C to 1,250°C for a period of 30 minutes to 10 hours.

Application

USD487411: Natural gemstone, artificial gemstone; ornamental object made of glass

Applicant: Swarovski Aktiengesellschaft

Publication: 09/03/2004

Filed: 13/05/2003

Contents: Design.

Granted

USD487412: Diamond article

Applicant: Karp Impex HK Ltd.

Publication: 09/03/2004

Filed: 04/09/2003

Contents: Design. Cut cornered triangle.

Granted

EP1392139A1: FACETED MIXED CUT GEMSTONE FOR CONTROLLED BRILLIANCE

Applicant: Mardkha, Joseph

Publication: 03/03/2004

Filed: 18/01/2002

Contents: A mixed cut gemstone having a crown with a girdle break, a table break and a table. The table break is cut with triangular shaped facets and the girdle break is cut with triangular and quadrilaterally shaped facets. The pavilion has a width and length formed by two pairs of opposing pavilion sides and four pavilion corners. The pavilion is composed of four steps including: a first step descending from said girdle to a first step facet junction, a second step descending from the first step facet junction to a second step facet junction, a third step descending from the second step facet junction to a third step facet junction, and a fourth step descending from the third step facet junction to a culet.

Application

US20040031434A1: Method of making synthetic gems comprising elements recovered from remains of a species of the kingdom animalia

Applicant: none

Publication: 19/02/2004

Filed: 19/08/2003

Contents: This invention is a method of making a synthetic gem comprising elements recovered from remains of a species of the Kingdom Animalia, comprising the steps

WTOCD

of collecting substantially pure carbon from the remains and creating gems from the carbon using crystal growth sublimation.

Application

US20040032328A1: Gemstone inventory and detection system

Applicant: none

Publication: 19/02/2004

Filed: 14/05/2003

Contents: A system for controlling gemstones employs RFID chips adhered to each stone. A display or storage area includes a radiator for generating activating emission for the RFID chips and an antenna for picking up the resultant RF signals including serial number. Both the radiator and antenna are connected to a computer supporting a database with an inventory of the chips and anti-collision circuitry for identifying the chips.

Application

USD487031: Diamond or gemstone

Applicant: Gassan Diamonds B.V., Antwerp United Diamonds N.V.

Publication: 24/02/2004

Filed: 02/12/2002

Contents: Design. Round.

Granted

US6694778: Cut design of diamond for ornamental use

Applicant: Hohoemi Brains, Inc.

Publication: 24/02/2004

Filed: 02/06/2001

Contents: A cut design for diamonds having a crown of substantially a frustum shape and substantially a conic pavilion directly under the frustum part, the diamond being enhanced in the brilliancy and scintillation of its crown part, the brilliancy and scintillation twinkling, and bluish lights being returned as reflected lights.

Remarks: Utility patent

Granted

US6684663: Microinscribed gemstone

Applicant: Lazare Kaplan International, Inc.

Publication: 03/02/2004

Filed: 06/09/2002

Contents: A microinscribed gemstone is inscribed by a laser beam to graphitize a surface portion of the gemstone without damaging a bulk portion.

Remarks: Divisional application.

Granted

USD486752: Diamond

Applicant: Diamintangibles International Ltd.

Publication: 17/02/2004

Filed: 23/12/2002

Contents: Design.

Granted

USD486753: Gem stone

Applicant: none

Publication: 17/02/2004

Filed: 10/04/2003

WTOCD

Contents: Design.
Granted

US6692714: High pressure/high temperature production of colorless and fancy-colored diamonds

Applicant: none

Publication: 17/02/2004

Filed: 08/01/2003

Contents: The present invention is directed to a method for changing the color of colored natural diamonds. The method includes placing a discolored natural diamond in a pressure-transmitting medium which is consolidated into a pill. Colorless Type Ia and Type II diamonds may be made by this method.

Remarks: This application is a continuation-in-part under 35 U.S.C. § 120 to U.S. application Ser. No. 09/162,206, filed Sep. 28, 1998, abandoned and U.S. application Ser. No. 08/966,642, filed Nov. 10, 1997, abandoned which is a continuation-in-part of and U.S. application Ser. No. 08/953,701, filed Oct. 17, 1997, all of which are abandoned and herein incorporated by reference in their entirety.

Granted

USD485508: Precious stone

Applicant: Australia Diamonds Ltd.

Publication: 20/01/2004

Filed: 03/01/2003

Contents: Design.

Granted

USD485507: Pear cut diamond

Applicant: Nelson Jewellery Arts Company Ltd.

Publication: 20/01/2004

Filed: 03/01/2003

Contents: Design.

Granted

USD485506: Infinity cut stone design

Applicant: Rosy Blue, Inc.

Publication: 20/01/2004

Filed: 31/12/2002

Contents: Design. Octagonal cut.

Granted

US6683680: Method, system and device providing a musical representation of a transparent or translucent structure

Applicant: Crystal Beam Melody, Inc.

Publication: 27/01/2004

Filed: 20/12/2000

Contents: A method and system are provided for representing a structure of a kind characterized by a specific radiation response to a predetermined incident radiation.

