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The Choice Between Patent Protection and Trade Secret Protection: A Legal and Business Decision

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Introduction

Intellectual property [(1)] has always been utilized by enterprises. [(2)] However, modern businesses have substantially increased reliance on intellectual property. [(3)] To some extent this is a consequence of the explosion of technological innovation that has occurred over the past few decades. [(4)] Additionally, it is also attributable to the expansion of intellectual property protection. [(5)] For example, copyright protection was initially intended to protect printed matter. [(6)] Today, copyright protection extends to virtually any original work of authorship, [(7)] which can include, among other things, books, [(8)] software, [(9)] music, [(10)] pantomimes, [(11)] choreography, [(12)] motion pictures, [(13)] photographs, [(14)] maps, [(15)] three- dimensional objects [(16)] and buildings. [(17)] Trademark law traditionally covered words or logos used to create a mental association in the minds of consumers. [(18)] Modern trademarks can be virtually anything that creates such a mental association recognizable by consumers. [(19)] This can include slogans, [(20)] three-dimensional objects, [(21)] product packaging, [(22)] trade dress, [(23)] containers, [(24)] buildings, [(25)] sounds, [(26)] smells, [(27)] The overall color of a product [(28)] or an object that is a three-dimensional version of a trademark. [(29)] Patent law has been extended to computer software, [(30)] non-human life-forms, [(31)] methods of doing business [(32)] and new varieties of plants. [(33)] It has even been used to cover such mundane things as novel methods of lifting a box [(34)] and putting a golf ball. [(35)] Trade secret law traditionally protected secret processes used to manufacture products. [(36)] However, modern trade secret law provides

protection for virtually anything maintained in secret by a business enterprise that gives it a competitive advantage in the marketplace.[37] This can include ideas,[38] manufacturing processes,[39] manufacturing drawings,[40] software,[41] customer lists,[42] marketing data[43] and pure information.[44]

One consequence of the expanding domain of intellectual property protection has been the creation of increasing overlaps among the various bodies of intellectual property law.[45] A non-functional three-dimensional object is potentially protectible under copyright [46] and under trademark law.[47] Additionally, design patent protection[48] may also be applicable.[49] Software may be protected via copyright, patent and/or trade secret law.[50] Recently, the Supreme Court held that a sexually reproduced plant could be protectible under both the Plant Variety Protection Act and under utility patent law;[51] and an asexually reproduced plant could be protectible under the Plant Patent Act and utility patent law.[52] Likewise, new technological innovations may be protectible under trade secret law or patent law. However, unlike other areas of intellectual property law a new innovation, typically, must be protected either under patent or trade secret law, but not under both.[53]

Patent and trade secret law can be viewed as alternative bodies of law for protecting certain types of inventions.[54] Consequently, an inventor will often have to make a choice or election between the type of protection to rely on.[55] This election must be based on considering both the legal consequences that flow from the choice and the relevant business considerations that must be factored into the choice.[56]

Part I of this article will discuss the scope of patentable subject matter; Part II will discuss the scope of subject matter protectible via trade secret law. Part III will then address the legal and business considerations related to choosing between reliance on patent or trade secret law when the relevant subject matter is potentially protectible by either body of law.

I. Patent Law Subject Matter

Patentable subject matter is limited to statutory categories that are specified by the patent law.[57] These categories are "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof."[58] Although these categories have been broadly interpreted by the Supreme Court,[59] they still provide a limitation on the types of subject matter protectible via patent law.

Additionally, judicial decisions have provided that innovations that are merely abstract ideas,[60] physical phenomena[61] or laws of nature[62] are not patentable subject matter even if they fall within the literal language of the patent law. Therefore, the first person to discover a revolutionary mathematical relationship,[63] a new law of nature,[64] a new plant growing naturally[65] or a new mineral[66] cannot obtain patent coverage for the discovery even if it has great value and utility. Additionally, the results of extensive research efforts are not protectible via patent law if the discovery amounts to something that occurs naturally in nature.[67] New uses for existing compounds or machines are likewise not eligible for patent protection.[68]

Despite satisfying the above subject matter requirements, some inventions still do not qualify

for patent protection. An invention must be both original [(69)] and novel [(70)] to be eligible for patent protection. Additionally, even if an invention meets these requirements it must be something that a typical person skilled in the relevant technology would find inventive. [(71)] This last requirement, referred to as the non-obviousness requirement, [(72)] can be viewed as a filter that eliminates certain inventions from obtaining patent protection because they are not inventive enough to be granted such status. [(73)]

