

# *State of the art*

patent news archive 2005

**USD512934: Star cut jewel**

Applicant: Gitanjali Gems Limited  
Publication: 20/12/2005  
Filed: 08/04/2004  
Contents: Design, decagon.  
Granted

**USD512935: Diamond or precious stone**

Applicant: none  
Publication: 20/12/2005  
Filed: 17/05/2004  
Contents: Design, 8 petal flower.  
Granted

**USD512936: Diamond**

Applicant: M. Fabrikant & Sons, Ltd.  
Publication: 20/12/2005  
Filed: 01/09/2004  
Contents: Design, round.  
Granted

**USD512937: Gemstone**

Applicant: none  
Publication: 20/12/2005  
Filed: 14/09/2004  
Contents: Design, cut cornered square.  
Granted

**USD511709: Round brilliant star gemstone**

Applicant: Rosy Blue, N.V.  
Publication: 22/11/2005  
Filed: 05/07/2003  
Contents: The ornamental design for a round brilliant star gemstone, as shown and described.  
Granted

**USD511710: Faceted gemstone**

Applicant: Kristall Classics, Inc.  
Publication: 22/11/2005  
Filed: 24/06/2004  
Contents: Design. Brilliantized decagon.  
Granted

**USD511988: Precious stone**

Applicant: none  
Publication: 29/11/2005  
Filed: 30/04/2002  
Contents: Design.  
Granted

WTOCD

**USD511992: Diamond or gemstone, particularly the bottom part or pavilion of a cut diamond or gemstone**

Applicant: none

Publication: 29/11/2005

Filed: 10/05/2004

Contents: Design, 5 symmetry.

Granted

**USD511994: Gemstone**

Applicant: Continental Jewelry USA, Inc.

Publication: 29/11/2005

Filed: 16/02/2005

Contents: Partial design.

Granted

**USD511987: Decorative object made of glass; natural and artificial gem stone**

Applicant: Swarovski Aktiengesellschaft

Publication: 29/11/2005

Filed: 15/04/2002

Contents: The ornamental design for a decorative object made of glass; natural and artificial gem stone, as shown and described. Round.

Granted

**USD511989: Gem stone**

Applicant: H. Stern Comercio e Industria S.A.

Publication: 29/11/2005

Filed: 03/02/2004

Contents: Design.

Granted

**USD511990: Diamond cut**

Applicant: Tycoon Cut, Inc.

Publication: 29/11/2005

Filed: 03/02/2004

Contents: Mixed cut design.

Granted

**USD511991: Flame cut jewel**

Applicant: Gitanjali Gems Limited

Publication: 29/11/2005

Filed: 28/04/2004

Contents: Design. Round.

Granted

**USD511993: Octagonal-shaped diamond**

Applicant: none

Publication: 29/11/2005

Filed: 07/07/2004

Contents: Design. Brilliantized octagon.

Granted

WTOCD

**WO05110144A1: SYSTEM AND METHOD FOR ENHANCING THE VIEWED BRIGHTNESS OF PRECIOUS OR SEMI-PRECIOUS STONES**

Applicant: VANLI KUYUMCULUK SANAYI VE TICARET LIMITED SIRKETI

Publication: 24/11/2005

Filed: 17/05/2004

Contents: A system and method utilizing a display apparatus for enhancing the viewed brightness of a precious or semi-precious stone. The system and method includes a display container having an outer body, a back cover, a transparent front cover located a distance from the back cover, at least one metal bearing having a faceted exterior lower surface and sized to fit within the container between the back cover and the front cover. The metal bearing is adapted to pin or nail a precious or semi-precious stone thereby retaining the stone and the height of the metal bearing and stone is less than the distance between the front and back covers. The distance between the front and back covers is such that the stone containing metal bearing is able to rock or tilt from side to side without failing completely on its side.

Application

**US20050260935A1: High pressure and high temperature production of diamonds**

Applicant: none

Publication: 24/11/2005

Filed: 08/08/2001

Contents: The present invention is directed to a method for treating discolored natural diamond, especially Type IIa diamond and Type IaA/B diamond with nitrogen as predominantly B centers, for improving its color. The method includes preblocking and preshaping a discolored natural diamond to prevent its breakage in a high pressure/high temperature (HP/HT) press, placing said discolored natural diamond in a pressure transmitting medium which is consolidated into a pill. Next, the pill is placed into a HP/HT press at elevated pressure and elevated temperature within the graphite-stable or diamond-stable range of the carbon phase diagram for a time sufficient to improve the color of said diamond. Finally, the diamond is recovered from said press. Colorless and fancy colored diamonds can be made by this method.

Application

**US20050261989A1: Apparatus and method for facilitating a search for gem settings**

Applicant: none

Publication: 24/11/2005

Filed: 06/04/2005

Contents: Apparatus and method for facilitating a search for gem settings are described. In one embodiment, a computer-readable medium includes a gem search module to facilitate a search for a gem to be included in a jewelry item. The computer-readable medium also includes a gem setting search module to facilitate a search for a gem setting to be included in the jewelry item, and the gem setting search module is configured to provide a visual representation of the jewelry item as being worn.

Application

**WO05110917A1: SYNTHETIC DIAMONDS PREPARED FROM ORGANIC MATERIALS**

Applicant: HATLEBERG, John, N.

Publication: 24/11/2005

Filed: 14/04/2004

## WTOCD

Contents: The present invention relates to a method of making a more permanent remembrance from a graphitizable or carbon-containing material, wherein the material is part of or embodied in an ephemeral object that signifies a power, attribute, memory, custom, tradition, emotion or symbolism associated with a life experience or event. The method includes transforming the ephemeral object to the more permanent remembrance by converting the carbon-containing material to a synthetic diamond, thus transferring the power, attribute, memory, custom, tradition, emotion or symbolism of the object or the associated life experience or event into the diamond. The synthetic diamond can be prepared by transforming the carbon-containing material to a carbon compound or carbon-containing compound; and then converting the carbon compound or carbon-containing compound into the synthetic diamond.

Application

### **EP1290251B1: THICK SINGLE CRYSTAL DIAMOND LAYER METHOD FOR MAKING IT AND GEMSTONES PRODUCED FROM THE LAYER**

Applicant: ELEMENT SIX (PTY) LTD

Publication: 30/11/2005

Filed: 14/06/2001

Contents: High quality single crystal chemical vapor deposition diamond layer used for manufacturing chemical vapor deposition diamond used as gemstones and diamond anvils, has predetermined thickness.

Granted

### **US20050249655A1: High pressure/high temperature production of colorless and fancy-colored diamonds**

Applicant: none

Publication: 10/11/2005

Filed: 13/06/2005

Contents: A method for changing the color of colored Type I natural diamonds includes placing a Type I natural diamond into a high pressure/high temperature (HP/HT) press at elevated pressure and elevated temperature for a time sufficient to change or improve the color of the diamond.

Remarks: This application is a continuation of U.S. patent application Ser. No. 10/737,541, filed Dec. 15, 2003 (the "'541 Application"). The '541 Application is continuation-in-part under 35 U.S.C. § 120 of now-abandoned U.S. application Ser. No. 09/162,206, filed Sep. 28, 1998, and now-abandoned U.S. application Ser. No. 08/966,642, filed Nov. 10, 1997, which is a continuation-in-part of now-abandoned U.S. application Ser. No. 08/953,701, filed Oct. 17, 1997.

Application

### **USD511476: Gemstone**

Applicant: Siman-Tov; Jacob, Siman-Tov; Itzhak, Siman-Tov; Avraham

Publication: 15/11/2005

Filed: 11/02/2005

Contents: Design. Cut cornered square.

Granted

### **USD511475: Diamond 129 facets**

Applicant: United Brothers Jewelry (UBJ)

Publication: 15/11/2005

Filed: 07/01/2005

Contents: Partial design. Round crown.

Granted

## WTOCD

### **USD511474: Wild orchid cut jewel**

Applicant: Gitanjali Gems Limited

Publication: 15/11/2005

Filed: 28/04/2004

Contents: The ornamental design for a wild orchid cut jewel, as shown and described.

Granted

### **US20050252241A1: Diamond cut**

Applicant: none

Publication: 17/11/2005

Filed: 13/05/2004

Contents: A brilliant gemstone cut, having a crown, a girdle and a pavilion. The crown and the pavilion are both brilliant cut. The crown has a flat table shaped with multiple faceted bezel facets. The pavilion has n rib lines, which converge at a culet, and are multiple faceted, and lower girdle facets which are multiple facets.

Application

### **JP2005125430A2: GEM GRINDING ATTACHMENT**

Applicant: TOSHIBA MACH CO LTD

Publication: 19/05/2005

Filed: 22/10/2003

Contents: Gem grinding apparatus for finish-machining e.g. diamond, has angle setter that assigns angle of jewelry cut surface with respect to grinding surface of wheel.

Application

### **JP2005125437A2: GEM GRINDING ATTACHMENT**

Applicant: TOSHIBA MACH CO LTD

Publication: 19/05/2005

Filed: 22/10/2003

Contents: Gem grinding apparatus for finish-machining e.g. diamond, has numerically controlled machine tool that regulates turning of maintenance shaft to x, y and z axes.

Application

### **JP2005125438A2: GEM GRINDING ATTACHMENT**

Applicant: TOSHIBA MACH CO LTD; HOHOEMI BRAINS INC

Publication: 19/05/2005

Filed: 22/10/2003

Contents: Gem grinding apparatus for finish machining outer surface of e.g. diamond, has cut surface angle setting unit which sets cut surface angle of diamond with respect to grinding surface of wheel.

Application

### **JP2005125441A2: GEM GRINDING ATTACHMENT**

Applicant: TOSHIBA MACH CO LTD

Publication: 19/05/2005

Filed: 22/10/2003

Contents: Gem grinding apparatus for finish machining outer surface of e.g. diamond, has cut surface angle setting unit which sets cut surface angle of diamond with respect to grinding surface of wheel.

Application

WTOCD

**JP2005125442A2: DIAMOND WORKING METHOD AND DEVICE**

Applicant: TOSHIBA MACH CO LTD; HOHOEMI BRAINS INC

Publication: 19/05/2005

Filed: 22/10/2003

Contents: Processing method for finishing outer surface of diamond used for jewelry, involves finishing table after calculating pavilion and each cut surface of crown.

Application

**JP2005144530A2: LASER BEAM PRECISION MACHINING METHOD FOR TRANSPARENT MEDIUM**

Applicant: NATIONAL INSTITUTE OF ADVANCED INDUSTRIAL & TECHNOLOGY

Publication: 09/06/2005

Filed: 19/11/2003

Contents: A laser beam machining method capable of precisely and efficiently eliminating the damage of diamond etc., and to solve the problems of a machining cost and machining accuracy. The laser beam precision machining method for an optical medium comprising machining the optically transparent medium by introducing a light absorption layer into the surface layer or the inside thereof and irradiating a laser beam toward the light absorption layer, the laser beam precision machining method for the transparent medium comprising forming electrodes or wiring by subjecting the optically transparent medium to grooving or changing the properties of the medium and the laser beam precision machining method for the transparent medium comprising forming a colored layer by introducing boron or phosphorus etc., into the optically transparent medium during the vapor phase growth thereof and irradiating the colored layer with the laser beam, are provided.

Application

**USD510292: Diamond**

Applicant: M. Fabrikant & Sons, Inc.

Publication: 04/10/2005

Filed: 21/04/2003

Contents: Partial Design. Cut cornered square pavilion.

Granted

**USD510887: Diamond**

Applicant: Diamintangibles International, Ltd.

Publication: 25/10/2005

Filed: 13/05/2004

Contents: Design. Round.

