LEGAL PROTECTION FOR PROPRIETARY DIAMOND CUTS

By Thomas W. Overton

Despite the rapid profusion of new branded and proprietary diamond cuts in recent years, considerable confusion exists in the trade about the important differences between trademarks and patents. Proprietary brand names can be protected by trademark registration (typically noted by a registration [®] symbol next to the brand name), while proprietary designs or products can be protected by patents. Both methods have important limitations, and the recent history of cut designs reflects the importance of protecting a valuable diamond cut. A study of the proprietary designs currently in the marketplace revealed a preference for trademark protection over patents, though many designs appeared to have no patent or trademark registration. A list of recent proprietary designs is given in the Appendix.

The past few decades have seen a rapid expansion in the number of proprietary diamond cuts available on the market (Drucker, 2000; Misiorowski, 2000; see figure 1). Much of this expansion has come in the last few years, concurrent with radical changes in the diamond pipeline, widespread reliance on standardized price lists, advances in diamond cutting technology (see Caspi, 1997), and falling profit margins throughout the industry. The challenges—and opportunities—of this changing market have led diamond manufacturers to seek new ways to distinguish their polished products and add recoverable value to their inventory (Scriven, 1997; Shor, 2001; Even-Zohar, 2002). Although new cut designs are frequent subjects of press releases and short news items in industry publications (see, e.g., Johnson and Koivula, 2000; Moses and Reinitz, 2002; "Who's who . . .," 2002), little attention has been paid to the legal methods required to protect these valuable designs. This article attempts to bridge this gap by first looking at the legal protections available in the United States and internationally, and then examining the legal status of many of the proprietary cut designs currently in the marketplace.

LEGAL PROTECTION FOR DIAMOND CUT DESIGN IN THE UNITED STATES

At the outset, any treatment of the subject must recognize that "branding" tends to mean different things to different people (see Even-Zohar, 2002). Thus, a distinction needs to be made between protecting a diamond cut design and merely protecting the brand name for it. Unfortunately, whether in spite of, or because of, the recent proliferation of new designs, considerable confusion exists in the diamond trade about the differences between patents and trademarks (registered and unregistered)—assuming the subject receives any attention at all. At GIA's Third International Gemological Symposium in 1999, panel discussions addressed both Diamond Cut and Branding; yet the reports of these discussions made no mention of the issue of intellectual property protection (Even-Zohar, 1999; Sielaff, 1999). The trade press often complicates matters by using

See end of article for About the Authors and Acknowledgments.
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Figure 1. New proprietary diamond cut designs such as these have become increasingly popular in recent years. Shown from left to right are a 1.74 ct Lucére® cut, a 3.23 ct Royal Asscher® cut, a 0.51 ct Asprey® cut, a 2.12 ct Eternal® cut, and a 0.94 ct radiant cut. The Eternal and Royal Asscher cuts are patented designs; the radiant design was once patented, but the patent has expired. Photo by Maha Tannous.

the terms *patent* and *trademark* incorrectly or interchangeably. One article on diamond branding, for example, asserts that "Trademarking . . . involves patenting of an idea" (Scriven, 1997), which is incorrect on at least three different levels (one can neither patent nor trademark a mere idea).

Confusion in this area is understandable, given the fact that "intellectual property" is actually a legal fiction; that is, it is "property" that exists only because rights to certain forms of human expression have evolved from centuries of case history or have been specifically created by statute. As such, they differ fundamentally from traditional property rights derived from possession of a piece of land or a physical object. Very generally, "intellectual property" means a set of rights, derived from statute and/or case law, that delineate the usage and ownership of specific, well-defined expression created by human intellect. Patents and trademarks are both forms of intellectual property.

For a diamond manufacturer seeking to protect a new cut design, as well as for a jeweler or gemologist seeking to make sense of the plethora of new products on the market, the distinctions between trademark and patent are important and should not be glossed over, as their respective intent, scope, duration, and durability differ in many significant ways. This discussion focuses initially on United States law; international law is addressed in the next section.

Trademarks. A trademark is a word, phrase, logo, or other graphic design intended to identify the source of a product or service in a specific industry. The origins of the basic concept are lost in antiquity, but the idea of a formal government registration scheme did not evolve until the 19th century. Federal trademark registration in the U.S. was first established by the Trade-Mark Act of 1881. The Act has been revised repeatedly since then, and trademark registration in the U.S. is currently governed by Title 15, Sections 1051–1129, of the United States Code (information in this section is drawn from there unless otherwise noted).

In the U.S., trademarks *may* be registered with the U.S. Patent and Trademark Office (USPTO), but need not be. Continued and consistent use is enough to establish a mark in the marketplace. *Gems & Gemology*, for example, has been the name used by GIA to identify this journal since 1934, but it has only been a *registered* trademark since 1999.

Unregistered, or "common law," marks can display a trademark symbol (™) but not a registration symbol (®). (See Title 15, Section 1111; note, however, that certain state and local laws may govern the use of the ™ symbol as well.) Ownership of a mark is *not* dependent on registration; rather, it depends on the use of the mark in commerce. However, registration conveys a number of important benefits, among them a legal presumption of ownership, distinctiveness, and trade usage that any opposing party would have to overcome with competent evidence should the trademark owner ever need to sue for unauthorized usage or other infringement of the mark.

The assistance of an attorney is not required to secure a federal trademark registration, though it can help. Registrations are reviewed by the USPTO to determine if the mark is too descriptive or generic,

or if it conflicts with existing registered marks. However, identical or nearly identical trademarks can be employed for different purposes if there is no likelihood of confusion. Although the minutiae of the classification system are beyond the scope of this article, trademarks are grouped into different classes depending on their intended use (see Code of Federal Regulations Title 37, Section 6.1, for full definitions of the current classes). For example, the term CrissCut is a registered trademark (class 14; the class for most sorts of jewelry and related items) for the patented diamond design created by Christopher Slowinski (Slowinski, 1997). The same term, however, has also been trademarked (class 29) by Lamb-Weston Inc., for a particular type of French-fried potatoes (Lamb-Weston, 2002). Because there is little danger of confusing the two usages, CrissCut fries and CrissCut diamonds can both exist in the same economy without creating trademark problems. (If you want to determine if someone else has registered a trademark you want to use, you can search for it with the USPTO's Trademark Electronic Search Service [http://tess.uspto.gov].)

Both common law marks and registered marks have important limitations. The rights to both types may be lost or considered abandoned if they are not used or if they are not defended when infringed. The owner of a registered mark also must file periodic affidavits of continued use with the USPTO (on the fifth anniversary after registration and on every subsequent 10-year anniversary thereafter) or the registration will be cancelled.

Further information about registering a trademark can be obtained from the USPTO Web site (http://www.uspto.gov/web/offices/tac/doc/basic).

Patents. A patent is the grant of a right to prevent others from making, using, selling, or importing an invention for a set period of time, which varies depending on the type of patent (information in this section is drawn from Title 35, Sections 100–376, of the United States Code unless otherwise noted). Unlike trademarks, which existed (and still exist) at common law, patents are solely a creation of statute. They exist only when they are issued by the USPTO.

A patent may be obtained for any "new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof . . . ." (Title 35, Section 101). The invention need not be a physical object; in fact, the very first U.S. patent, issued in 1790, was for a method of making potash, a common component of agricultural fertilizers (Hopkins, 1790). However, the invention *must* be new (i.e., not something previously invented), "non-obvious" (meaning a genuine innovation), useful, and original to the inventor making the application (Title 35, Sections 101–103).

Patent prosecution (the legal term for securing a patent) can be an arduous process. The services of an experienced patent attorney are usually required, as poorly prepared applications can significantly limit the scope of a patent (if they are not rejected outright). The application must pass a review by USPTO examiners, and multiple revisions are typically necessary before the patent issues. The delay between filing and issue is normally several years, and can extend a decade or longer if competing inventors contest the application. An invention can be referred to as "patent pending" during the period between filing and issue. For utility patents (discussed below), protection is retroactive to the date of filing if the patent ultimately is issued.