Granted

USD485782: Precious stone

Applicant: Australia Diamonds Ltd.

Publication: 27/01/2004

Filed: 31/03/2003

Contents: Design.

WTOCD

Granted

USD485781: Arch shape diamond

Applicant: Nelson Jewellery Arts Company Ltd.

Publication: 27/01/2004

Filed: 03/01/2003

Contents: Design. The ornamental design for an arch shape diamond.

Granted

USD485783: Gem stone

Applicant: none

Publication: 27/01/2004

Filed: 10/04/2003

Contents: Design. Tableless round cut.

Granted

US20040018137A1: Boron doped blue diamond and its production

Applicant: GENERAL ELECTRIC COMPANY

Publication: 09/01/2004

Filed: 02/10/2002

Contents: A method for synthesizing boron doped diamond for improving the oxidation resistance of said diamond crystals includes forming a fully dense core (mixture) of graphite, catalyst/solvent metals, optional diamond seed crystals, and a source of boron. This mixture is subjected to diamond-formed high pressure/high temperature (HP/HT) conditions for a time adequate for forming diamond.

Application

USD484824: Precious stone

Applicant: Schachter & Namdar Polishing Works, Ltd.

Publication: 06/01/2004

Filed: 31/01/2001

Contents: Design. Cut cornered rectangular shape.

Granted

USD484825: Cut corner princess stone design

Applicant: Rosy Blue, N.V.

Publication: 06/01/2004

Filed: 25/02/2003

Contents: Design.

Granted

USD485205: Precious stone flower design

Applicant: Rosy Blue, N.V.

Publication: 13/01/2004

Filed: 06/11/2002

Contents: Design. 8 lobes.

Granted

US6676750: Growth of diamond clusters

Applicant: none

Publication: 13/01/2004

Filed: 01/08/2002

Contents: A diamond cluster includes a core and an overgrown region containing a plurality of diamond crystallites extending outwards from the core, the majority of

WTOCD

the crystallites having a cross-sectional area which increases as the distance of the crystallite from the core increases.

Granted

US6676776: 14-karat gold alloy compositions having enhanced yellow color, reversible hardness, and fine grain structure

Applicant: Leach & Garner Company

Publication: 13/01/2004

Filed: 20/08/2002

Contents: A 14-karat gold alloy composition having a desirable yellow color and with reversible hardness contains about 58.65 weight percent gold, about 11.5-25.0 weight percent silver, about 11.85-23.35 weight percent copper, and about 2-7 weight percent zinc. The color of the composition has a value of between about -3.0 to about 0.5 Cielab a* color units, and has a value of between about +20.0 to about 22.0 Cielab b* color units. The alloy has a hardness ratio between about 0.4-2.0, and color ratio of less than about 1.0.

Granted

US20040008888A1: Method for marking gemstones with a unique micro discrete indicia

Applicant: none

Publication: 15/01/2004

Filed: 26/06/2003

Contents: A method for providing and reading micro-discrete indicia on a gemstone using near-field optics.

Remarks: This is a divisional of application Ser. No. 10/027,016, filed Dec. 21, 2001, entitled METHOD FOR MARKING GEMSTONES WITH A UNIQUE MICRO DISCRETE INDICIA, in the names of David L. Patton, et al.

Application

EP1042665B9: EXAMINING DIAMONDS AND GEMSTONES

Applicant: GERSAN ESTABLISHMENT

Publication: 07/01/2004

Filed: 23/12/1998

Contents: The apparatus comprises a viewing stage including an antireflection-coated window on which a diamond or gemstone is placed. The diamond or gemstone, which may be a diamond gemstone, is first irradiated by two LEDs having diffuser means, the magnification of the viewing system being set at a relatively low level. An image of all or most of at least one facet of the diamond is displayed on the video monitor. When the level of magnification is increased, the LEDs are switched off and a central LED is switched on so as to cause the diamond to be irradiated by direct radiation. The position of the diamond is adjusted until a retro-reflection condition is obtained, which allows a mark on the surface of a diamond or gemstone to be viewed.

Granted

EP1378591A1: Method for removing defects in crystals

Applicant: General Electric Company

Publication: 07/01/2004

Filed: 25/06/2003

Contents: A method for removing defects at high pressure and high temperature (HP/HT) or for relieving strain in a non-diamond crystal commences by providing a crystal, which contains defects, and a pressure medium. The crystal and the pressure medium are disposed in a high pressure cell and placed in a high pressure apparatus,

WTOCD

for processing under reaction conditions of sufficiently high pressure and high temperature for a time adequate for one or more of removing defects or relieving strain in the single crystal.

Application

US20030230232A1: Method of making enhanced CVD diamond

Applicant: none

Publication: 18/12/2003

Filed: 03/06/2002

Contents: CVD diamond is heated to temperatures of 1500° C. to 2900° C. under a pressure that prevents significant graphitization. The result is a CVD diamond with improved optical, electrical, thermal, and mechanical properties.