Granted

**USD511118: Gemstone**

Applicant: Continental Jewelry USA, Inc.

Publication: 01/11/2005

Filed: 05/10/2004

Contents: The ornamental design of the gemstone, as shown and described.

Granted

**US20050246239A1: System and method for enabling jewelry certification at local jeweler sites**

Applicant: none

Publication: 03/11/2005

Filed: 30/04/2004

## WTOCD

Contents: A system and method of providing informational certificates concerning characteristics of jewelry items to customers are disclosed. The system comprising, a terminal having a user interface configured to receive user input information concerning at least a first characteristic of a first jewelry item, a camera device capable of obtaining image information regarding at least a part of the first jewelry item, and a printing device at least temporarily coupled to the terminal and the camera device and capable of printing a first certificate, where the first certificate includes a first portion of information based upon the user input information and a second portion of information based upon the image information, and where the terminal, the camera device and the printing device are proximate a local point of sale of the first jewelry item.

Granted

### **WO05096867A1: OVAL CUT DIAMOND**

Applicant: HOHOEMI BRAINS, INC.

Publication: 20/10/2005

Filed: 25/03/2005

Contents: An oval cut diamond, comprising a girdle having a border line formed in an elliptic shape or a shape similar to the elliptic shape, a crown at its tip part having, at the upper part of the girdle, a table facet formed in an octagonal shape, and a pavilion at the lower part of the girdle. The so-called deformed oval brilliant cut diamond is formed by rotating either of the crown and the pavilion of a normal brilliant cut diamond by approximately 1/16 turn around its center axis. Where the radius of the girdle in the major axis direction is (a) and the radius of the girdle in the minor axis direction is (b), the ratio (b/a) of the radius in the minor axis direction to the radius in the major axis direction is 0.6 or larger. A pair of pavilion main facets positioned oppositely to each other with respect to the center axis comprise a pair of crown main facets or a pair of star facets opposed to each other on both sides of the girdle. Since these two pavilion main facets, two crown main facets or star facets, and the table facet comprise a common vertical plane in these facets, the brightness of reflected light coming to the upper side of the table facet and the crown facet is intensified.

Application

### **US6958810: Methods for characterizing gems or precious stones using a probe having a plurality of light receivers**

Applicant: JIL Technologies LLC

Publication: 25/10/2005

Filed: 02/06/2003

Contents: Optical characteristic measuring systems and methods such as for determining the color or other optical characteristics of teeth are disclosed. Perimeter receiver fiber optics are spaced apart from a source fiber optic and receive light from the surface of the object/tooth being measured. Light from the perimeter fiber optics pass to a variety of filters. The system utilizes the perimeter receiver fiber optics to determine information regarding the height and angle of the probe with respect to the object/tooth being measured. Under processor control, the optical characteristics measurement may be made at a predetermined height and angle. Various color spectral photometer arrangements are disclosed. Translucency, fluorescence, gloss and/or surface texture data also may be obtained. Audio feedback may be provided to guide operator use of the system. The probe may have a removable or shielded tip for contamination prevention.

Granted

WTOCD

**EP1321226A3: Diamond machine equipped with a device for the positioning of items of jewelry or the like to be processed**

Applicant: Faimond S.r.l.

Publication: 26/10/2005

Filed: 17/12/2002

Contents: The peculiarity of the present diamond machine is represented by a positioning device which is able to detect the surface position and the height of a working point to process items of jewelry, chainlets or the like so as to permit diamond tools to carry out incisions according to the wished manner and depth. In general, the diamond machine according to the present invention is utilized to process objects showing different shapes and comprises a detecting laser ray unit. However, the unit may be also an ultrasound unit or an infrared unit or a unit operating with another kind of emission depending on the need. Preferably but not necessarily, the detecting unit is realized as a one-body unit. The unit is mounted on a suitable support which is separate from an incising head. However, the detecting unit may be placed in the inside of the incising head itself in which it may be coaxial to the diamond tools. In addition, the detecting unit may be displaced on an adjustable head.

Application

**USD510050: Cut precious stone**

Applicant: J.R. Diamond International Ltd.; Mashiah Avishai

Publication: 27/09/2005

Filed: 04/11/2004

Contents: The ornamental design for cut precious stone, as shown and described.  
Granted

**US20050213077A1: Methods, apparatus, and systems for evaluating gemstones**

Applicant: American Gem Society Laboratories

Publication: 29/09/2005

Filed: 20/12/2004

Contents: Methods for grading gemstones, apparatus for grading gemstones, and systems that utilize such methods and apparatus are disclosed.

Application

**US20050210677A1: Method for securing gemstones in an effectively invisible setting**

Applicant: none

Publication: 29/09/2005

Filed: 29/03/2004

Contents: The invention relates to a method for producing an effectively invisible gemstone setting by casting a wax model of the setting and inserting a flange or post between the stones and into the floor of the setting, or into a depression or aperture on the floor of the setting, in order to secure the stones placed in the wax model of the setting. The flange is shaped so that the majority of its body is hidden beneath the gemstones and so that a narrowed portion of the flange engages the sides or girdles of the gemstones. The upper portion of the flange has sloped sides and may reflect light to and from the crown of the gemstones mounted in the setting.

Application

**US20050217316A1: Mounting system for cut stones**

Applicant: none

Publication: 06/10/2005



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Filed: 05/04/2005

Contents: A mounting system for cut stones is provided in the form of a setting adapted to enclose, support and visually enhance a cut stone such as a princess cut diamond. The preferred embodiment has concave exterior sidewalls enclosing a mounting aperture for receiving the stone, and a vertically convex upper surface which overlaps a portion of the stone. Sharply tapered apexes virtually extend the corners of the stone and reflective materials help enhance the apparent size and brilliance of the stone. The setting is adapted for use in various types of jewelry.

Application

### **US20050202173A1: Diamond synthesis**

Applicant: none

Publication: 15/09/2005

Filed: 30/04/2003

Contents: The present invention relates to a cell, system, and methods to form diamond from carbon in a plasma formed or assisted by the catalysis of atomic hydrogen to lower energy states.

Application

### **US20050200834A1: Methods, apparatus, and systems for evaluating gemstones**

Applicant: none

Publication: 15/09/2005

Filed: 20/12/2004

Contents: Methods for grading gemstones, apparatus for grading gemstones, and systems that utilize such methods and apparatus are disclosed.

Application

### **US20050209864A1: Method for selling jewelry with stones from a single source**

Applicant: none

Publication: 22/09/2005

Filed: 16/03/2004

Contents: A method for selling jewelry is provided where a rough stone is selected and cut to yield a number of stones that are mounted onto a set of jewelry including at least two pieces of jewelry, one for a female and the other for a male with the female usually getting a larger portion of the rough stone.

Application

### **WO05088283A1: DETECTION OF DIAMONDS**

Applicant: SELLSCHOP; UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

Publication: 22/09/2005

Filed: 14/03/2005

Priority: 12/03/2004

Contents: The invention concerns a method and apparatus for detecting the presence of diamond in a particle and for sorting particles according to whether or not they include diamonds. In the method, the particle is irradiated with photons of selected energy at which the GDR (giant dipole resonance) is excited for the nuclear reaction of the photons with carbon, and the particle is identified as potentially a diamond or diamond-containing particle according to its interaction within the incident photons. In the preferred embodiments, the particle is identified as potentially a diamond or diamond-containing particle according to whether the isotope  $^{11}\text{C}$ , with a characteristic half-life of approximately twenty minutes, is produced by the pho-

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ton/carbon nuclear reaction, and according to whether detectable coincident and col-linear gamma ray photons at a distinctive energy level are emitted by the particle.  
Application

### **US20050190356A1: Methods, apparatus, and systems for evaluating gemstones**

Applicant: none

Publication: 01/09/2005

Filed: 20/12/2004

Contents: Methods for grading gemstones, apparatus for grading gemstones, and systems that utilize such methods and apparatus are disclosed.

Application

### **US20050190357A1: Methods, apparatus, and systems for evaluating gemstones**

Applicant: none

Publication: 01/09/2005

Filed: 20/12/2004

Contents: Methods for grading gemstones, apparatus for grading gemstones, and systems that utilize such methods and apparatus are disclosed.

Application

### **US20050196547A1: Manufacturing method of colored diamond by ion implantation and heat treatment**

Applicant: Korea Atomic Energy Research Institute

Publication: 08/09/2005

Filed: 28/02/2005

Contents: The present invention relates to a manufacturing method of colored diamond and, more particularly, to a manufacturing method of colored diamond by ion implantation and heat treatment. The manufacturing method comprises a first step of implanting ions to the surface of diamond by accelerating the ions under vacuum, and a second step of heat-treating the implanted diamond. By implanting ions inducing the change in the optical band gap of a diamond, the manufacturing method provides a colored diamond with relatively lower cost compared to a metal ion implantation in the prior art, and a uniform color is obtained by heat treatment. Additionally, the manufacturing method of the present invention provides a diamond having various colors with permanent color development effects, by controlling the condition of ion implantation and heat treatment.

Application

### **US20050197951A1: Method of marketing polished gemstones**

Applicant: none

Publication: 08/09/2005

Filed: 03/03/2005

Contents: A method of selling polished gemstones or jewelry pieces set with polished gemstones is presented. According to this method, the polished gemstone or the jewelry piece being sold is accompanied with a rough stone which is a part of the same unique piece of rough from which the polished gemstone is produced.

Application

### **US6931949: Apparatus for measuring the weight of small items**

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

Publication: 23/08/2005

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Filed: 26/09/2003

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.

Granted

### **US20050187831A1: Gem item report method and system**

Applicant: none

Publication: 25/08/2005

Filed: 25/02/2004

Contents: Embodiments of the present invention are directed to a method and system for a gem item report. In one embodiment of the present invention, a plurality of images of a gem item are stored as part of a report for the gem item. In one embodiment, a video of a gem item is stored as part of a report of the gem item. In another embodiment, the images display various characteristics of the gem item, including but not limited to the faceting arrangement, the inclusions, and any markings. In one embodiment, the images are of the gem item under magnification. In one embodiment, the images, taken together, provide a two dimensional or 360-degree three dimensional view of a gem item. In one embodiment, an interface is provided for viewing a stored image of a gem item from a desired perspective and at a desired magnification.

Application

### **EP1565598A1: OPTICAL QUALITY DIAMOND MATERIAL**

Applicant: Element Six Limited; Godfried, Herman Philip; Scarsbrook, Geoffrey Alan; Twitchen, Daniel James; Houwman, Evert Pieter; Nelissen, Wilhelmus Gerarda Maria

Publication: 24/08/2005

Filed: 20/11/2003

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

### **EP1566402A2: Mineral or precious stone containing moulded parts**

Applicant: Siller, Martin

Publication: 24/08/2005

Filed: 15/02/2005

Contents: Die vorliegende erfindung betrifft einen Formkörper, welcher neben einem oder mehreren abgewandelten Naturstoffen oder synthetischen Kunststoffen einen oder mehrere kleine Körper (Partikel, Teilchen) enthält, welche ausgewählt sind aus der Gruppe der Mineralien oder Edelsteine.

Application

### **JP2005095280A2: OVAL CUT DIAMOND**

Applicant: HOHOEMI BRAINS INC

## WTOCD

Publication: 14/04/2005

Filed: 24/09/2003

Contents: A cut is provided with a columnar girdle, a crown having an octagonal table facet in its top part, and a pavilion. The cross sectional outline of the girdle has an elliptic shape or a shape similar to an ellipse, the ratio of short diameter to long diameter of the cross section (b/a) is 0.6 or more, preferably more than 0.7. The long radius Del of the table facet has a value of 0.375a or more expressed by the long diameter (a). The pavilion has eight pavilion main facets and the sixteen lower girdle facets. The pavilion angle (p) has a same value between 38.0°-45.0°. A distance Gd from the central axis to the lower girdle facets has a value between 0.15a-0.4a expressed by the long diameter (a).