A patent is a form of property, which means that it can be sold, licensed, given away, or abandoned like any other sort of personal property. It is important to understand, however, that patent rights are *exclusionary*; that is, they are rights to exclude others from making use of an invention. Whether the *inventor* may manufacture or market a particular invention is another matter entirely, one that is subject to other existing laws.

Patents are time-dependent. Any use, sale, or publication of the invention (by anyone, not just the inventor) more than one year prior to application generally will prevent the issue of a patent. If an inventor intends to patent his invention, the application should be made before any disclosure or commercial use is made of it. (It is possible to gain an additional one-year grace period by filing what is known as a "provisional" application, but this is a process fraught with some pitfalls. The complexities of provisional applications—which are many and varied—are matters to be discussed with one's attorney.)

Unlike a trademark, a patented invention need not be sold, manufactured, or used in any way for the patent to persist. Thus, "protective patents," in which someone patents a device or process simply to prevent competitors from using it—without any intention of using it him or herself—are permitted. De Beers, for example, has employed protective patents in an attempt to prevent the use of certain treatment and synthesis processes (De Beers Industrial Diamonds et al., 2001a–c; Schmetzer, 2002).

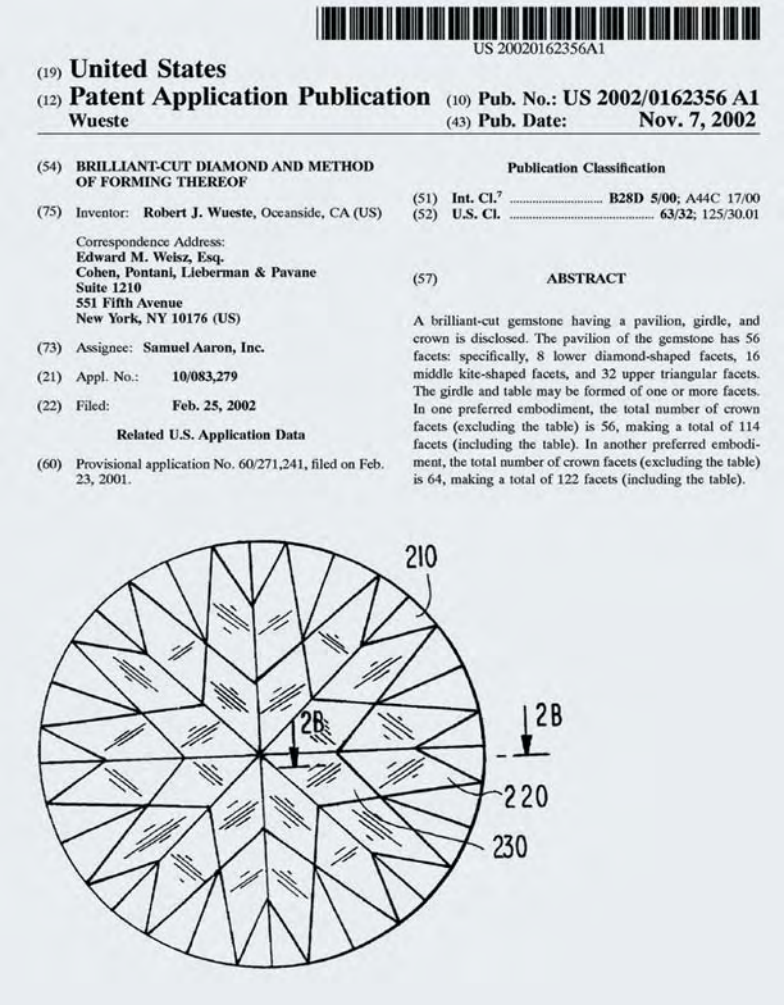
There are two main types of patents, utility and design, each with somewhat different protections (there is also a third type, not relevant here, for plants).

Utility Patents. A utility patent protects the construction of an invention, how it works, or how it is used. As such, the application must provide a carefully detailed and specific description of the nature of the invention and what it does if protection is to be adequate. For diamond cut designs, this means providing precise geometric descriptions of the facet arrangements. As an illustration of just how much detail is required, here is the first *sentence* of the 13-page utility patent for Tiffany's Lucida cut (Greeff, 2002a):

> A cut cornered mixed cut gemstone, comprising a girdle, a crown above said girdle and a pavilion below said girdle, said crown comprising a width and length formed by two pairs of opposing crown sides and four crown corners, each crown side and corner having a length along the girdle, said corner length being substantially less than said side length, said crown also comprising at least two steps, including a first step from the girdle to a crown break, and a second step from the crown break to a table break, said crown break defined by lines parallel with said girdle, said crown also having a substantially flat table, said table having one facet having four sides and four corners defined by lines parallel with said girdle, said pavilion having a bottom and comprising a substantially centrally located culet at the bottom of the pavilion, said pavilion also comprising two pairs of opposing pavilion sides and four pavilion corners defined by eight rib lines extending from the girdle to the culet, wherein each rib line extends in a substantially straight line when viewed from the bottom of the pavilion.

Obviously, such a description can only be prepared by an experienced cutter working in partnership with a qualified patent lawyer.

A utility patent application—and its contents—are confidential for the first 18 months after filing. The inventor may publicize the design before these 18 months are up (though there are few reasons for doing so), but the USPTO will not release any information about it. After 18 months, the USPTO publishes the application for public comment unless the inventor certifies that he or she will not seek to patent the invention outside the U.S. All this means that the details of the invention become public knowledge well *before* the patent is actually issued.



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(54) **BRILLIANT-CUT DIAMOND AND METHOD OF FORMING THEREOF**

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Related U.S. Application Data

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(51) **Int. Cl.**[7] **B28D 5/00**; A44C 17/00

(52) **U.S. Cl.** **63/32**; 125/30.01

(57) **ABSTRACT**

A brilliant-cut gemstone having a pavilion, girdle, and crown is disclosed. The pavilion of the gemstone has 56 facets: specifically, 8 lower diamond-shaped facets, 16 middle kite-shaped facets, and 32 upper triangular facets. The girdle and table may be formed of one or more facets. In one preferred embodiment, the total number of crown facets (excluding the table) is 56, making a total of 114 facets (including the table). In another preferred embodiment, the total number of crown facets (excluding the table) is 64, making a total of 122 facets (including the table).

Figure 2. This is the first page of the published patent application for a 122-facet proprietary diamond design created by Robert J. Wueste ("Inventor") of Oceanside, California. As "Assignee," Samuel Aaron Inc. of New York has been assigned rights to the design, should the patent be granted. This application is a follow-up to a "provisional" application, which is discussed in the text. "Publication Classification" lists the patent classes, also discussed in the text. The numbers in parentheses refer to internal USPTO codes for each category of information.

Published applications can be obtained from the USPTO (the easiest method is through the USPTO Patent Full-Text and Full-Page Image Databases at http://www.uspto.gov/patft). A portion of a published application for a diamond cut patent is shown in figure 2.