Application

GB2389070A1: Mounting and preparing a gemstone or industrial diamond for the formation of a mark on the surface thereof

Applicant: GERSAN ESTABLISHMENT

Publication: 03/12/2003

Filed: 18/02/2002

Contents: In order to mount a diamond in a dop so that the diamond table is level and at a predetermined height, the diamond is positioned in an injection moulding tool so that its table is engaged with the underside of a top plat, the diamond being pushed upwards by an insert. An elastomer is injection moulded into a dop ring and holds the diamond securely in the dop ring in that there is elastomer both in front of and behind the girdle of the diamond. Although some shrinkage of the elastomer can occur, the table of the diamond is set strictly parallel to the upper and lower surfaces of the dop ring and the table is just slightly below the plane defined by the top of the dop ring.

Application

US6666916: Apparatus and method for making free standing diamond

Applicant: Saint-Gobain/Norton Industrial Ceramics Corporation

Publication: 23/12/2003

Filed: 18/10/2002

Contents: A mandrel for use in a diamond deposition process has surfaces with different diamond adhesion properties. According to one embodiment, a mandrel is provided and has first and second surfaces on which a diamond film is deposited, with the second surface forming a perimeter around the first surface.

Granted

US6668585: Multi-faceted combined cut gemstones

Applicant: none

Publication: 30/12/2003

Filed: 13/11/2000

Contents: The King David cut with 104 facets makes the most brilliant, sparkling and eye-pleasing gemstone at the time it was developed. The Queen Batt-Sheva cut with 128 facets makes an even more brilliant; sparkling and eye-pleasing gemstones. Both of these gemstones have square tops and round bottoms. This combination makes them most fiery and sparkling cut in the world. (abstract)

Granted

US20040000575A1: Method for marking gemstones with a unique micro discrete indicia

Applicant: none

WTOCD

Publication: 01/01/2004

Filed: 26/06/2003

Contents: A method for providing and reading micro-discrete indicia on a gemstone using near-field optics.

Application

WO03103434A2: DIAMOND CUT SCORING SYSTEM AND METHOD

Applicant: BRAY, William, R.

Publication: 18/12/2003

Filed: 05/06/2003

Priority: 07/06/2002

Contents: A gemstone rating system is provided particularly for rating the cut of diamonds in which particular cuts and features are measured and the results compared with and provided with a predetermined score depending upon deviations from a theoretical perfect cut; and wherein the deviation scores are summed and then substrated from an initially perfect score to provide a universally comparable indication of quality of cut.

Application

WO03103439A2: VIEWING APPARATUS

Applicant: GERSAN ESTABLISHMENT; BROWN, Graham, Maurice; SMITH, James, Gordon, Charters; SMITH, Martin, Phillip

Publication: 18/12/2003

Filed: 05/06/2003

Priority: 05/06/2002

Contents: Apparatus for viewing an information mark on the table of a gemstone in the form of a jewellery case. The jewellery case has a body portion for holding a finger ring with a gemstone uppermost, and a pivoted lid.

Application

USD484432: Gemstone

Applicant: Tarshish Sulimani Ltd.

Publication: 30/12/2003

Filed: 15/10/2002

Contents: Design. Round.

Granted

WO03101899A1: METHOD FOR PREPARING DIAMOND FROM GRAPHITE BY INNER SHELL ELECTRON EXCITATION

Applicant: JAPAN SCIENCE & TECH CORP (JP); NAKAYAMA HIROYUKI (JP); YOSHIDA HIROSHI (JP)

Publication: 11/12/2003

Filed: 22/05/2003

Priority: 30/05/2002

Contents: A method for preparing diamond, characterized in that it comprises irradiating graphite under a normal pressure with a synchrotron radiation X-ray, a radiation, a laser beam, an electron beam or an accelerated poly-valent ion so as to excite a 1s core electron of a carbon atom (C) constituting a single crystal or a polycrystalline material and being composed of an sp² structure, to thereby form diamond having an sp³ structure from graphite having an sp² structure. The method is based on the idea that the realization of an excited state under a condition of an ordinary temperature and pressure and then the reversion of a stable structure for carbon from a graphite structure to a diamond structure by the utilization of the excited state allows easy conversion of graphite to diamond utilizing the excited state. The method per-

WTOCD

mits the production of a diamond single crystal, a diamond polycrystalline material or a nano structure diamond at a low cost and on a large scale.

Application

W003094650A1: A GEMSTONE AND ITS PROCESSING METHOD

Applicant: WU ZHOU CUI SHI GEM & JEWELRY MANUFACTURE CO., LTD

Publication: 20/11/2003

Filed: 01/07/2002

Priority: 13/05/2002

Contents: A gemstone and its processing method in which a small gemstone is placed or inside a big gemstone, is characterized in that the big gemstone can be divided into upper part and lower part from its loin; a small gemstone can be placed into cave which is on the enter of surface of the lower part; then the upper part and lower part are adhered together to form a bright colour larger gemstone, in which the small gemstone can move along the bore wall inside the cave along with the vibration of the big gemstone.

Application