Application

### **WO05070025A2: DIAMOND CUT**

Applicant: TYCOON JEWELRY, INC.

Publication: 04/08/2005

Filed: 18/01/2005

Contents: A mixed gemstone having a brilliant cut crown, a girdle and a step cut pavilion. The step cut pavilion contains eight rib lines running from the girdle to a culet, which can be a line or a point. These rib lines subdivide the pavilion into eight sides. The pavilion contains three steps, which add to an elegant and classic look of the gemstone. The crown contains a flat table in a form of a diamond, four corner facets and four upper girdle facets, thus, creating superior factors of dispersion, brilliance and scintillation. The table is slightly elevated due to the angles that the four corner facets and four upper girdle facets form with the girdle.

Application

### **JP2005073719A2: JEWEL AND CUTTING METHOD THEREOF**

Applicant: TOKYO SHINJU KK

Publication: 24/03/2005

Filed: 29/08/2003

Contents: A diamond with a crown and a pavilion is provided with a table where the crown is raised in a semispherical shape. The diamond is obtained by cutting the crown forming side of a gemstone in a semicircular shape by a laser, executing a grinding processing to the worked crown forming side of the gemstone by using abrasive powder, forming the table including a curved surface, executing the grinding processing on the pavilion side of the gemstone and forming the pavilion.

Application

### **US20050172667A1: Rectangular shaped gemstone arrangement for attachment to a prong-type setting**

Applicant: none

Publication: 11/08/2005

Filed: 06/02/2004

Contents: A multi-stone gemstone or diamond arrangement and a prong setting for receiving four substantially triangular-shaped gemstones or diamonds in the setting for forming a substantially rectangularly-shaped gemstone or diamond arrangement. A prong setting including a prong assembly having four prong members. The prong setting also includes an upper rail assembly having four side rail members and four corner rail members; the four corner rail members being attached to the four prong members, respectively. The prong setting further includes an upper frame assembly having first and second crossbar members, the first crossbar member having first outer ends and the second crossbar member having second outer ends. The first and second crossbar members form an X shaped configuration and each is connected at

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its respective first and second outer ends thereof to the corner rail members for forming four seating areas. Each of the four seating areas is for receiving therein one of four triangular-shaped gemstones or diamonds within each of the four seating areas. The four triangular-shaped gemstones or diamonds each have three side walls and each have first and second retaining corners and a third apex corner, respectively; each of the first and second retaining corners form a corner retaining angle with at least two of the side walls. Each of the four prong members have a retaining insert slot therein for receiving and engaging at least a portion of the first and second retaining corners of two adjacent gemstones or diamonds to keep the four gemstones or diamonds seated within each of the four seating areas of the prong setting.

Application

### **US20050160766A1: Diamond cut**

Applicant: none

Publication: 28/07/2005

Filed: 23/01/2004

Contents: A mixed gemstone having a brilliant cut crown, a girdle and a step cut pavilion. The step cut pavilion contains eight rib lines running from the girdle to a culet, which can be a line or a point. These rib lines subdivide the pavilion into eight sides. The pavilion contains three steps, which add to an elegant and classic look of the gemstone. The crown contains a flat table in a form of a diamond, four corner facets and four upper girdle facets, thus, creating superior factors of dispersion, brilliance and scintillation. The table is slightly elevated due to the angles that the four corner facets and four upper girdle facets form with the girdle.

Application

### **US20050160969A1: Apparatus and method for diamond production**

Applicant: Carnegie Institution of Washington; The UAB Research Foundation

Publication: 28/07/2005

Filed: 27/01/2005

Contents: An apparatus for producing diamond in a deposition chamber including a heat-sinking holder for holding a diamond and for making thermal contact with a side surface of the diamond adjacent to an edge of a growth surface of the diamond, a noncontact temperature measurement device positioned to measure temperature of the diamond across the growth surface of the diamond and a main process controller for receiving a temperature measurement from the noncontact temperature measurement device and controlling temperature of the growth surface such that all temperature gradients across the growth surface are less than 20° C. The method for producing diamond includes positioning diamond in a holder such that a thermal contact is made with a side surface of the diamond adjacent to an edge of a growth surface of the diamond, measuring temperature of the growth surface of the diamond to generate temperature measurements, controlling temperature of the growth surface based upon the temperature measurements, and growing single-crystal diamond by microwave plasma chemical vapor deposition on the growth surface, wherein a growth rate of the diamond is greater than 1 micrometer per hour.

Application

### **USD507505: Gemstone**

Applicant: none

Publication: 19/07/2005

Filed: 07/07/2003

Contents: Design. Square.

Granted

WTOCD

**WO05067566A2: FLUORESCENCE MEASURING DEVICE FOR GEMSTONES**

Applicant: GEMOLOGICAL INSTITUTE OF AMERICA

Publication: 28/07/2005

Filed: 12/01/2005

Contents: A gemstone fluorescence measuring device according to the invention generally includes an ultraviolet ("UV") emission chamber, a UV radiation source, and a light meter assembly. The UV radiation source includes an upper light emitting diode ("LED") and a lower LED that radiate a gemstone under test from both above and below the gemstone. The UV radiation source provides both trans-radiation and direct radiation to the gemstone, and the UV radiation source has an adjustable intensity, thus facilitating calibration of the fluorescence measuring device. The light meter assembly includes a light detector that detects the visible light emitted from the gemstone under test in response to the UV radiation. The light detector is configured to simulate the spectral characteristics of the human eye. The fluorescence measuring device converts the measured visible light into a numerical lux reading, which can then be converted into a fluorescence grade for the gemstone under test. Application

**US6915663: Diamond cutting method, enneahedral-cut diamonds and assembly of enneahedral-cut diamonds**

Applicant: none

Publication: 12/07/2005

Filed: 12/08/2004

Contents: Disclosed is a diamond cutting method comprising the steps of: forming a square or rectangular table in a piece of gemstone; and forming a pavilion continuous to the table by cutting vertically from each side of the square or rectangular table to define the four lower-girdle facets and by cutting obliquely from each corner of the square or rectangular table to the culet of the pavilion to form four lower-main facets, whereby the upper opposite sides of each lower-main facet adjoining the adjacent lower-girdle facets whereas the lower opposite sides of each lower-main facet adjoining the confronting lower opposite sides of the adjacent lower-main facets. An enneahedral-cut diamond thus produced is a table-and-pavilion structure, permitting plural diamonds to be arranged side by side as a whole with their square or rectangular tables directed inward or outward. Granted

**US6913009: Diamond cutting method, enneahedral-cut diamonds and assembly of enneahedral-cut diamonds**

Applicant: none

Publication: 12/07/2005

Filed: 11/01/2002

Contents: Disclosed is a diamond cutting method comprising the steps of: forming a square or rectangular table in a piece of gemstone; and forming a pavilion continuous to the table by cutting vertically from each side of the square or rectangular table to define the four lower-girdle facets and by cutting obliquely from each corner of the square or rectangular table to the culet of the pavilion to form four lower-main facets, whereby the upper opposite sides of each lower-main facet adjoining the adjacent lower-girdle facets whereas the lower opposite sides of each lower-main facet adjoining the confronting lower opposite sides of the adjacent lower-main facets. An enneahedral-cut diamond thus produced is a table-and-pavilion structure, permitting plural diamonds to be arranged side by side as a whole with their square or rectangular tables directed inward or outward. Granted

WTOCD

**US20050144980A1: Setting for diamonds or diamond shaped stones**

Applicant: none

Publication: 07/07/2005

Filed: 23/12/2004

Contents: A setting for a diamond or diamond shaped stone is disclosed which can be used for setting any sized diamond or diamond shaped stone. The setting consists of a series of prongs that are angled to match the most common and preferred culet angle of all diamonds or diamond shaped stones, which is approximately 98°. The prongs are of a length longer than the length of the sidewall of the pavilion of the diamond or diamond shaped stone and the portion of the prongs beyond the size needed is cut off and their ends deformed to hold the diamond or diamond shaped stone.

Application

**US20050149369A1: Method for digital color grading of gems and communication thereof**

Applicant: none

Publication: 07/07/2005

Filed: 03/03/2005

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. The grading is conducted interactively on-screen by visual comparison to the image of a real target gem, and the result, translated into alpha-numeric code, can be communicated by phone or via the Internet to any other user of the same system and database. The communicated code can be reconstructed by the system into an identical gem image, enabling remote discussion and evaluation of the same target gem, including matching and pairing of gems. A practical embodiment of the grading system and method is described, including application modes specifically aimed at gems and diamonds.

Application

**US20050150444A1: High pressure crystal growth apparatuses and associated methods**

Applicant: none

Publication: 14/07/2005

Filed: 06/02/2004

Contents: High pressure synthesis of various crystals such as diamond, cBN and the like can be carried out using reaction assemblies suitable for use in methods such as temperature gradient methods. The reaction assembly can be oriented substantially perpendicular to gravity during application of high pressure. Orienting the reaction assembly in this manner can avoid detrimental effects of gravity on the molten catalyst, e.g., convection, hence increasing available volumes for growing high quality crystals. Multiple reaction assemblies can be oriented in series or parallel, each reaction assembly having one or more growth cells suitable for growth of high quality crystals. Additionally, various high pressure apparatuses can be used. A split die design allows for particularly effective results and control of temperature and growth conditions for individual crystals.

Application

**US20050151959A1: Fluorescence measuring device for gemstones**

Applicant: none

Publication: 14/07/2005

Filed: 12/01/2004

## WTOCD

Contents: A gemstone fluorescence measuring device according to the invention generally includes an ultraviolet ("UV") emission chamber, a UV radiation source, and a light meter assembly. The UV radiation source includes an upper light emitting diode ("LED") and a lower LED that radiate a gemstone under test from both above and below the gemstone. The UV radiation source provides both trans-radiation and direct radiation to the gemstone, and the UV radiation source has an adjustable intensity, thus facilitating calibration of the fluorescence measuring device. The light meter assembly includes a light detector that detects the visible light emitted from the gemstone under test in response to the UV radiation. The light detector is configured to simulate the spectral characteristics of the human eye. The fluorescence measuring device converts the measured visible light into a numerical lux reading, which can then be converted into a fluorescence grade for the gemstone under test.

Application

### **WO05061400A1: METHOD OF INCORPORATING A MARK IN CVD DIAMOND**

Applicant: ELEMENT SIX LIMITED; DONALD, Heather, June,

Publication: 07/07/2005

Filed: 10/12/2004

Contents: A method of incorporating a mark of origin, such as a brand mark, or fingerprint in a CVD single crystal diamond material, includes the steps of providing a diamond substrate, providing a source gas, dissociating the source gas thereby allowing homoepitaxial diamond growth, and introducing in a controlled manner a dopant into the source gas in order to produce the mark of origin or fingerprint in the synthetic diamond material. The dopant is selected such that the mark of origin or fingerprint is not readily detectable or does not affect the perceived quality of the diamond material under normal viewing conditions, but which mark of origin or fingerprint is detectable or rendered detectable under specialised conditions, such as when exposed to light or radiation of a specified wavelength, for example. Detection of the mark of origin or fingerprint may be visual detection or detection using specific optical instrumentation, for example.

Application

### **WO05062805A2: METHODS, APPARATUS, AND SYSTEMS FOR EVALUATING GEMSTONES**

Applicant: AMERICAN GEM SOCIETY LABORATORIES

Publication: 14/07/2005

Filed: 20/12/2004

Contents: Methods for grading gemstones, apparatus for grading gemstones, and systems that utilize such methods and apparatus are disclosed.