While the information in a published patent application is not protected (yet), and nothing stops a competitor from using it to his or her advantage, caution is still advised. Should the patent issue, pro-

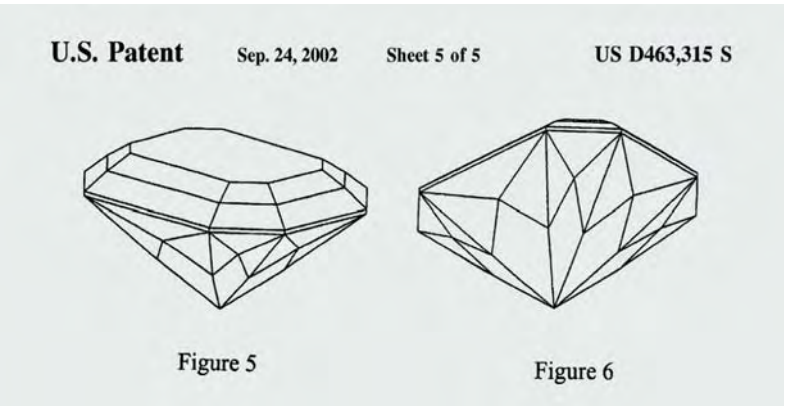


Figure 3. This portion of the design patent application for Tiffany's Lucida® cut shows a precise diagram of the design.

tection is retroactive to the date of filing, and the patent holder can then collect a fee from any party that has made use of the invention. These amounts can be substantial in cases where there are long delays between filing and issue (K. Schmetzer, pers. comm., 2002). In general, a patent ought to be issued (or denied) within three years of application. Should the USPTO's decision take longer than three years, the term of the patent will be extended for as long as the delay lasts, provided that the inventor has been reasonably diligent in prosecuting the application.

For utility patents applied for after June 8, 1995, protection extends for 20 years from the date the application was filed. For earlier patents, the term is either 20 years from filing or 17 years from the date of issue, whichever is greater.

Design Patents. A design patent protects any "new, original and ornamental design for an article of manufacture," for a period of 14 years from the date of issue (Title 35, Section 171). A design patent protects *only* the ornamental appearance of the invention and not any of its functional, structural, or utilitarian elements. Design patent applications tend to be fairly simple, as all that is necessary is a comprehensive graphic depiction of the design; detailed descriptions are not required. A portion of the design patent for Tiffany's Lucida cut is shown in figure 3 (Greeff, 2002b). In general, it is easier to obtain a design patent than a utility patent, and design patent applications are not published as utility patents are (though the patent itself is, once issued).

Note that, as Tiffany has done for the Lucida cut, it is entirely permissible to apply for and receive two different patents—one for design and one for function—for what is essentially one invention, as long as the design and function are not easily separable. Modern diamond cut patents often exist in tandem: a design patent for the appearance of the finished diamond, and a utility patent for the way it transmits light and creates brilliance.

The interrelationship between patent and trademark is important. One may register trademarks for designs that cannot be patented, and one may secure a patent for one's design only to see its trademark protection lost (e.g., from failure to defend the name or failure to file the required affidavits) after it is already on the market. The existence of one is no guarantee of obtaining—or retaining—the other.

Like trademarks, patents have classifications. Gemstone design patents are classified as D11/89 and/or D11/90; gemstone utility patents as 63/32 (knowing these classes makes searching for patents in the USPTO database much easier).

Table 1 summarizes some of the more important distinctions between trademarks and the two types of patents for a diamond cut design. Further information on U.S. patent applications can be obtained from the USPTO (http://www.uspto.gov/web/patents/howtopat.htm).

Other Potential Means of Protection. "Intellectual property" encompasses not just patent and trademark but also copyright, trade dress, and trade secret. While there have been historical attempts to

TABLE 1. Distinctions between trademarks, utility patents, and design patents for a diamond cut design.[a]

Trademark	Utility patent	Design patent
Protects brand name of cut	Protects how cut transmits light and creates brilliance, fire, and scintillation	Protects ornamental appearance of cut
Same name can be used in different industries	Exclusive to patent holder	Exclusive to patent holder
Name need not be registered if used in commerce	Patent must be filed for and issued by USPTO	Patent must be filed for and issued by USPTO
Name can be registered long after first use	Patent application must be filed within one year of first use or public disclosure of cut design	Patent application must be filed within one year of first use or public disclosure of cut design
Name must be used in commerce after registration	Design need not be used, sold, or manufactured	Design need not be used, sold, or manufactured
Duration indefinite if affidavits of continued use are timely filed	20 year duration from date of filing (or 17 years from issue for patents applied for prior to June 8, 1995, if this is longer)	14 year duration from date of issue
Class 14	Class 63/32	Classes D11/89 and/or D11/90

[a] *Sources: Code of Federal Regulations Title 37; U.S. Code Titles 15 and 35.*

use these other methods to protect diamond and jewelry designs, in general they have not been very effective (R. Shor, pers. comm., 2002). Copyright protects "original works of authorship" including "sculptural works" (Title 17, Section 102). While one can argue that a diamond cut is a "sculptural work," a certain minimum amount of creative expression is required. Without going into too much detail, the U.S. federal courts have required more original artistic expression than exists in a diamond cut design, though not in a piece of jewelry (see Hazard, 2001, pp. 2-7 to 2-10, for a general discussion of this issue).

Trade dress is a form of unfair competition law. It protects the total, overall impression created by a product or its packaging, that is, the size, shape, color, texture, or graphics—at the most basic level, the "look" and image of a product or its packaging in the consumer's mind (Jassin and Schechter, 2000). Trade dress can be registered with the USPTO as trademarks are, as long as it is nonfunctional and the product has acquired a secondary meaning. A line of jewelry and its packaging, such as Tiffany's famous blue box, might constitute protectable trade dress, though there are examples, such as designer David Yurman's attempts to protect his cable-themed designs, where the courts have rejected such claims (Donahue, 2001; Kekahbah, 2000). A diamond cut alone, however, does not qualify as trade dress.

Trade secret is, straightforwardly enough, the means by which one protects internal, proprietary trade knowledge. If the creation of a proprietary diamond design requires an original, specialized manufacturing process, that process could be considered a trade secret. The process must, however, remain secret. If it can be readily ascertained through legal means by persons who can obtain economic value from it, it is not protectable as a trade secret (see Uniform Trade Secrets Act, Section 1[4]). A diamond cut design, given that its facet arrangement is obvious to any trained observer, would not qualify as a trade secret.

INTERNATIONAL PROTECTION OF DIAMOND CUT DESIGN

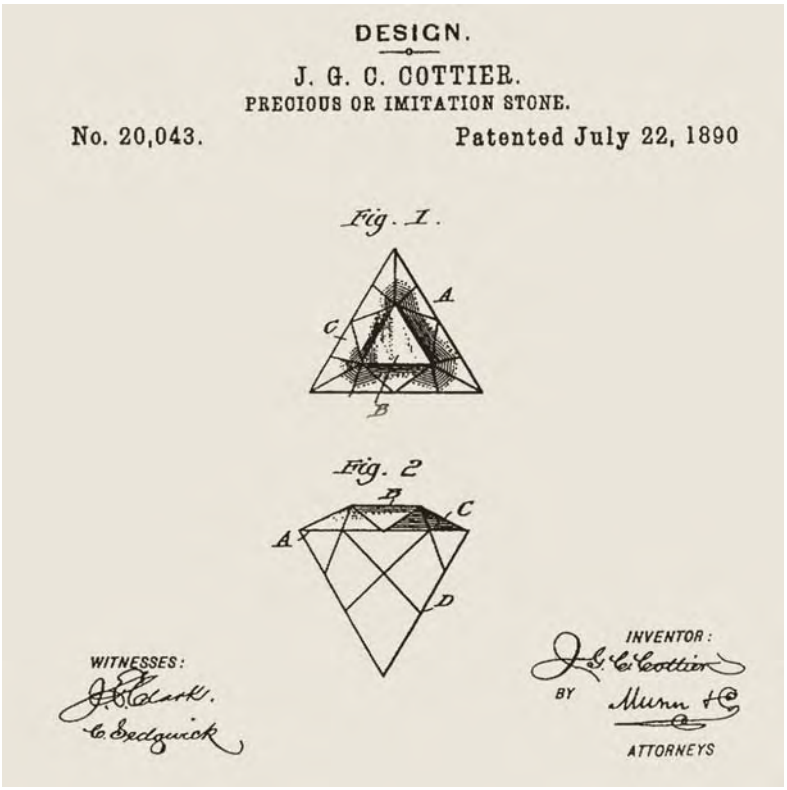
The discussion thus far has focused on United States law, but in an industry as global as the diamond trade, manufacturers must also be aware of laws in other countries. A full discussion of the complexities of international patent and trademark conventions is beyond the scope of this article, but some important elements can be noted.

There is currently no single "international" patent or trademark registration that would be valid throughout the world. One must still secure protection in each country where it is desired, but an increasing number of methods are available to simplify this process. An international, non-governmental agency known as the World Intellectual Property Organization (WIPO), headquartered in Geneva, administers a body of treaties designed to harmonize international treatment and protection of intellectual property. About 90% of the world's countries are members of WIPO (a full list can be found at http://www.wipo.int/members/members). This harmonizing process is a dynamic and ongoing one, and the ultimate goal of uniform treatment for patents and trademarks is still some distance off (WIPO, 2001). However, the so-called Madrid Protocol on the international registration of trademarks and the Patent Cooperation Treaty (PCT), both of which are discussed below, offer some hope for a more organized future.

Trademarks. As noted above, trademark protection typically ends at a country's borders, and a U.S. trademark owner must file individual registrations in all countries where protection is desired (except within the European Union [EU], as discussed below). Not all countries have trademark registration schemes but, in general, filing for registration in a WIPO member country will relate back to the U.S. filing date provided it occurs within six months of the U.S. filing (Paris Convention, 1979). With some luck, this frustrating situation may soon be seeing its last days.

The Madrid Protocol is the latest installment in a process that began in 1891; it attempts to set up a unified international system for registration of trademarks (Prahl, 2002; WIPO, 2002b). WIPO has been working hard to advance worldwide acceptance of this protocol, but thus far only 56 countries are members. The U.S. is a notable non-member, though, as of late 2002, ratification was pending before the U.S. Senate (and is expected by most observers). The Madrid Protocol does have some important differences from U.S. law; among them are the absence of a requirement of initial use and a narrower definition of what constitutes similarity for conflicting trademarks. Further information can be obtained from the WIPO (http://www.wipo.int/madrid/en).

Nearly all of the European nations are party to


DESIGN.

J. G. C. COTTIER.

PRECIOUS OR IMITATION STONE.

No. 20,043. Patented July 22, 1890

Fig. 1.

Fig. 2

WITNESSES:

INVENTOR:

BY Munn & Co

ATTORNEYS

Figure 4. The earliest U.S. patent for a gemstone cut is this 1890 design by J. G. C. Cottier.

the Madrid Protocol, but registration throughout the EU can also be accomplished by a single trademark filing known as a Community Trademark (CTM). The CTM is a specially designed registration that exists separately from individual country trademarks, and it creates rights that cover all 15 EU nations. Further information on the CTM can be obtained from the Office for Harmonization in the Internal Market (Trademarks and Designs), known as OHIM, at http://oami.eu.int/en.

Utility Patents. A diamond manufacturer cannot, yet, secure a utility patent through the WIPO, but it is possible to *begin* the application process in multiple countries by filing a Patent Cooperation Treaty (PCT) application with the USPTO, a foreign patent office, or the WIPO (WIPO, 2002a). Once the application is filed, the manufacturer has up to 30 months to proceed with local patent prosecution in the countries selected on the application. This is a significant benefit because, among other reasons, a critical difference exists between U.S. and Japanese and European patent law. In the United States, patents are issued to the first inventor. If two inventors claim the same invention, the USPTO will examine the relevant evidence (notes, data, correspondence, publications, etc.) to determine who first created the invention. In Japan and Europe, however, there exists what is often called "a race to the patent office": Whoever files first will normally get the patent, regardless of the date of invention.

Like the Madrid Protocol, a PCT application can avoid a lot of problems with inventions intended for an international market (such as a diamond cut), but the process has its own unique procedures and requirements, some of which vary depending on the countries selected. Nearly all major world countries are PCT-participating states (Namibia, Botswana, and Thailand are important exceptions for the gem trade). Further information on PCT applications can be obtained from WIPO (http://www.wipo.int/pct/en), the USPTO (http://www.uspto.gov/web/offices/pac/dapps/pct), and the European Patent Office (http://www.european-patent-office.org/ap_gd/part_2/index_pdf_e.htm).

In addition to what is available through the PCT, most of Europe has had a uniform utility patent system under the auspices of the European Patent Office (EPO) since 1977 (Norway and Poland are the main exceptions). Like Community Trademarks, an EPO patent does not replace national patents; the same invention can have both an EPO patent and patents from, say, Germany and France.

Design Patents. First, it is important to realize that design patents tend to get different treatment—sometimes very different treatment—outside the United States than they do inside. Among other things, there is no international design patent scheme comparable to the PCT, though there are some regional processes.

In the EU, the protection scheme for industrial designs resembles U.S. copyright rules almost as much as it does U.S. patent rules (see Spencer, 2002). Under a regime adopted in 2002, even *un*registered designs are automatically protected for a term of three years after the design is first made available to the public. Beginning in January 2003, registered designs are protected for five years, with protection renewable in five-year increments up to 25 years. While this is 11 years longer than the term of a U.S. design patent, the protection is not quite as strong. For example, a very important difference exists in what constitutes infringement: Unlike U.S. patent law (but similar to "fair use" provisions in U.S. copyright law; see Title 17, Section 107), a registered Community Design is not protected from private, noncommercial use or reasonable educational use.

As with CTMs and EPO patents, a Community

Design is a community-wide patent, and can coexist with a national design patent. Further information can be obtained from the OHIM, which administers Community Designs in addition to Community Trademarks.

A BRIEF HISTORY OF PATENTED DIAMOND CUTS

The general evolution of modern diamond cuts is covered exhaustively in Bruton (1970) and Tillander (1995), among many other authorities, and need not be repeated here. Unfortunately, these references, while otherwise authoritative, typically pay little or no attention to the issue of intellectual property protection.

The very first U.S. patent for a gemstone design was issued to J. G. C. Cottier of New York City on July 22, 1890, for a rather odd triangular cut (figure 4). One must wonder at the sort of jewelry setting for which this design might have been intended.

The next few years would see the issuance of a small flurry of cut patents. The year 1902 saw three patents, the first to David C. Townsend, also of New York City (figure 5, top), and the second and third to Ernest Schenck, a Belgian cutter living in New Jersey (figure 5, bottom), for cuts that bear a strong resemblance to the Jubilee cut (figure 5, inset), named in honor of the 60th anniversary of British Queen Victoria's coronation in 1897, her Diamond Jubilee (Schenck, 1902a,b; Townsend, 1902; Tillander, 1995). History does not record the motivations behind Townsend's or Schenck's respective designs, but there are likely some parallels between these two cuts and the recent proliferation of designs for modified round brilliants.

Perhaps the first diamond manufacturer to conceive the idea of associating a diamond cut with a specific manufacturer was master cutter Joseph Asscher, who was well known around the turn of the 20th century for having cut the Cullinan diamond, the largest rough diamond in history (Bruton, 1970). Asscher secured a patent for his step-cut square, which became known as the Asscher cut, in 1902. The Asscher cut was recently updated by the Royal Asscher Co. of Amsterdam. The new cut has been patented and trademarked as the Royal Asscher cut (again, see figure 1).