Application

### **BE1015734AG: INRICHTING EN WERKWIJZE VOOR HET METEN VAN DE KLEUR VAN DIAMANT.**

Applicant: 3D DIAMONDS

Publication: 05/07/2005

Filed: 16/12/2004

Contents: De onderhavige uitvinding heeft betrekking op een inrichting voor het meten van de kleur van een diamant; De inrichting is in het bijzonder gekenmerkt in dat een lichtverspreider aangewend wordt tussen een lichtbron en een meetcel waarin een diamant kan gepositioneerd worden, zodat de meetcel met diffuus licht belicht wordt; De inrichting is ook gekenmerkt in dt de lichtbron bestaat uit LED's; De onderhavige uitvinding heeft verder ook betrekking op een werkwijze om de kleur van een diamant te meten.

Granted



## WTOCD

### **USD506698: Gem crown**

Applicant: Dynamic Diamond Corp.

Publication: 28/06/2005

Filed: 05/02/2004

Contents: Partial design. Rounded rectangular.

Granted

### **USD506946: Brilliant gemstone**

Applicant: Hope USA Corporation

Publication: 05/07/2005

Filed: 07/08/2003

Contents: Design.

Granted

### **US6913009: Diamond cutting method, enneahedral-cut diamonds and assembly of enneahedral-cut diamonds**

Applicant: none

Publication: 05/07/2005

Filed: 11/01/2002

Contents: Disclosed is a diamond cutting method comprising the steps of: forming a square or rectangular table in a piece of gemstone; and forming a pavilion continuous to the table by cutting vertically from each side of the square or rectangular table to define the four lower-girdle facets and by cutting obliquely from each corner of the square or rectangular table to the culet of the pavilion to form four lower-main facets, whereby the upper opposite sides of each lower-main facet adjoining the adjacent lower-girdle facets whereas the lower opposite sides of each lower-main facet adjoining the confronting lower opposite sides of the adjacent lower-main facets. An enneahedral-cut diamond thus produced is a table-and-pavilion structure, permitting plural diamonds to be arranged side by side as a whole with their square or rectangular tables directed inward or outward.

Granted

### **US20050141588A1: Method and apparatus for assessing the integrity of a jewellery setting**

Applicant: none

Publication: 30/06/2005

Filed: 16/04/2003

Contents: There is provided a method for assessing the integrity of grip of a stone in a jewellery setting having plural gripping claws to grip said stone, the method comprising heating the stone; measuring conductive transfer of heat from the stone to each of said plural gripping claws; and comparing said conductive heat transfer to said each gripping claw, wherein a marked difference in conductive heat transfer to any of the gripping claws indicates a lack of integrity of grip. Suitable apparatus is also provided.

Application

### **WO05053454A1: FACETED GEMSTONE**

Applicant: ABITTAN ABRASIVES & COLOUR ME & DROP-A-DIAMOND & PEARL OF DIAMOND & FACETED ROCKS 100% DIAMOND

Publication: 16/06/2005

Filed: 02/12/2003

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Contents: The invention relates to a gemstone having a surface at least part of which is polished, wherein the polished surface comprises a plurality of adjacent facets, and in that the polished surface area comprises 4-25 facets per mm<sup>2</sup> of surface area.

Application

### **USD506410: Gemstone**

Applicant: none

Publication: 21/06/2005

Filed: 23/09/2003

Contents: Design. Cut cornered square

Granted

### **USD506411: Precious stone**

Applicant: L. Krochmal and Sons

Publication: 21/06/2005

Filed: 18/12/2003

Contents: Design. Cut cornered square

Granted

### **WO05052540A2: DETECTION OF IMPERFECTIONS IN PRECIOUS STONES**

Applicant: SARIN TECHNOLOGIES LTD.

Publication: 09/06/2005

Filed: 25/11/2004

Priority: 28/11/2003

Contents: A system for the inspection of a precious stone, including an energy transfer system for changing the temperature of the stone, at least one imaging device imaging the stone and outputting a thermal map of the stone, an image processing unit utilizing the thermal map to determine regions having changed emission in the thermal map, and an analyzing unit detecting at least one imperfection in the stone from the regions of changed emission.

Application

### **USD505356: Star shape diamond**

Applicant: Nelson Jewellery Arts Company Ltd.

Publication: 24/05/2005

Filed: 31/10/2004

Contents: Design.

Granted

### **BE1015617AD: INRICHTING VOOR HET VASTHOUDEN VAN EEN EDELSTEEN.**

Applicant: MARIEN LUDOVICUS MARCEL PHILEMON

Publication: 07/06/2005

Filed: 24/07/2003

Contents: Inrichting voor het vasthouden van een edelsteen, meer speciaal voor een edelsteen met veelhoekige basis, die minstens bestaat uit een plaat waarop de te behandelen edelsteen geplaatst kan worden en welke plaat aan één zijde is voorzien van een opstaande rand, waarbij de plaat is voorzien van minstens één snede die de plaat verdeelt in segmenten en waarbij middelen zijn voorzien om deze segmenten naar elkaar toe te duwen, daardoor gekenmerkt dat de opstaande rand is onderbroken ter plaatse van minstens twee uitsparingen waarin de hoeken van de veelhoekige basis van de edelsteen kunnen worden gepositioneerd, om te bekomen dat een edelsteen met veelhoekige basis in de inrichting vastgeklemd kan worden.

Granted

WTOCD

**US20050115275A1: Rounded rectangular gemstone**

Applicant: none

Publication: 02/06/2005

Filed: 16/10/2002

Priority: 19/10/2001

Contents: 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

**US20050117145A1: Detection of imperfections in precious stones**

Applicant: none

Publication: 02/06/2005

Filed: 28/11/2003

Contents: A system for the inspection of a precious stone, including an energy transfer system for changing the temperature of the stone, at least one imaging device imaging the stone and outputting a thermal map of the stone, an image processing unit utilizing the thermal map to determine regions having changed emission in the thermal map, and an analyzing unit detecting at least one imperfection in the stone from the regions of changed emission.

Application

**EP1286606B1: JEWELRY ARRANGEMENTS**

Applicant: Barsamian, Philippe; Holemans, Thierry

Publication: 01/06/2005

Filed: 06/03/2002

Priority: 08/03/2001

Contents: A piece of jewelry comprising first and second substantially opposing end portions, said piece of jewelry comprising at least a section made from a shape memory material which exhibits thermal hysteresis having upper and lower temperature transformation ranges with a start and finish temperature, wherein said shape memory material is adapted to use shape memory effect so as to cause, above an upper transformation start temperature, automatic relative movement between said end portions from an open state, in which said end portions are spaced apart by a gap adapted for fitment of said jewelry, towards a closed state in which said gap is reduced such that said jewelry is fitted.

Granted

**WO05048764A1: DEVICE AND KIT FOR VISUALISING A CUTTING REGIME OF A DIAMOND, AND A METHOD FOR DETERMINING A CUTTING REGIME**

Applicant: DIAMSCAN N.V.

Publication: 02/06/2005

Filed: 05/11/2003

Contents: The present invention relates to a kit for visualising a cutting regime of a rough diamond comprising: (a) a solid, translucent substance into which three dimensional images are marked, said markings indicating: (i) the outer surface of the original rough diamond, (ii) optionally, the internal defects of the rough diamond, said markings indicating the position and shape of said defects with respect of the

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rough diamond, (iii) optionally, the outer surface of one or more cut diamonds, said markings indicating the position and shape of said cut diamonds with respect of the rough diamond, and (b) solid, physical representations of one or more diamonds indicated by the markings of item (iii), and/or solid, physical representation of the rough diamond, corresponding to the markings of item (i), and/or one or more actual cut diamonds indicated by the markings of item (iii). The present invention further relates to a computer readable medium comprising data regarding the cut stone and the original rough diamond.

Application

### **US20050103760A1: Laser marking system**

Applicant: none

Publication: 19/05/2005

Filed: 24/11/2004

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. The system may further comprise an input for receiving marking instructions; a processor for controlling said displaceable stage based on said marking instructions and said imaging system, to selectively generate a marking based on said instructions and a predetermined program; and a storage system for electronically storing information relating to images of a plurality of workpieces. A secure certificate of authenticity of a marked workpiece is also provided.

Application

### **US20050109264A1: Method of growing a single crystal diamond**

Applicant: Apollo Diamond, Inc.

Publication: 26/05/2005

Filed: 29/10/2004

Contents: Synthetic monocrystalline diamond compositions having one or more monocrystalline diamond layers formed by chemical vapor deposition, the layers including one or more layers 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

### **US20050109265A1: Single crystal synthetic diamond**

Applicant: Apollo Diamond, Inc.

Publication: 26/05/2005

Filed: 29/10/2004

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Contents: Synthetic monocrystalline diamond compositions having one or more monocrystalline diamond layers formed by chemical vapor deposition, the layers including one or more layers 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

### **US20050109266A1: Arc jet microwave plasma method of growing single crystal diamond**

Applicant: Apollo Diamond, Inc.

Publication: 26/05/2005

Filed: 29/10/2004

Contents: Synthetic monocrystalline diamond compositions having one or more monocrystalline diamond layers formed by chemical vapor deposition, the layers including one or more layers 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

### **US20050109267A1: Method of growing single crystal diamond in a plasma reactor**

Applicant: Apollo Diamond, Inc.

Publication: 26/05/2005

Filed: 29/10/2004

Contents: Synthetic monocrystalline diamond compositions having one or more monocrystalline diamond layers formed by chemical vapor deposition, the layers including one or more layers 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

### **EP1465508A4: A ROUNDED RECTANGULAR GEMSTONE**

Applicant: KEDEM, MICHAEL

Publication: 18/05/2005

Filed: 16/10/2002

Contents: Rounded rectangular gemstone has girdle extending from crown to pavilion, being perpendicular to table and assuming rectangular shape when viewed above and below.

Application

### **USD504841: Gemstone design**

Applicant: Christopher Designs, Inc.

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Publication: 10/05/2005  
Filed: 30/01/2004  
Contents: Design. Round.  
Granted

### **US6889525: Ring and mounting for a plurality of gemstones**

Applicant: none  
Publication: 10/05/2005  
Filed: 18/02/2003

Contents: A ring and mounting thereon for a plurality of gemstones includes a ring formed of a pair of shanks mounted together at a common end. The pair of shanks have a through-aperture between distal ends of the pair of shanks opposite the common end. The distal ends are entirely detached from each other. A first pair of upstanding flexible lever arms, or merely hereinafter arms, bracket opposite sides of the through-aperture. Each flexible arm has a base end and an opposite free end. Each flexible arm is mounted at its base end to a corresponding distal end of the shanks. A first gemstone forms a keystone mounted in compression sandwiched between the free ends of the first pair of upstanding flexible arms. A second pair of upstanding arms are mounted at their base ends to the pair of shanks so as to be disposed, one on each shank, on opposite sides of the first pair of upstanding flexible arms. A first pair of gemstone receiving pockets or cavities.  
Granted

### **USD505092: Diamond setting comprising pear shape total 11 round diamond**

Applicant: Fine Jewellery (India) Ltd.  
Publication: 17/05/2005  
Filed: 03/12/2003  
Contents: Design.  
Granted

### **USD505093: Diamond setting comprising oval shape total 10 round diamond**

Applicant: Fine Jewellery (India) Ltd.  
Publication: 17/05/2005  
Filed: 03/12/2003  
Contents: Design.  
Granted

### **USD505091: Gem stone**

Applicant: none  
Publication: 17/05/2005  
Filed: 16/04/2004  
Contents: Design. Octagonal cut, small tablefacet.  
Granted

### **US6892720: Method for cutting natural and/or man-made diamonds**

Applicant: none  
Publication: 10/05/2005  
Filed: 15/04/2003

Contents: A method for producing a diamond includes forming a table lying in a table plane; forming crown facets that are oriented at an angle of between 26° and 35° relative to the table plane; forming upper pavilion (UP) facets below the crown facets at an angle of between 45° and 80° relative to a girdle plane lying between bottoms of the crown facets and tops of the UP facets; and forming a set of lower pavilion

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(LP) facets between bottoms of the UP facets and the culet at an angle of between 38° and 44° relative to the girdle plane. The UP and LP facets form a rib line positioned between one-fifth and four-fifths the distance between the girdle plane and the culet, such that the UP facets extend between 20% and 80% of the distance between the girdle plane and the culet.

Granted

### **USD504347: 82 facet diamond**

Applicant: Sol Savransky Diamond, Inc.

Publication: 26/04/2005

Filed: 22/01/2004

Contents: Design. Round.

Granted

### **USD504348: Diamond setting comprising marquise shape total 4 round diamond**

Applicant: Fine Jewelry (India) Ltd.

Publication: 26/04/2005

Filed: 03/12/2003

Contents: Setting composition design.

Granted

### **USD504636: Maharaja cut jewel**

Applicant: Gitanjali Gems Limited

Publication: 03/05/2005

Filed: 28/04/2004

Contents: The ornamental design for a Maharaja cut jewel.

Granted

### **US6887144: Surface impurity-enriched diamond and method of making**

Applicant: Diamond Innovations, Inc.

Publication: 03/05/2005

Filed: 14/02/2001

Contents: An element-doped diamond crystal is disclosed herein. The crystal includes at least one dopant element which has a greater concentration toward or near an outermost surface of the crystal than in the center of the crystal. The concentration of the dopant element is at a local minimum at least about 5 micrometers below the surface. The concentration-profile of the dopant element for these diamond crystals causes an expansion of the diamond lattice, thereby generating tangential compressive stresses at the surface of the diamond crystal. These stresses beneficially increase the compressive fracture strength of the diamond.

Granted

### **US6888634: Apparatus and method for measuring optical characteristics of an object**

Applicant: JJI Technologies LLC

Publication: 03/05/2005

Filed: 22/11/2002

Contents: Optical characteristic measuring systems and methods such as for determining the color or other optical characteristics of an object are disclosed. Perimeter receiver fiber optics are spaced apart from a source fiber optic and receive light from the surface of the object being measured. Light from the perimeter fiber optics pass to a variety of filters. The system utilizes the perimeter receiver fiber optics to determine information regarding the height and angle of the probe with respect to the

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object being measured. Under processor control, the optical characteristics measurement may be made at a predetermined height and angle. Various color spectral photometer arrangements are disclosed. Translucency, fluorescence, gloss and/or surface texture data also may be obtained. Audio feedback may be provided to guide operator use of the system. The probe may have a removable or shielded tip for contamination prevention. A method of producing prostheses based on measured data also is disclosed. Measured data also may be stored and/or organized as part of a data base.

Granted

### **USD503903: Cut diamond**

Applicant: Yahalohei Espeka International Ltd.

Publication: 12/04/2005

Filed: 07/01/2004

Contents: Design. Round.

Granted

### **USD504081: Precious stone**

Applicant: none

Publication: 19/04/2005

Filed: 07/04/2004

Contents: Design. Round.

Granted

### **EP1522530A1: METHOD FOR PREPARING DIAMOND FROM GRAPHITE BY INNER SHELL ELECTRON EXCITATION**

Applicant: Japan Science and Technology Agency

Publication: 13/04/2005

Filed: 22/05/2003

Contents: If a stable graphite structure is reversed to a stable diamond structure using some excited state established at normal temperature and pressure, graphite can easily be transformed into diamond. If this technique is realized, it is expected to be applied to nanotechnology, short-wavelength, high-power semiconductor lasers, and high-power electronics. A method for producing diamond includes the step of exposing single-crystal or polycrystalline graphite having an sp<sup>2</sup> structure to one selected from the group consisting of synchrotron radiation X-rays, radiation, laser light, an electron beam, and accelerated multicharged ions under normal pressure to excite the 1s inner-shell electrons of carbon atoms (C) constituting the graphite, thereby producing diamond having an sp<sup>3</sup> structure from the graphite having the sp<sup>2</sup> structure. The method inexpensively produces single-crystal diamond, polycrystalline diamond, or nanostructural diamond in a large amount.

Application

### **US20050076507A1: Method of making jewelry including stones and rings**

Applicant: none

Publication: 14/04/2005

Filed: 30/01/2004

Contents: Jewelry can include a stone and a setting. The setting can include rings, wherein at least one of the rings contacts the stone. The rings may be in the form of chains, netting, or both. The rings can be attached to the stone using anchor(s), so that the setting cannot be removed from stone unless the stone, a ring, an anchor or combination thereof is broken or, in the case of hooks, removed only with great difficulty or irreversibly damaging the hooks (e.g., when separating ring and hook combinations). The configurations for the settings and stones and methods described



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herein can substantially increase the options for designing jewelry, and particularly the use and arrangement of stones in jewelry.

Application

### **US20050066884A1: Method of growing a single crystal diamond**

Applicant: Apollo Diamond, Inc.

Publication: 31/03/2005

Filed: 29/10/2004

Contents: Synthetic monocrystalline diamond compositions having one or more monocrystalline diamond layers formed by chemical vapor deposition, the layers including one or more layers 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

### **US20050069858A1: Computer-implemented method of and system for teaching an untrained observer to evaluate a gemstone**

Applicant: none

Publication: 31/03/2005

Filed: 12/08/2004

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

### **WO05029994A1: METHOD FOR ACHIEVING VISUAL EFFECT OF CONVEX CURVATURE IN AN ORNAMENTAL DIAMOND AND CORRESPONDINGLY CUT DIAMONDS**

Applicant: DREZNER, Ephrayim

Publication: 07/04/2005

Filed: 30/09/2003

Contents: A method for achieving a visual effect of convex curvature in an ornamental diamond includes forming a crown having at least two non-coplanar primary facets and at least one sequence of at least five non-coplanar secondary facets deployed between first and second primary facets. Each secondary facet has a first edge bordering first primary facet and a second edge bordering second primary facet. The sequence of secondary facets define between themselves a sequence of parallel edges.

Application

### **WO05031033A1: METHOD OF MAKING ENHANCED CVD DIAMOND**

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Applicant: DIAMOND INNOVATIONS, INC.

Publication: 07/04/2005

Filed: 26/08/2003

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

### **WO05027677A2: ELECTRONIC IDENTIFICATION OF GEMSTONES**

Applicant: GEMTOUCH INC.s; LOBODA, Howard

Publication: 31/03/2005

Filed: 23/09/2004

Priority: 23/09/2003

Contents: An information-bearing gemstone including a gemstone and an integrated circuit mounted onto the gemstone.

Application

### **USD503650: Gem pavilion**

Applicant: Dynamic Diamond Corp.

Publication: 05/04/2005

Filed: 09/10/2003

Contents: Partial design.

Granted

### **USD503649: Special cut corner princess precious stone**

Applicant: Rosy Blue, N.V.

Publication: 05/04/2005

Filed: 04/09/2003

Contents: Design.

Granted

### **USD503651: Diamond cut**

Applicant: Tycoon Cut, Inc.

Publication: 05/04/2005

Filed: 13/02/2004

Contents: Design.

Granted

### **USD503652: Gemstone**

Applicant: none

Publication: 05/04/2005

Filed: 01/03/2004

Contents: Design.

Granted

### **USD503354: Precious stone cut**

Applicant: none

Publication: 29/03/2005

Filed: 27/08/2003

Contents: Design.

Granted

### **USD503355: Gem crown**

Applicant: Dynamic Diamond Corp.

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Publication: 29/03/2005  
Filed: 09/10/2003  
Contents: Design.  
Granted

### **USD503356: Diamond**

Applicant: V.F. Diamonds Ltd.  
Publication: 29/03/2005  
Filed: 22/03/2004  
Contents: Design.  
Granted

### **US6872422: Process for imparting and enhancement of colours in gemstone minerals and gemstone minerals obtained thereby**

Applicant: none  
Publication: 29/03/2005  
Filed: 25/01/2002  
Priority: 09/07/2001  
Contents: The present invention provides a process for imparting colors to colorless gemstone/minerals and enhancing properties of gemstone/minerals by coating a thin/thick film of a particular material or multiple films of different materials on polished gemstones/minerals to impart color in colorless stones and to enhance the color in paler stones, and to such gemstones/mineral obtained by the process.  
Granted

### **WO05025366A1: A ROUND BRILLIANT CUT DIAMOND AND ITS INCISION METHOD**

Applicant: SHENZHEN ZHENCHENGMEI JEWELRY CO., LTD.  
Publication: 24/03/2005  
Filed: 09/09/2004  
Priority: 12/09/2003  
Contents: The present invention discloses a round brilliant cut diamond. The diamond includes a crown, a girdle and a pavilion. Said cut crown comprises one regular octagon table, eight first facets, eight second facets, and sixteen third facets. Wherein the cut pavilion comprises sixteen quadrangular fourth facets, sixteen quadrangular fifth facets, and sixteen subtriangular sixth facets. The sixteen fourth facets meet at a point, which forms an apex, and each fourth facet, fifth facet and sixth facet meet at a point. The present invention also discloses methods by which said diamond can be cut.  
Application

### **USD503122: Gem girdle**

Applicant: Dynamic Diamond Corp.  
Publication: 22/03/2005  
Filed: 04/06/2004  
Contents: Design.  
Granted

### **USD503123: Gemstone**

Applicant: none  
Publication: 22/03/2005  
Filed: 16/12/2004  
Priority: 17/06/2003  
Contents: Design.

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Granted

**USD503124: Diamond cut**

Applicant: Tycoon Cut, Inc.

Publication: 22/03/2005

Filed: 13/02/2004

Priority: 17/06/2003

Contents: Design.

Granted

**US6870606: Process for measuring the surface of a polished precious stone**

Applicant: D. Swarovski & Co.

Publication: 22/03/2005

Filed: 22/11/2002

Priority: 12/12/2001

Contents: Process for the measurement of the surface of a polished precious stone, wherein firstly the position of at least some of the flat facet surfaces of the stone is measured in space, in particular by rotating the stone in front of a light source and examination of the shadow cast by the stone, and the facet surface is then observed under direct light.

Granted

**US6870616: Spectrometer apparatus for determining an optical characteristic of an object or material having one or more sensors for determining a physical position or non-color property**

Applicant: JIL Technologies LLC

Publication: 22/03/2005

Filed: 08/08/2002

Contents: A spectrometer apparatus for determining an optical characteristic of an object or material is disclosed. A probe is positionable to be in proximity to the object or material. First and second receivers are provided on the probe. Light from one or more first receivers is coupled to one or more first optical sensors via a spectral separation implement. Light from one or more second receivers is coupled to one or more second sensors without spectral separation of the light. A light source provides light to the object or material via the probe. A processor coupled to receive one or more signals from the first and second sensors determines the optical characteristic of the object or material and determines a physical position property of the probe with respect to the object or material or a non-color optical property of the object or material. The physical position property may be a distance or angular position of the probe with respect to a surface of the object or material. The non-color optical property may be translucence, gloss, gray level and/or surface texture.

Granted

**WO05024471A2: GEM MICROSCOPE WITH PORTABILITY KIT**

Applicant: GEMOLOGICAL INSTITUTE OF AMERICA, INC.