Many other recent designs can likewise find antecedents in earlier patents. A 1903 cut patented by three members of the famous Tolkowsky family is a strikingly modern hexagonal design (figure 6, left) that would be right at home alongside cuts created by their descendant Gabi (figure 6, top). A 1941 patent for a step-cut rectangle with a cross-shaped pavilion (figure 7, left), also issued to Ernest Schenck,

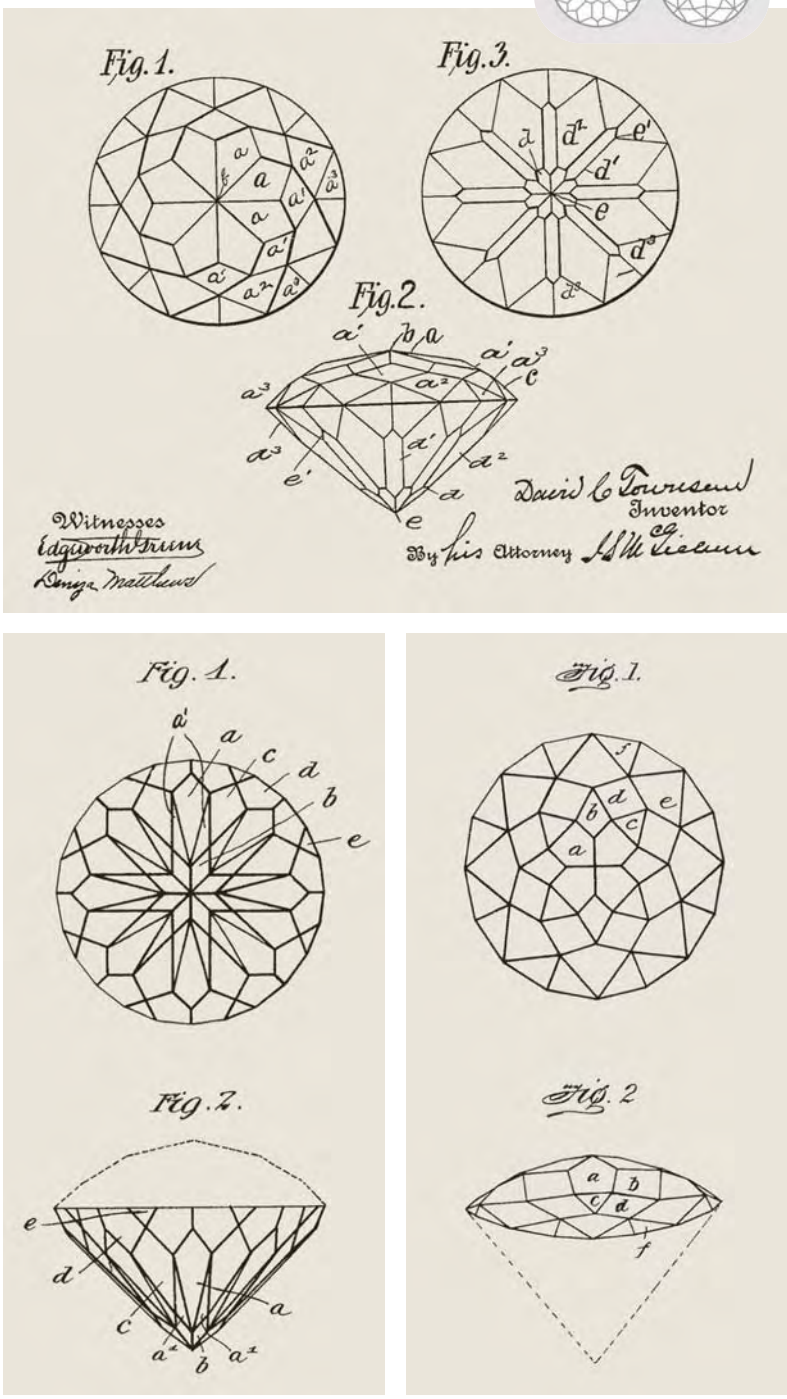


Figure 5. These three round designs by David C. Townsend (top) and Ernest Schenk (bottom, left and right) received patents in 1902 despite their similarities to the earlier Jubilee cut (inset), which was named for Queen Victoria's Diamond Jubilee in 1897.

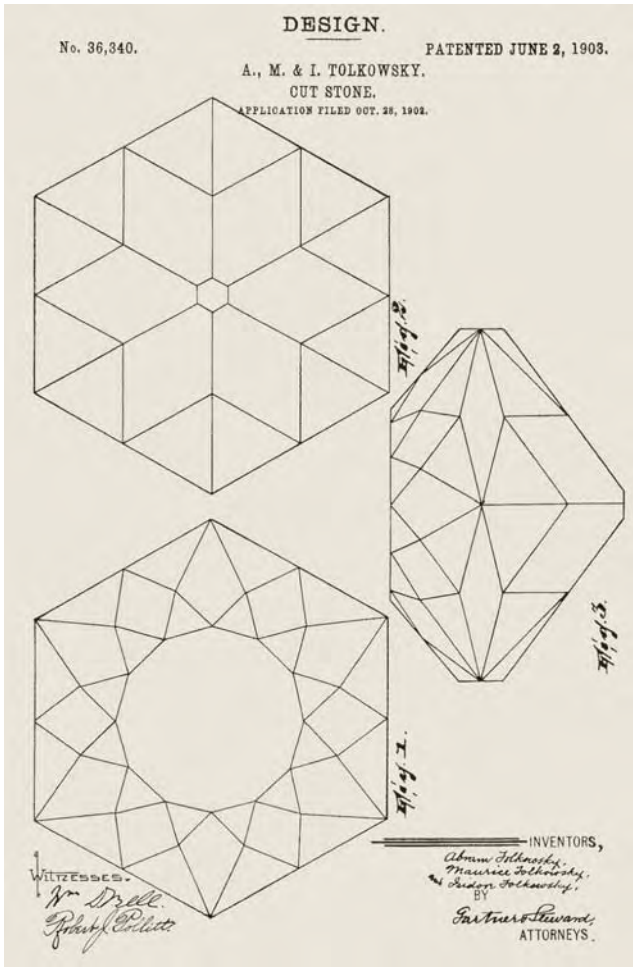


Figure 6. The FireRose cut (above), created by Gabi Tolkowsky for De Beers, strongly resembles a cut patented by members of the Tolkowsky family (left) almost a century earlier, in 1903. FireRose image © De Beers Group.

has elements that are similar to Basil Watermeyer's Barion cuts of the 1970s (figure 7, right; Schenck, 1941; Watermeyer, 1974).

Other cut elements that are now ubiquitous were once protected by patent. The polished girdle was the subject of yet another patent by Ernest Schenck in 1906 (figure 8), while the faceted girdle (see figure 9) was patented in 1944 by Edward Goldstein of Brookline, Massachusetts. All of these patents, lest the reader now be gripped by concerns of patent infringement, have long since expired.

Although these early patents are of some historical interest, for the most part they were aberrations. Of the approximately 300 U.S. patents (design and utility) ever issued for gem cut designs, all but a handful have been issued since 1975. Until that time, patenting a cut, even a highly successful one, was unusual. The source of this change in attitudes can be traced in the saga of the two most popular fancy cuts of the 1970s: Leon Finker's Trillion and Henry Grossbard's Radiant.

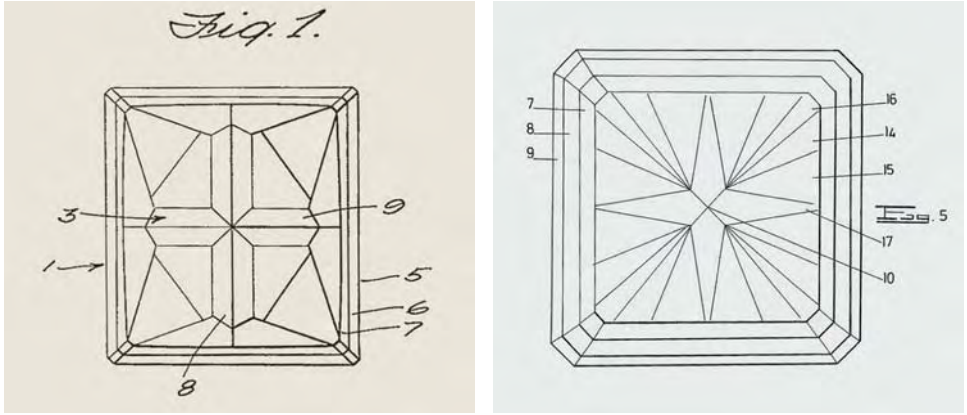


Figure 7. This 1941 design (left), also by Ernest Schenk, has some similarities to Basil Watermeyer's design for this Barion cut (right), which he patented in 1974.