Publication: 17/03/2005

Filed: 08/09/2004

Priority: 09/09/2003

Contents: A gem microscope according to the invention includes a focus column, a stage, and a quick disconnect mechanism that facilitates removable coupling of the focus column of the stage. The focus column and the stage have compatible features that establish the proper mounting plane and lateral alignment of the focus column relative to the stage. In the example embodiment, the quick disconnect mechanism includes a threaded element on the focus column and a compatibly threaded thumb-

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wheel that rotates within the stage to connect/disconnect the focus column to/from the stage.

Application

### **WO05024472A2: GEM MICROSCOPE HAVING A SWIVEL BASE AND A STATIONARY POWER CORD**

Applicant: GEMOLOGICAL INSTITUTE OF AMERICA, INC.

Publication: 17/03/2005

Filed: 08/09/2004

Priority: 09/09/2003

Contents: A gem microscope according to the invention includes a focus column, a stage, and a quick disconnect mechanism that facilitates removable coupling of the focus column to the stage. The focus column and the stage have compatible features that establish the proper mounting plane and lateral alignment of the focus column relative to the stage. In the example embodiment, the quick disconnect mechanism includes a threaded element on the focus column and a compatibly threaded thumb-wheel that rotates within the stage to connect/disconnect the focus column to/from the stage.

Application

### **USD502886: Precious stone**

Applicant: F.N. Service Co., Ltd.

Publication: 15/03/2005

Filed: 26/09/2003

Priority: 27/03/05

Contents: Design. Oval polygon.

Granted

### **USD502887: Faceted diamond**

Applicant: Christopher Designs, Inc.

Publication: 15/03/2005

Filed: 14/11/2003

Contents: Design. Round.

Granted

### **USD502888: Gemstone design**

Applicant: Christopher Designs, Inc.

Publication: 15/03/2005

Filed: 30/01/2004

Contents: Design. Round.

Granted

### **JP2004330659A2: DIAMOND OR SIMILAR JEWELRY FITTED WITH DISPLAYING MARK AND THEIR MANUFACTURING METHOD**

Applicant: SANPLANMYDO INC

Publication: 25/11/2004

Filed: 28/05/2003

Contents: To provide a diamond or similar jewelry with a marking symbol wherein various jewelry by a required cut-applied transparent or translucent material, specially in them, a diamond is directly marked with a marking symbol by required carved stamp or the like without impairing brilliancy of the diamond, in a mode wherein it can be recognized from outside, and to provide its manufacturing method. A flat table is arranged on a top part, a lower end culet of the diamond having, a crown to an upper side, a girdle of a peripheral part and a pavilion to a lower side, is

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offcut and polished to form an off culet surface. Besides, a marking symbol comprising an optional letter, a figure and the like is reversing inscribed on the off culet surface by laser stamping.

Application

### **US20050056206A1: Single crystal diamond having 12C, 13C, and phosphorous**

Applicant: Apollo Diamond, Inc.

Publication: 17/03/2005

Filed: 29/10/2004

Contents: Synthetic monocrystalline diamond compositions having one or more monocrystalline diamond layers formed by chemical vapor deposition, the layers including one or more layers 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

### **US20050056207A1: Single crystal diamond tool**

Applicant: Apollo Diamond, Inc.

Publication: 17/03/2005

Filed: 29/10/2004

Contents: Synthetic monocrystalline diamond compositions having one or more monocrystalline diamond layers formed by chemical vapor deposition, the layers including one or more layers 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

### **US20050056208A1: Synthetic diamond having alternating layers with different concentrations of impurities**

Applicant: Apollo Diamond, Inc.

Publication: 17/03/2005

Filed: 29/10/2004

Contents: Synthetic monocrystalline diamond compositions having one or more monocrystalline diamond layers formed by chemical vapor deposition, the layers including one or more layers 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

### **US20050056209A1: Method of creating a synthetic diamond**

Applicant: Apollo Diamond, Inc.

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Publication: 17/03/2005

Filed: 29/10/2004

Contents: Synthetic monocrystalline diamond compositions having one or more monocrystalline diamond layers formed by chemical vapor deposition, the layers including one or more layers 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

### **EP1052058B1: Grinding & polishing tool for diamond, method for polishing diamond and polished diamond, single crystal diamond and sintered diamond compact obtained thereby**

Applicant: National Institute of Advanced Industrial Science and Technology

Publication: 16/03/2005

Filed: 04/04/2000

Contents: To obtain a grinding & polishing tool for diamond and a method for polishing diamond in which a single crystal diamond, a diamond thin film, a sintered diamond compact and the like can be polished at low temperatures without causing cracks, fractures or degradation in quality therein, in addition, in which polishing operation becomes easier, polishing quality becomes stable and polishing costs become lowered while maintaining a stable performance of grinder. The grinder and the method satisfying the above requirements are: a grinding & polishing tool for diamond of which main component is an intermetallic compound consisting of one kind or more of elements selected from the group of Al, Cr, Mn, Fe, Co, Ni, Cu, Ru, Rh, Pd, Os, Ir and Pt and one kind or more of elements selected from the group of Ti, V, Zr, Nb, Mo, Hf, Ta and W; and a method for polishing diamond in which diamond is polished by pushing the above grinder against the diamond rotating or moving relative thereto while keeping the portion subjected to polishing at room temperature or, according to the situations, heating the same at 100 - 800°C.

Granted

### **US6860117: Combination jewelry setting and precious stone**

Applicant: Aurelian, Inc.

Publication: 01/03/2005

Filed: 28/05/2003

Contents: A combination of a precious stone and a jewelry setting having a plurality of heart-shaped supporting members each having a first end having a double lobe shape and a second end having a generally pointed shape and a maximum width intermediate the first and second ends. The supporting members are connected to one another in series at a position proximate the maximum width to form an endless support structure. The precious stone is mounted within the support structure.

Granted

### **USD502424: Gemstone**

Applicant: none

Publication: 01/03/2005

Filed: 17/12/2003

Contents: Design

Granted

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**USD502666: Diamond cut**

Applicant: Tycoon Cut, Inc.  
Publication: 08/03/2005  
Filed: 13/02/2004  
Contents: Design.  
Granted

**USD502664: Gemstone**

Applicant: none  
Publication: 08/03/2005  
Filed: 02/05/2003  
Contents: Design.  
Granted

**USD502665: Gemstone**

Applicant: none  
Publication: 08/03/2005  
Filed: 20/11/2003  
Contents: Design.  
Granted

**US20050050921A1: Diamond cut**

Applicant: none  
Publication: 10/03/2005  
Filed: 09/09/2003

Contents: A brilliant gemstone cut, having a crown, a girdle and a pavilion. The crown has a flat table shaped as an equilateral n-sided polygon. The girdle is also multi sided polygon. The corner, lower girdle, bezel and star facets are at significantly angles of inclination, with respect to the table to provide significantly improved brilliance. The upper corner facets are spaced from the girdle. The space between the corner facet vertices and the girdle is left open to be covered by a prong of a jewelry setting.

Application

**WO05021212A1: APPARATUS FOR POLISHING GEMSTONES AUTOMATICALLY**

Applicant: JANG, Kyoung-Ho  
Publication: 10/03/2005  
Filed: 20/08/2004

Contents: The present invention relates to an apparatus for polishing gemstones, and more particularly, to an apparatus for polishing gemstones, which includes a polishing means with a disk-shaped flat grindstone capable of revolving and rotating and in which horizontally of a gemstone holder with respect to a polishing surface can be controlled and a backlash can be reduced upon adjusting an inclined angle of the gemstone holder. The apparatus of the present invention comprises a base; a polishing means that is rotatably installed on the base and has a polishing surface parallel with the base; a supporting unit with a vertically feeding member installed to vertically move in a direction of an axis substantially perpendicular to the polishing surface; an inclination-adjusting unit having a rotational shaft installed rotatably about an axis substantially parallel with the polishing surface; a gemstone holder for holding a gemstone, which is installed to be rotatable in a plane substantially perpendicular to the polishing surface; a first motor for driving vertical movement of the vertically feeding member; a second motor for driving rotation of the rotational shaft of the inclination-adjusting unit; a third motor for driving rotation of the gemstone



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holder; a first sensor for sensing a relative position of the vertically feeding member with respect to the polishing surface; a second sensor for sensing an angular position of the rotational shaft; a third sensor for sensing an angular position of the gemstone holder; and a control unit for receiving signals from the respective sensors and controlling the respective driving means.

Application

### **JP2004310191A2: DIAMOND WITH CERTIFICATE**

Applicant: TWINSHIP JAPAN KK

Publication: 04/11/2004

Filed: 02/04/2003

Contents: A certificate certifying the identity of a crude diamond is attached to each of a plurality of diamonds obtained by dividing the crude diamond, and each diamond is given an ID. The diamonds each are identified with the ID in the certificate.

Application

### **US20050036131A1: Apparatus and method for providing spot lighting for gemstone observation**

Applicant: none

Publication: 17/02/2005

Filed: 13/08/2003

Contents: An apparatus, system and method for providing spot lighting for observing a gemstone is presented. In particular, the spot lighting provided by the invention allows for observing of the fire of a gemstone, i.e. the visible effects of light dispersion into separate colors. The apparatus includes a tube for receiving a portion of a multi-spectral light source, and a mask coupled to the tube for blocking other portions of the light source. By selecting the proper tube dimensions and aligning the tube with both the light source at an inlet and a gemstone at an outlet, the spot lighting source provides direct lighting for isolating and accentuating the effects of fire.

Application

### **US20050036132A1: Apparatus for generating data for determining a property of a gemstone and methods and computer programs for determining a property of a gemstone**

Applicant: none

Publication: 17/02/2005

Filed: 19/08/2004

Priority: 13/12/2001

Contents: An apparatus for generating data for use in determining a property of a gemstone, such as a cut diamond with 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; an illuminator arranged to illuminate a gemstone so placed with a spatially varied light pattern; a rotator arranged to cause relative rotation between the light pattern and the support structure generally about the axis X; and 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.

Application

### **USD501644: Gemstone**

Applicant: none

Publication: 28/02/2005

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Filed: 20/11/2003  
Priority: 30/07/2003  
Contents: Design. Rounded square.  
Granted

### **JP2004-299370: CUTTING METHOD FOR DIAMOND AND DIAMOND OBTAINED BY THE SAME**

Applicant: TOKYO SHINJU KK  
Publication: 28/10/2004  
Filed: 28/03/2003

Contents: To provide a cutting method for a diamond giving higher brilliance and enabling observation of a heart and arrow phenomenon, and to provide a diamond obtained by the method. Five pavilion main facets are formed so that positions about 15 degrees shifted from a ridge of a crystal of a diamond ore on the pavilion formation side become ridges, and ten pavilion main facets are formed making these as bases. On the pavilion side of the diamond, ten pavilion main facets are formed around an acute culet as a center, and twenty lower girdle facets are formed between them.

Application

### **USD502122: Gem pavilion**

Applicant: Dynamic Diamond Corp.  
Publication: 22/02/2005  
Filed: 09/10/2003  
Contents: Design. Cushion.  
Remarks: Partial design.  
Granted

### **USD502123: Harmony cut gemstone**

Applicant: Star Diamond Group, Inc.  
Publication: 22/02/2005  
Filed: 15/12/2003  
Contents: Design. Hexagon.  
Granted

### **US6858078: Apparatus and method for diamond production**

Applicant: Carnegie Institution of Washington  
Publication: 22/02/2005  
Filed: 06/11/2002

Contents: An apparatus for producing diamond in a deposition chamber including a heat-sinking holder for holding a diamond and for making thermal contact with a side surface of the diamond adjacent to an edge of a growth surface of the diamond, a noncontact temperature measurement device positioned to measure temperature of the diamond across the growth surface of the diamond and a main process controller for receiving a temperature measurement from the noncontact temperature measurement device and controlling temperature of the growth surface such that all temperature gradients across the growth surface are less than 20° C. The method for producing diamond includes positioning diamond in a holder such that a thermal contact is made with a side surface of the diamond adjacent to an edge of a growth surface of the diamond, measuring temperature of the growth surface of the diamond to generate temperature measurements, controlling temperature of the growth surface based upon the temperature measurements, and growing single-crystal diamond by microwave plasma chemical vapor deposition on the growth surface, wherein a growth rate of the diamond is greater than 1 micrometer per hour.

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**WO05007937A2: ANNEALING SINGLE CRYSTAL CHEMICAL VAPOR DEPOSITION DIAMONDS**

Applicant: CARNEGIE INSTITUTION OF WASHINGTON

Publication: 27/01/2005

Filed: 14/01/2004

Priority: 14/01/2003

Contents: A method to improve the optical clarity of CVD diamond where the CVD diamond is single crystal CVD diamond, by raising the CVD diamond to a set temperature of at least 1500 degrees C and a pressure of at least 4.0 GPa outside of the diamond stable phase.

Application

**WO05006908A2: CELEBRATION DIAMOND HAVING DOME-SHAPED CROWN WITH PAVILION**

Applicant: BROOKSHIRE DIAMOND DESIGNS, LLC

Publication: 27/01/2005

Filed: 02/07/2004

Priority: 03/07/2003

Contents: A diamond has a pavilion with a plurality of facets disposed from a girdle to a culet. A dome-shaped crown is disposed above the girdle. The dome-shaped crown has a plurality of rows of facets cut with a plurality of monotonically decreasing angles to form a stepped contour from the girdle to an apex of the dome-shaped crown. A star-shaped top-center facet is disposed at the apex of the crown. The facets of the pavilion are symmetrically disposed and extend continuous from the girdle to the culet. The plurality of sets of facets in the crown from the girdle to the apex of the crown are cut with monotonically decreasing angles, such as 90, 75, 65, 55, 45, 35, 30, 25, 20, 15, and 10 degrees, respectively.

Application

**WO05006909A1: PRECIOUS STONE CUT AND METHOD OF MAKING**

Applicant: none

Publication: 27/01/2005

Filed: 12/07/2004

Priority: 14/07/2003

Contents: A stone cut and method for cutting a stone that increase the number of facets on the stone as well as the scintillation, brilliance, and light reflectivity of the stone. The cut and method includes cutting angles and increased number of facets that, either separately or together, manage the external and internal light flow dynamics of a round cut diamond to a higher level of efficiency, effectiveness, and performance. In accordance with another aspect of the invention, different cutting angles and proportions generate greater brilliance, dispersion, scintillation, and light reflectivity of the stone.

Application

**WO05007935A2: TOUGH DIAMONDS AND METHOD OF MAKING THEREOF**

Applicant: CARNEGIE INSTITUTION OF WASHINGTON

Publication: 27/01/2005

Filed: 14/07/2004

Priority: 14/07/2003

Contents: A single crystal diamond grown by microwave plasma chemical vapor deposition has a hardness of 50-90 GPa and a fracture toughness of 11-20 MPa m<sup>1/2</sup>. A method for growing a single crystal diamond includes placing a seed diamond

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in a holder; and growing single crystal diamond at a temperature of about 1000 °C to about 1100 °C such that the single crystal diamond has a fracture toughness of 11-20 MPa m<sup>1/2</sup>.

Application

### **WO05007936A2: ULTRAHARD DIAMONDS AND METHOD OF MAKING THEREOF**

Applicant: CARNEGIE INSTITUTION OF WASHINGTON

Publication: 27/01/2005

Filed: 14/07/2004

Priority: 14/07/2003

Contents: A single crystal diamond grown by microwave plasma chemical vapor deposition annealed at pressures in excess of 4.0 GPa and heated to temperature in excess of 1500 degrees C that has a hardness of greater than 120 GPa. A method for manufacture a hard single crystal diamond includes growing a single crystal diamond and annealing the single crystal diamond at pressures in excess of 4.0 GPa and a temperature in excess of 1500 degrees C to have a hardness in excess of 120 GPa.

Application

### **USD501421: Cut diamond**

Applicant: ABA Diamond Corporation

Publication: 01/02/2005

Filed: 28/05/2003

Contents: Ornamental design. Cit cornered square. Step cut pavilion.

Granted

### **USD501422: Gem pavilion**

Applicant: Dynamic Diamond Corp.

Publication: 01/02/2005

Filed: 09/10/2003

Contents: Ornamental design. Cit cornered rectangular step cut pavilion.

Remarks: Partial design.

Granted

### **USD501423: Precious stone**

Applicant: none

Publication: 01/02/2005

Filed: 18/11/2003

Priority: 19/05/2003

Contents: Ornamental pear shape design.

Granted

### **US6850160: Gemstone inventory and detection system**

Applicant: none

Publication: 01/02/2005

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.

Granted

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**US20050022555A1: PRECIOUS STONE SETTING**

Applicant: none

Publication: 03/02/2005

Filed: 31/07/2003

Contents: A precious stone setting is disclosed. The setting comprises a shank body, a collet and an external rim. The circumferential edge of the shank body is provided with an inwardly contracting cavity and the inner wall of the recessed cavity is provided with a groove. The precious stone is positioned at the collet having two pivotal shafts protruded into shaft holes preset at the inner side of the external rim to form a rotatable connection. The external side of the external rim, between two shaft holes, has two perpendicularly extended pivot shafts and are insertable into the groove of the body. The precious stone is free to pivotally rotate in accordance with the position of the external rim, the branch shaft of the collet and in combination of the rotating of the external rim within the groove the precious stone is provided with sloping swinging angle and direction accordingly to the movement of the shank so as to provide aesthetic appearance.

Application

**US20050025886A1: Annealing single crystal chemical vapor depositon diamonds**

Applicant: Carnegie Institution of Washington

Publication: 03/02/2005

Filed: 13/07/2004

Contents: A method to improve the optical clarity of CVD diamond where the CVD diamond is single crystal CVD diamond, by raising the CVD diamond to a set temperature of at least 1500 degrees C. and a pressure of at least 4.0 GPa outside of the diamond stable phase.

Application

**DE202004009165U1: Vorrichtung zur Sortierung von lichtbrechenden Partikeln**

Applicant: AIS Sommer GmbH & Co.KG

Publication: 11/11/2004

Filed: 30/04/2004

Contents: Vorrichtung zur Sortierung von lichtbrechenden Partikeln, insbesondere Diamanten, mit einer Fördereinrichtung für die Zuführung der lichtbrechenden Partikel an eine Trenneinrichtung, einer Trenneinrichtung, die mindestens ein einen Aufnahmebereich aufweisendes Lichtaufnahmemittel sowie eine erste und eine zweite Lichtquelle aufweist, wobei die erste und zweite Lichtquelle so angeordnet sind, daß von der ersten und zweiten Lichtquelle emittiertes Licht im wesentlichen nicht direkt von dem Lichtaufnahmemittel aufgenommen wird, und wobei dem Lichtaufnahmemittel ein passiver, dunkler Hintergrund zugeordnet ist, der sich im Aufnahmebereich des Lichtaufnahmemittels befindet.

Application

**EP0986971B1: Stone setting method**

Applicant: Nelson Jewellery Arts Co.,Ltd

Publication: 19/01/2005

Filed: 23/08/1999

Contents: A method of producing stone-set jewelry includes the step of forming at least one affixation-groove within the stone to be set in the jewelry. A stone to be set with the present method should have an upper and a lower portion which is at least substantially entirely hidden from view when the upper portion of the stone is viewed. In accordance with the present method the affixation-groove should be

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formed in the lower portion of the stone such that it too is hidden from view when the upper portion of the stone is viewed. The method also includes the deposition of a mounting material within the affixation-groove by applying a conventional casting method. Finally, any excess deposited mounting material can be removed and the stone affixed to the article of jewelry via the mounting material such that the mounting material of a completed article of jewelry is not visible when the stone is viewed from the upper portion thereof. New articles of jewelry formed from the methods of producing jewelry are also disclosed.

Granted

### **USD501148: Square gemstone**

Applicant: Diarough N.V.

Publication: 25/01/2005

Filed: 10/09/2003

Contents: The ornamental design for a cut cornered square gemstone.

Granted

### **USD501149: Round shaped gemstone**

Applicant: Diarough N.V.

Publication: 25/01/2005

Filed: 10/09/2003

Contents: The ornamental design for a round shaped gemstone.

Granted

### **USD501150: Round cut gemstone**

Applicant: Diarough N.V.

Publication: 25/01/2005

Filed: 10/09/2003

Contents: The ornamental design for a round cut gemstone.

Granted

### **USD501151: Precious stone**

Applicant: none

Publication: 25/01/2005

Filed: 18/11/2003

Priority: 19/05/2003

Contents: Ornamental design, heart shape.

Granted

### **USD501152: Precious stone**

Applicant: none

Publication: 25/01/2005

Filed: 18/11/2003

Priority: 19/05/2003

Contents: Ornamental design, marquise.

Granted

### **USD501153: Precious stone**

Applicant: none

Publication: 25/01/2005

Filed: 18/11/2003

Priority: 19/05/2003

Contents: Ornamental design, oval shape.

Granted

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### **USD501154: Precious stone**

Applicant: none  
Publication: 25/01/2005  
Filed: 18/11/2003  
Priority: 19/05/2003  
Contents: Ornamental design, cut cornered square.  
Granted

### **USD501155: Precious stone**

Applicant: none  
Publication: 25/01/2005  
Filed: 18/11/2003  
Priority: 19/05/2003  
Contents: Ornamental design, cut cornered rectangular.  
Granted

### **USD501156: Precious stone**

Applicant: none  
Publication: 25/01/2005  
Filed: 18/11/2003  
Priority: 19/05/2003  
Contents: Ornamental design, rounded triangle.  
Granted

### **WO05004662A2: GEMSTONE AND CORRESPONDING METHOD OF CUTTING**

Applicant: DAVIDI, Ofer  
Publication: 20/01/2005  
Filed: 11/07/2004  
Priority: 11/07/2003  
Contents: A gemstone having a crown, a girdle and a pavilion, wherein the girdle is shaped such that, when viewed in plan view, it is primarily bounded by four pairs of parallel straight edges. Three of the four pairs of edges are spaced by roughly equal spacing D1, while the remaining pair of edges is spaced by a spacing D2, wherein D2 is greater than D1 by between 10% and 40%. Also provided is a method for cutting such a gemstone.  
Application

### **USD500962: Diamond**

Applicant: My-Diamond Place Ltd.  
Publication: 18/01/2005  
Filed: 07/07/2003  
Contents: Ornamental design. Round.  
Granted

### **USD500961: Precious stone**

Applicant: L. Krochmal and Sons, besloten vennootschap met beperkte aansprakelijkheid  
Publication: 18/01/2005  
Filed: 13/06/2003  
Priority: 19/12/2002  
Contents: Ornamental design. Cut cornered square.  
Granted

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**USD500963: Fan gemstone**

Applicant: Diarough N.V.

Publication: 18/01/2005

Filed: 10/09/2003

Priority: 10/03/2003

Contents: Ornamental design. Mixed cut.

Granted

**US20050011225A1: Gemstone material**

Applicant: none

Publication: 20/01/2005

Filed: 14/07/2003

Contents: The invention provides a gemstone material having therein embedded a plurality of dichroic particles. Methods of producing the gemstone material are also provided. The gemstone material can be provided in the form of a slab, faceted gemstone, or cabochon.