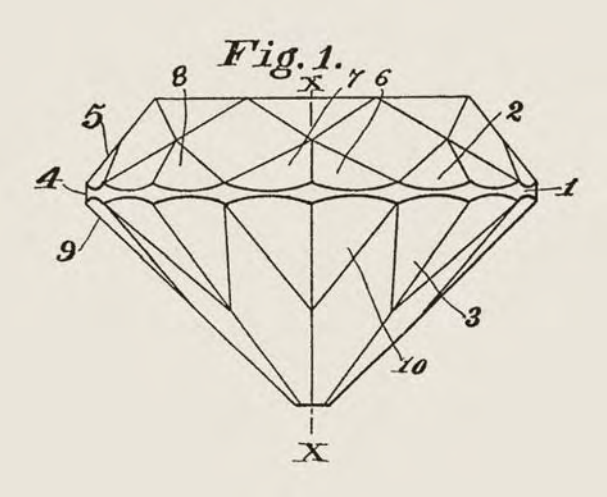


Figure 8. This drawing from Ernest Schenk's 1906 patent shows his design for a polished girdle.

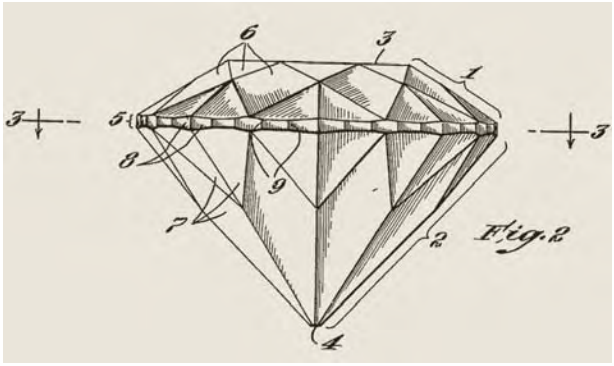


Figure 9. Edward Goldstein patented this design for a faceted girdle in 1946.

Finker introduced his triangular brilliant design (figure 10, left) in the mid-1960s, but he (initially) neither tried to register the name nor apply for a patent, despite the popularity of his cut. About the same time, Grossbard began developing his innovative mixed cut (figure 10, right), but he, unlike Finker, patented his design and registered the brand name before putting it on the market (Grossbard, 1977).

Both manufacturers had profitable designs, but only Grossbard had complete control over his. By the time Finker—perhaps inspired by Grossbard—finally tried to protect his cut in the late 1970s, it had become so popular that consumers and jewelers alike were calling any triangular diamond a "trillion." Finker got his patent (Finker and Finker, 1978), but he was unable to register the trademark. A federal judge in New York ultimately ruled that the word was too close to "trilliant," which was then also in common usage (Geolat, 1991; Sielaff, 1991). Finker spent over a decade (and a great deal of money) trying to recapture the name through his advertising, but people throughout the trade continued using the term generically. In 1991, Finker finally conceded defeat (Sielaff, 1991). He registered a new name, "Trielle" ("Trillion Diamond Co. . . .," 1991), but by this point his patent on the original trillion design had almost expired. Grossbard's Radiant patent was soon to expire as well, but he had enjoyed almost two decades of a plum position in the market: having both patent and trademark protection for a highly popular design.

Henry Grossbard was certainly not the first person to patent a notable cut design, even in the modern era (see, e.g., Huisman and Huisman, 1966; Polakiewicz, 1973; Watermeyer, 1974), but he is rightly credited with awakening the trade to the importance of protecting one's rights to a valuable cut. Indeed, there were more cut patents issued in 2002 alone than in all the years before Grossbard patented the Radiant.

THE CURRENT STATUS OF PROPRIETARY CUTS IN THE MARKET

Scope. In late 2002, the author conducted a comprehensive search of the trade literature, USPTO, EPO, and WIPO patent and trademark databases, and the Internet to compile a list of as many proprietary cuts placed on the market in the past three decades

Figure 10. Leon Finker's Trillion and Henry Grossbard's Radiant cuts were two of the most important proprietary cuts of the 1970s. Grossbard patented his design and registered the brand name, but Finker's failure to do the same contributed to his loss of control over both the name and the design. The trillion-cut diamond weighs 1.25 ct; the radiant, 2.83 ct. Photo by Maha Tannous.

as possible, and to determine their status as patented and/or trademarked property. No distinctions were made for popularity, even though some cuts included in the study are now unlikely to be seen anywhere but in estate pieces. However, branded fancy cuts that have entered the public domain through manufacturer choice (such as the De Beers/Tolkowsky Flower cuts) or the passage of time (as with Grossbard's Radiant and Watermeyer's Barion) were not considered.

The research also did not include every active U.S. gemstone patent, since many more cut patents exist than could be matched to known branded products. Rather, it was limited to cuts that the author was able to confirm have been placed on the market. (Several diamond manufacturers, notably Ambar Diamonds of Los Angeles and M. Fabrikant & Sons of New York, hold half a dozen or more patents for cuts that apparently are not yet being sold [Ambar, 1998a–g, 1999; Freilich, 2000a–d]. Some of these may be protective patents intended to deter unauthorized modifications of an established, patented design such as Ambar's Quadrillion.)

The research was further restricted to cuts intended for diamonds; patents that described cuts for colored stones or ornamental crystal were not included. In some cases, it was not clear whether the cut was designed for a specific stone, and the inclusion or exclusion thereof reflected the author's judgment based on the specific language of the patent records or other references describing a cut's usage as a diamond design.

A total of 81 proprietary cuts were identified. A complete list of the specific cuts, their manufacturers and descriptions, and their individual patent and trademark status, is given in Appendix 1.

Methods. Trademark status was based on records returned with the USPTO's Trademark Electronic Search Service, the WIPO's Madrid Express Database (http://www.wipo.int/madrid/en), and OHIM's Community Trade Mark Consultation Service (http://oami.eu.int/search/trademark/la/en_tm_search.cfm). Patent status was based on records returned from searches of the USPTO's Patent Full-Text and Full-Page Image Database and the EPO's esp@cenet search service (http://ep.espacenet.com). (The WIPO maintains a database of PCT applications [http://ipdl.wipo.int], but it is currently unofficial and for test purposes only.)

Not all cuts reported as patented in reliable literature could be located in the USPTO and EPO databases (for example, Diamco's Cushette cut is described in a *Rapaport Diamond Report* piece as being patented ["Cushette Cut," 2002], but the author could not locate any such records; the application may have been filed under a different name or may simply be pending); such cuts are described as "probable" in the Results below. Some brand names had registrations that have since been cancelled or abandoned; these were counted with the never-registered names, since the legal effect is the same.

Results. The research revealed varying attitudes about protecting cut designs. Only a minority of the cuts are known to be protected by both patent and registered trademark (20/81), with four more—all trademarked—probably patented (i.e., reported in the literature as patented, but not appearing in any of the databases). A similar number (25/81) have registered trademarks but no patents, which reflects at least some intent to protect the design (this includes two trademarked cuts for which the patents have expired). Less easy to understand are the nine cuts (plus three probables) that have patents but unregistered trademarks (though such registrations may well be pending). Finally, 20 of the 81 cuts appear to be unprotected by either patent or registered trademark.

DISCUSSION

While there does not appear to be a strong trend toward patenting designs (at most, 36 of the 81 cuts had patents, and the actual number is probably lower), the manufacturer names that accompany the patented cuts (e.g., Tiffany, Tolkowsky, Goldberg, Schachter) are significant. Whether these manufacturers are the vanguard of a trend, or the patented status of their cuts simply reflects the greater resources they can bring to protecting a design, is a matter for future attention. It is worth noting, however, that of the 29 cuts for which full patent data could be obtained, a large majority (21/29) have been patented in the last four years, and all but one have been patented in the last 10 years. Patenting a cut may not (yet) be the rule, but the pace of it is clearly accelerating.