Application

**US20050011226A1: Precious stone cut and method of making**

Applicant: none

Publication: 20/01/2005

Filed: 14/07/2003

Contents: A stone cut and method for cutting a stone that increase the number of facets on the stone as well as the scintillation, brilliance, and light reflectivity of the stone. The cut and method includes cutting angles and increased number of facets that, either separately or together, manage the external and internal light flow dynamics of a round cut diamond to a higher level of efficiency, effectiveness, and performance. In accordance with another aspect of the invention, different cutting angles and proportions generate greater brilliance, dispersion, scintillation, and light reflectivity of the stone.

Application

**US20050011433A1: Tough diamonds and method of making thereof**

Applicant: Carnegie Institution of Washington

Publication: 20/01/2005

Filed: 13/07/2004

Contents: A single crystal diamond grown by microwave plasma chemical vapor deposition has a hardness of 50-90 GPa and a fracture toughness of 11-20 MPa m<sup>1/2</sup>. A method for growing a single crystal diamond includes placing a seed diamond in a holder; and growing single crystal diamond at a temperature of about 1000° C. to about 1100° C. such that the single crystal diamond has a fracture toughness of 11-20 MPa m<sup>1/2</sup>.

Application

**US20050011224A1: Collet for precious stones**

Applicant: none

Publication: 20/01/2005

Filed: 24/05/2004

Priority: 29/11/2001

Contents: A collet system for embedding and clamping precious and non-precious stones on a support to create a jewel where the stone is mounted, characterised in that the collet is made up of a straight or round polygonal closed contour having various projections towards the outside and the inside alternatively; in that vertical grooves are made in said projections towards the inside from bottom to top, such



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grooves not reaching the upper face of the collet or having a narrow dimension, thus creating a shape or dimensional shoulder towards the tops; in that such grooves have to precisely hold and clamp a cylindrical pin having dimensions matching the grooves to clamp the stone.

Application

### **US20050005639A1: Precious stone setting**

Applicant: none

Publication: 13/01/2005

Filed: 27/06/2003

Contents: A jewelry piece includes a precious stone having a visible upper surface and a body extending below the upper surface, the body having facets that meet to form corners, each facet having a groove at each corner that extends from the corner along only a portion of the facet so that the grooves of the facets that form each corner meet at the corner.

Application

### **US20050005640A1: Gemstone and corresponding method of cutting**

Applicant: none

Publication: 13/01/2005

Filed: 02/03/2004

Contents: A gemstone having a crown, a girdle and a pavilion, wherein the girdle is shaped such that, when viewed in plan view, it is primarily bounded by four pairs of parallel straight edges. Three of the four pairs of edges are spaced by roughly equal spacing D1, while the remaining pair of edges is spaced by a spacing D2, wherein D2 is greater than D1 by between 10% and 40%. Also provided is a method for cutting such a gemstone.

Application

### **US20050005641A1: Diamond cutting method, enneahedral-cut diamonds and assembly of enneahedral-cut diamonds**

Applicant: none

Publication: 13/01/2005

Filed: 12/08/2004

Priority: 22/01/2001

Contents: Disclosed is a diamond cutting method comprising the steps of: forming a square or rectangular table in a piece of gemstone; and forming a pavilion continuous to the table by cutting vertically from each side of the square or rectangular table to define the four lower-girdle facets and by cutting obliquely from each corner of the square or rectangular table to the culet of the pavilion to form four lower-main facets, whereby the upper opposite sides of each lower-main facet adjoining the adjacent lower-girdle facets whereas the lower opposite sides of each lower-main facet adjoining the confronting lower opposite sides of the adjacent lower-main facets. An enneahedral-cut diamond thus produced is a table-and-pavilion structure, permitting plural diamonds to be arranged side by side as a whole with their square or rectangular tables directed inward or outward.

Application

### **US20050005642A1: Laser marking system**

Applicant: none

Publication: 13/01/2005

Filed: 12/08/2004

Contents: A laser energy microinscribing system, comprising a semiconductor excited Q-switched solid state laser energy source; a cut gemstone mounting system,

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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. The system may further comprise an input for receiving marking instructions; a processor for controlling said displaceable stage based on said marking instructions and said imaging system, to selectively generate a marking based on said instructions and a predetermined program; and a storage system for electronically storing information relating to images of a plurality of workpieces. A secure certificate of authenticity of a marked workpiece is also provided.

Application

### **WO05003745A1: METHOD AND SYSTEM FOR PREDICTION THE COLOR OF GEMSTONES**

Applicant: GRAN COMPUTER INDUSTRIES LTD.

Publication: 13/01/2005

Filed: 06/07/2004

Priority: 07/07/2003

Contents: Predicting a first color of a cut gemstone a first geometry, from an uncut gemstone having a second color and a second geometry by means of a system comprising gemstone-mapping device for measuring the second geometry of the uncut gemstone, a spectral measurement device for measuring the second color of the uncut gemstone; and a processor adapted to determine an absorption coefficient of the uncut gemstone's material based on data from the gemstone-mapping and the spectral measurement devices, and on calculations relating to behavior of light in the uncut gemstone. The processor is adapted to deduce the first color based on the first geometry, the deduced coefficient and calculations relating to behavior of light in the cut gemstone.

Application

### **US20050000246A1: Method of faceting of gemstones to produce spiraling effect**

Applicant: none

Publication: 06/01/2005

Filed: 03/07/2003

Contents: Cut gemstones, and methods for producing such gemstones, providing a spiraling effect on the crown. The gemstone cutting method includes cutting crown facets such that they radiate in a spiral fashion from a central facet. The spiraling effect can be achieved by cutting the (non-table) crown facets such that they are nested between the previous (closer to the table) facets. The crown facets may be square or parallelograms. By disposing each subsequent crown facet between two previous facets, the facets appear as if they are spiraling from the central facet. The result is enhanced scintillation and brilliance.

Application

### **US20050000405A1: Celebration diamond having dome-shaped crown with pavilion**

Applicant: none

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Publication: 06/01/2005

Filed: 25/09/2003

Contents: A diamond has a pavilion with a plurality of facets disposed from a girdle to a culet. A dome-shaped crown is disposed above the girdle. The dome-shaped crown has a plurality of rows of facets cut with a plurality of monotonically decreasing angles to form a stepped contour from the girdle to an apex of the dome-shaped crown. A star-shaped top-center facet is disposed at the apex of the crown. The facets of the pavilion are symmetrically disposed and extend continuous from the girdle to the culet. The plurality of sets of facets in the crown from the girdle to the apex of the crown are cut with monotonically decreasing angles, such as 90, 75, 65, 55, 45, 35, 30, 25, 20, 15, and 10 degrees, respectively.

Application

### **USD500700: Precious stone**

Applicant: K. Einhorn BVBA

Publication: 11/01/2005

Filed: 12/05/2004

Priority: 21/04/2004

Contents: Design. Round.

Granted

### **JP2004264081A2: METHOD OF JUDGING PRESENCE OF HEAT TREATMENT IN NATURAL TYPE II DIAMOND**

Applicant: NATIONAL INSTITUTE FOR MATERIALS SCIENCE

Publication: 24/09/2004

Filed: 28/02/2003

Contents: To judge the presence of heat treatment, considering the necessity of judging the presence of the treatment as to a treated stone, because a technique is recently developed to make pale a color of brown natural II type diamond by heat-treating it to enhance its value as a jewel, and because the such treated diamond appears in a jewel market. In this judging method, a cathode luminescence spectrum is measured within 230nm-275nm of wavelength range in the natural diamond to confirm the presence of luminescent peaks (B1=235nm, B2=242nm, B3=250nm) of a free exciton, intensities of luminescent peaks called BD(F), BD(G) and 5RL are compared with the free exciton luminescent peaks, and the presence of the heat treatment is determined when those luminescent intensities are smaller than the B3 (250nm) peak of the free exciton.

Application

### **USD499981: Diamond**

Applicant: My Diamond Place Ltd.

Publication: 21/12/2004

Filed: 04/09/2003

Contents: Design. Cut cornered rectangular.

Granted

### **USD499982: Gem crown**

Applicant: Dynamic Diamond Corp.

Publication: 21/12/2004

Filed: 09/10/2003

Contents: Partial design. Cushion crown.

Granted

### **USD499979: Precious stone**

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Applicant: none  
Publication: 21/12/2004  
Filed: 18/06/2003  
priority: 26/02/2003  
Contents: Design.  
Granted

### **USD499980: Precious stone**

Applicant: none  
Publication: 21/12/2004  
Filed: 19/06/2003  
priority: 24/12/2002  
Contents: Design. Octagon.  
Granted

### **USD499983: Faceted gemstone**

Applicant: Kristall Classics, Inc.  
Publication: 21/12/2004  
Filed: 28/10/2003  
Contents: Design. Octagon.  
Granted

### **USD499984: Oval faceted gemstone crown**

Applicant: none  
Publication: 21/12/2004  
Filed: 12/11/2003  
Contents: Design. Oval.  
Granted

### **WO04113597A1: THE TECHNIQUE OF PRODUCTION OF FANCY RED DIAMONDS**

Applicant: VINS, Viktor Genrihovich  
Publication: 29/12/2004  
Filed: 27/05/2004  
Priority: 26/06/2003

Contents: The invention concerns the treatment of diamonds in order to give them different colors. The technique consists in producing isolated substitutional nitrogen atoms, or C centers in the crystal lattice of natural type Ia diamond containing A centers or of natural high-nitrogenous type Ia diamond containing over 800 ppm of nitrogen in the form of A and B1 centers. Natural type Ia diamonds containing A centers are annealed in a high-pressure apparatus at a temperature over 2150°C under stabilizing pressure of 6.0-7.0 Gpa, then irradiated with  $5 \times 10^{15}$ - $5 \times 10^{18}$  cm<sup>-2</sup> 2-4 MeV electrons and finally annealed in vacuum at a temperature no lower than 1100°C. Natural high-nitrogenous type Ia diamonds, containing over 800 ppm of nitrogen in the form of A and B1 centers, are irradiated with high-energy electrons with the irradiation dose over 10<sup>19</sup> cm<sup>-2</sup> and are annealed in vacuum at a temperature no lower than 1100°C. Thus Fancy Red diamonds are produced with stable N-V centers absorbing in the 400-to-640 nm range.

Application

### **US6821193: Material positioning and shaping system apparatus**

Applicant: none  
Publication: 23/11/2004  
Filed: 27/03/2002

## WTOCD

Contents: An apparatus, system, and method thereof for material positioning and shaping. The apparatus includes a two-section positioning system which includes a guide and follower thereon for positioning along a path.

Granted

### **EP1484994A2: GEMSTONE IMAGING SYSTEM AND APPARATUS AND METHOD OF USE THEREOF**

Applicant: Dialit Ltd.; Porat, Zvi

Publication: 15/12/2004

Filed: 19/02/2003

Priority: 19/02/2002

Contents: The present invention is of a gemstone imaging apparatus and system and method of use of the system in the measurement and defining of processing parameters for gemstones and diamonds while providing enhanced accuracy in measurements and in the end-product produced, than known gemstone imaging devices and methods. The gemstone imaging for use in the processing and measurement and defining of processing parameters for gemstones. The gemstone imaging system including: a camera device including at least one lens for producing an image of the gemstone b a gemstone securing mechanism for securing said gemstone c a gemstone displacement element, attached to said gemstone securing mechanism, for rotationally displacing said gemstone in relation to said at least one lens d a means for aligning and securing said at least one lens and e a displacement element attached to said means for aligning and securing said at least one lens, for displacing said at least one lens in relation to said gemstone.

Application