A stronger trend toward registering trademarks was apparent, with 49 of the 81 cuts having registered brand names. From this, it is clear that the trade views protection of a brand name as more

important than protection of a cut design. This trend is more significant when the following issue is considered.

Because the intent of this study was to determine the treatment of designs that *could be patented*, it did not focus on branded versions of the traditional 57/58-facet round brilliant. However, the trend toward branding round brilliants is at least as strong as any trend toward branding new cuts. *Modern Jeweler*'s most recent annual survey of diamond branding, for example, lists 23 "ideal"-cut brand names alone (see "Who's who…," 2002), of which 15 were registered trademarks.

These results are consistent with attitudes reported in the trade literature. Many manufacturers take the position that a trademark alone (even an unregistered one) is enough to establish a cut in the market and protect it from unauthorized duplication (see, e.g., Scriven, 1997; Shor, 1997). The weaker interest in patents reflected in the study is mirrored by frequent trade concerns—which have some validity—that patent protections can be evaded by making minor changes in a duplicated design (R. Shor, pers. comm., 2002). Nor is it difficult to find manufacturers willing to dismiss the idea of intellectual property protection altogether, reasoning that quality of the polished diamond alone is enough to establish a brand in the mind of the consumer (Scriven, 1997).

In the days when the product was more important than the brand name, such attitudes could probably be excused. As diamond branding becomes more and more important, however, protecting one's brand (by all available methods) evolves from a matter of personal preference to one of survival. While the value of protecting a hard-earned brand name should be self-evident, design protections should not be dismissed either. It is true that proprietary designs typically occupy a small fraction of the total diamond market (see Even-Zohar, 2002), but any design worth the effort of creation and marketing is a design worth protecting. Indeed, the cut may attract little attention; then again, it may be the next Trillion or Radiant. In the former case, inattention to legal niceties is of little import; in the latter, it could prove very costly indeed.

CONCLUSION

Establishing and protecting branded cuts and cut brand names promises to be one of biggest issues in the diamond trade in the near future. The distinctions between trademark, which protects only the brand name, and patent, which protects the design itself, are important. Though these protections have existed for many years, the history of diamond cut patents reflects only spotty interest until recent decades.

A review of the current market indicates that the registered trademark remains the preferred method of protecting a new proprietary diamond cut, though a smaller, but accelerating, number of manufacturers and retailers are taking the further step of patenting their designs. As the diamond industry grows increasingly competitive in response to changes in the diamond pipeline, and as branding becomes the rule for manufacturers and retailers rather than the exception, the protections afforded by patent and trademark promise to become more attractive in the years to come.

ABOUT THE AUTHOR

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NOTE: This article is intended for informational purposes only and should not be used as legal advice. Readers desiring more information on these subjects should consult a qualified attorney.

Appendix 1: Proprietary/patented diamond cuts.[a]

Name	Description	Patent[b]	® Trademark[c]	Inventor/owner	References
Amity	29-facet square		No	Emdico, London	Emdico, 2002
Ashoka	62-facet modified antique cushion	2002	Yes	William Goldberg, New York	"The Ashoka cut," 1999; Goldberg, 2002
Asprey	61-facet cushion		Yes	Gabriel Tolkowsky/Asprey, London	"Asprey cut," 2002
Aster	73-facet modified round brilliant		Yes	Rosy Blue Int'l, Antwerp	Moses and Reinitz, 2002
Baguillion	Brilliant-cut baguette	No	Yes	Baguette World, Los Angeles	*GIA Diamond Dictionary*, 1993; "Baguillion," 1998; "Who's who…," 2002
Barocut	Rectangular modified brilliant	2001	Yes	Baroka Creations, New York	Rokah, 2001
Baroness	Octagonal modified brilliant	No	Yes	Raphaeli Stschik, Israel	Geolat, 1991; Koivula and Kammerling, 1991b; *GIA Diamond Dictionary*, 1993
Buddha	56-facet "Buddha"-shaped modified brilliant	+	No	J. Korn & Partners, Antwerp	Johnson and Koivula, 1996; "Buddha cut," 1998
Butterfly	Butterfly shaped	2000	No	Guy Couture/Papillion Gemme, Montreal	Couture, 2000; "Branded diamonds," 2002
Centillion	100-facet modified round brilliant	Expired	Yes	Jules Polakiewicz	Polakiewicz, 1973
Century Cut	66-, 74-, or 90-facet modified round brilliant	+	Yes	C. Kirk Root Designs, Austin, Texas	C. Kirk Root Designs, 2002
Context Cut	Octahedral modern point	1995	Yes	Freiesleben, Antwerp	Freiesleben, 1995; Kammerling et al., 1995
CrissCut	77-facet modified emerald, triangular pavilion facets	1998	Yes	Christopher Slowinski, New York	Slowinski, 1998; Misiorowski, 2000; "Who's who…," 2002
Crossfor	46-facet modified square brilliant	2000	No	Crossfor Diamond Co., Japan	Dobashi, 2000; "Branded diamonds," 2002
Cubicle Cut	9-facet square		No	August Mayer, Germany	"Optical illusion…," 2002
Cushette	Brilliant-cut cushion	+	Yes	Diamco, New York	"Cushette cut," 2002; "Who's who…," 2002
Dene Rose	Modified rose cut	No	No	Unknown/NWT, Canada	"Diamond Facts 2000/01," 2001
Diallenium	96-facet modified round brilliant		No	Orion Diamond, New York	"Branded diamonds," 2002
Diamond Star	66-76 facet five-pointed star	1996	No	Fancoldi, Switzerland	Koivula et al., 1993a; Harris and Harris, 1996
Dream	69-facet modified princess	2002	Yes	Hearts on Fire, Boston	"Branded diamonds," 2002; Rothman, 2002
Duchess	45-facet hexagonal modified marquise	No	Yes	Raphaeli Stschik, Israel	Geolat, 1991; Koivula and Kammerling, 1991b; *GIA Diamond Dictionary*, 1993
Elara (formerly Flanders)	61- or 65-facet square modified brilliant	+	Yes	Elara Diamonds, New York	Geolat, 1991; Koivula et al., 1993b; "Branded diamonds," 2002
Emdi	41-facet octagonal		No	Emdico, London	Emdico, 2002
Empress	64-facet heptagonal modified pear	No	Yes	Raphaeli Stschik, Israel	Koivula and Kammerling, 1991b; *GIA Diamond Dictionary*, 1993
Escada	97-facet dodecagon	2002	Yes	Pluczenik, Antwerp	Escada cut, 2001; Stern, 2002
Eternal	81-facet modified round brilliant	1999	Yes	Gabriel Tolkowsky/Garrard, London	Tolkowsky, 1999; Drucker, 2000
Fire and Ice Ideal	"Ideal"-cut princess		Yes[d]	Sirius Diamonds, Vancouver	"Sirius introduces…," 2002
Gabrielle	105-facet modified round brilliant	2002	No[e]	Gabriel Tolkowsky/ /Suberi Bros., New York	Tolkowsky, 2002; "Who's who…," 2002
Gordon's Diamond	73-facet sunburst pattern modified round brilliant		Yes	Zale Corp., Irving, Texas	Beres, 2002
Grace	65-facet shield		Yes	Raphaeli Stschik, Israel	"Grace Cut," 1999
Happyeight Brilliant	Octagonal modified brilliant		No[f]	Kuwayama, Antwerp	Kuwayama, 2002
Heera	49-facet modified round brilliant		No	Emdico, London	Emdico, 2002
Highlight	73-facet modified round brilliant	+	No	Diadenza, Antwerp	Diadenza, 2003
J.C. Millennium	16-sided 89-facet modified round brilliant		Yes	J.C. Millennium Diamonds, Antwerp	Drucker, 2000; "Who's who…," 2002
Jubilant Crown	Modified round brilliant, 16 extra crown facets	2001	Yes	Edwin Bruce Cutshall, Virginia	Cutshall, 2001; "Introducing the patented Jubilant Crown diamond," 2002
Juliette	Half-oval brilliant	No	No	Mark Silverstein, New York	"Who's who…," 2002
King	86-facet modified round brilliant	No	No	King Diamond Cutters, New York	*GIA Diamond Dictionary*, 1993
Leo	65-facet modified round brilliant	1999	Yes	Leo Schachter Diamonds, New York	Namdar et al., 1999; "Branded diamonds," 2002
Lily Cut	Flower-shaped, four "petals," square table, 65 facets	1997	Yes	Lili Diamonds, Israel	"New Lily Cut …," 1997; Siman-Tov et al., 1997; "Who's who…," 2002
Linz	Modified princess		Yes	Zale Corp, Irving, Texas	Beres, 2002
Lion	Modern rose-cut round brilliant		No[e]	Paul De Maere, Antwerp	"Table-less diamond…," 2002
Lucére (American)	65-facet modified princess		Yes	Ernest Slotar Inc., Chicago	"Who's who…," 2002
Lucére (European)	As Lucére (American), with 16 extra crown and 4 extra pavilion facets		Yes	Ernest Slotar Inc., Chicago	"Who's who…," 2002
Lucida	50-facet cut-cornered princess	2002	Yes	Tiffany & Co., New York	"Branded diamonds," 2002; Greeff, 2002 a, b
Magna	102-facet modified round brilliant	No	No	Unknown	*GIA Diamond Dictionary*, 1993
Marquise Dream	Hexagonal modified marquise		No	Michael Schlacter/Maico Diamond, New York	Geolat, 1991; Koivula and Kammerling, 1991a

Name	Description	Patent[b]	® Trademark[c]	Inventor/owner	References
Millennial Sunrise	43-facet, 7-table oval		No	USA Studs, New York	Drucker, 2000
Millennium	Modified emerald with faceted table		No	Harrod's Diamonds, London	"Modified emerald cut…," 1998
New Century	101-facet modified round brilliant	1999	No	Michael Parker, Honolulu	Parker, 1999
Noble	29-facet step-cut kite		No	Doron Isaak, Beverly Hills	"Who's who…," 2002
Octillion	Octagonal modified brilliant	2001	Yes	M. Fabrikant & Sons, New York	Turner and Courtney, 2001
Octus	56-facet octahedron	2000	Yes	Bunz, Germany	Bunz, 2000
Oval Dream	Octagonal modified oval		Yes	Michael Schlacter/ Maico Diamond, New York	Geolat, 1991; Koivula and Kammerling, 1991a
Pear Dream	Heptagonal modified pear		Yes	Michael Schlacter/ Maico Diamond, New York	Geolat, 1991; Koivula and Kammerling, 1991a
Petar	Square modified brilliant		No	Petar's Jewelry, Ontario, Canada	"Controversy…," 1989
Phoenix	85- to 89-facet modified round brilliant		Yes	Kristal/Phoenix Diamond, New York	"Who's who…," 2002
Princette	48-facet princess-cut baguette		Yes	Mark Silverstein, New York	"Princette," 1998; "Who's who…," 2002
Quadrillion (new)	Modified princess	2000	Yes	Ambar Diamonds, Los Angeles	Ambar, 2000; "Branded diamonds," 2002
Queen of Hearts	Square modified brilliant		Yes	Horowitz & Atlass, New York	Weldon, 2002
Queen's Cut	60-facet modified oval brilliant	1996	Yes	Henry Grossbard	Grossbard, 1996
Radiant (modified)	Cut-cornered, rectangular/square modified brilliant	1985	No	Henry Grossbard	Grossbard, 1985; "Who's who…," 2002
Regent	12-sided modified round brilliant		Yes	Horowitz & Atlass, New York	Weldon, 2002
Royal Asscher	74-facet modern Asscher (step-cut square)	2002	Yes	Royal Asscher Diamond Co., Amsterdam	"The Royal Asscher cut," 2001; Asscher, 2002
Royal Brilliant 82	82-facet modified round brilliant	+	Yes	Royal Brilliant Co.	"Who's who…," 1997
RoyalCrest	Checkerboard crown, step-cut rectangular	1996	Yes	Merit Diamond Corp., New York	Kaplan, 1996; "Who's who…," 2002
Scottish	Modified round brilliant showing St. Andrew's Cross on pavilion		No	Alison and Roy Murray, Durham, Scotland	"Scottish cut," 2000
Shiva	89-facet modified round brilliant		No	Emdico, London	Emdico, 2002
SkyStar	Flower-shaped, four pointed "petals"	1998	No[g]	Lili Diamonds, Israel	Siman-Tov et al., 1998
Spirit of Flanders	80-facet modified round brilliant		Yes	Diamwag, Antwerp	"Branded diamonds," 2002
Spirit Sun	Triangular-facet dual-pavilion round	1997	Yes	Freiesleben, Antwerp	Kammerling et al., 1995; Freiesleben, 1997
Spring	Rectangular modified brilliant		No	Whiteflash, Houston, Texas	Weldon, 2002
StarBurst	95- to 110-facet rectangular modified brilliant		Yes	Louis Glick & Co., New York	Geolat, 1991; "Who's who…," 2002
Torus	Doughnut-shaped round	1998	No	Glenn W. Lehrer, San Rafael, CA	Lehrer, 1998
Trapeze	48-facet brilliant-cut baguette	1994	No	Stephen Baker (Schlomo Bachar), New York	Federman, 1991; Bachar, 1994
Trielle	50-facet triangular modified brilliant	Expired	Yes	Trillion Diamond Co., New York	Finker and Finker, 1978; "Who's who…," 2002
Trilliant	44-facet triangular modified brilliant	No	No[h]	Henry Meyer, New York	Geolat, 1991; "Who's who…," 2002
Tycoon	Rectangular, 9-facet crown, step-cut pavilion	2002	Yes	Tycoon, Los Angeles	Johnson and Koivula, 2000; Kejejian, 2002; "Who's who…," 2002
Ultimate	64-facet baguette	+	No[f]	Stephen Baker, New York	"The Ultimate cut…," 2003
Victorian	Octagonal step cut		Yes	ABA Diamond Corp., New York	"Victorian cut," 2002
Zales Diamond	Octagonal modified brilliant	No	Yes	Zale Corp., Irving, Texas	"Branded diamonds," 2002
Zoë Cut	100-facet modified round brilliant	2001	Yes	Gabriel Tolkowsky/ Suberi Bros., New York	Tolkowsky, 2001; "Who's who…," 2002

[a]Because this table is limited to designs that could be patented, it does not include branded versions of the traditional 57/58-facet round brilliant. It is also limited to cuts patented since 1970 and to cuts that have not yet entered the public domain (whether through the passage of time or manufacturer choice).

[b]Years given are the effective date of the patent, if any. A plus sign (+) means the author believes the cut is patented, based on reference(s) listed, but could not confirm that fact by searching U.S. patent records. A blank line means the author believes the cut is not patented, based on patent searches and reference(s) listed, but could not confirm that fact through other research. Patent data are as of October 2002. See References for specific patent numbers.

[c]Trademark registration data as of October 2002. "Yes" entries include active applications in addition to registrations. Entries marked "no" include expired, cancelled, and abandoned marks in addition to marks never registered.

[d]The trademark held by Sirius is actually "Arctic Fire and Ice Diamonds." "Fire & Ice" is held by another party.

[e]Manufacturer claims a registration, but USPTO records show it as abandoned.

[f]Manufacturer claims a registration, but no records were returned from USPTO or WIPO databases.

[g]The term is registered by Bulova for watches, but not for a diamond cut.

[h]The term is registered by Henry Meyer & Co. as part of a logo but not for a diamond cut.

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