II. Trade Secret Law Subject Matter

In contrast to patent law, no specific categories exist for defining subject matter eligible for trade secret protection. Trade secret law utilizes a *functional* definition for determining what is protectible subject matter. [(74)] Almost anything that is maintained in secret, that is not generally known to competitors and which provides a competitive advantage is potentially protectible via trade secret law. [(75)] This would include virtually everything within the domain of patentable subject matter. However, it would also include many other things that clearly do not qualify for patent protection. [(76)] For example, courts have held customer lists, in some cases, to be trade secrets. [(77)] Additionally, pure information, such as marketing data, [(78)] ideas, [(79)] formulas [(80)] and negative data, [(81)] are potentially protectible as trade secrets but ineligible for patent protection. [(82)] Therefore, some technical know-how is protectible via either patent or trade secret law; but for other know-how the only option is trade secret protection. [(83)]

III. Factors to Consider

When innovative technology or technical know-how is eligible for either patent or trade secret protection a choice must be made. Although some would argue the superiority of patent law makes it the clear choice this is not always true. [(84)] Numerous legal and business considerations can affect the choice. [(85)] Additionally, the choice, typically, is irrevocable. [(86)] Therefore, it must be made after carefully considering all the relevant advantages and disadvantages of each choice from both a legal and a business viewpoint.

(A) Legal Considerations

(1) Recent Changes in the Law

(a) Changes that Favor Reliance on Trade Secret Law

It is possible that some recent developments in patent law may increase the desirability of trade secret protection in lieu of patent law in some cases. First, the patent law now provides, in most cases, for publication of patent applications eighteen months after filing. [(87)] Previously, patent applications were maintained in secrecy until the patent was issued. [(88)] This means that if the patent application is published at eighteen months and subsequently it is not allowed to issue, any property rights in the information will be lost since publication destroys the ability to rely on trade secret protection. [(89)] Previously, if the patent application was rejected the information in the patent application never became public. Hence, upon rejection trade secret law could be utilized. [(90)]

Secondly, a recent federal circuit decision greatly limited the scope of patent claims [(91)] which reduced the amount of protection provided by a patent.[(92)] This could make trade secret law preferable to patent law in some cases.[(93)]

(b) Changes that Favor Reliance on Patent Law

Typically, courts have the ability to safeguard trade secrets during litigation.[(94)] For example, it is not uncommon for court proceedings involving alleged misappropriation of a trade secret to be conducted in camera.[(95)] Preliminary relief, in the form of temporary restraining orders and preliminary injunctions, which prohibit any disclosure of the trade secret at issue are routinely granted.[(96)] Absent such relief the trade secret could be destroyed due to its public disclosure prior to adjudication of the misappropriation action on the merits.[(97)]

Some commentators have argued that such preliminary relief is unconstitutional as a prior restraint in violation of First Amendment free speech rights.[(98)] Traditionally, courts have been unreceptive to this argument.[(99)] However, a recent federal district court decision accepted this argument [(100)] and denied preliminary relief restricting a third party from disclosing a trade secret despite the court's belief that an action for misappropriation of the trade secret would likely succeed.[(101)] Subsequent to this decision, an intermediate appellate court in California also accepted this reasoning in a very similar trade secrets case.[(102)] The future of this theory is unclear.[(103)] However, the evolution of this theory could increase the risks of reliance on trade secret law because preliminary relief may be unavailable for maintaining secrecy of a trade secret. Consequently, the decision to bring a trade secret misappropriation action may result in loss of the trade secret due to third party disclosure of the trade secret.[(104)]

(2) Duration of Protection

Patents are granted for a definite term that is limited in time.[(105)] The United States Constitution mandates a term limit on a patent although it fails to specify what that limit should be.[(106)] Originally the term was fourteen years.[(107)] It was subsequently lengthened to seventeen years;[(108)] and, most recently to twenty years.[(109)] In contrast, a trade secret has no definite term.[(110)] Instead its term continues as long as it remains secret. Consequently, a trade secret can potentially exist for an indefinite period of time.[(111)] Or, it can cease to exist at any time if it enters the public domain [(112)] due to mistake, reverse engineering [(113)] or independent development by a third party. The result is that the economic value of a trade secret, due to its uncertain lifespan, is more unpredictable than the value of a patent because things beyond the control of the trade secret owner may lead to destruction of the trade secret. This is problematic from a business perspective because such uncertainty makes valuation uncertain. This can effect determinations such as the value of the enterprise owning the trade secret for purposes of a sale of the enterprise or for purposes of obtaining financing for the enterprise. Nevertheless, some uncertainty also exists with regard to the value of a patent due to the possibility that patent rights can be terminated prior to expiration of the patent term.

Upon issuance by the United States Patent and Trademark Office, a patent is presumed valid.[(114)] However, a variety of procedures and circumstances can result in a patent being invalided

post-issuance.[(115)] Any third party, pursuant to an administrative proceeding called a reexamination,[(116)] can submit information, in the form of other issued patented or printed publications, to the Patent and Trademark Office which is relevant to whether the patent should have been issued.[(117)] Once submitted, the Patent and Trademark Office undertakes the responsibility of determining patent validity in light of the submitted information.[(118)] Occasionally, the Patent and Trademark Office may even initiate reexamination of an issued patent on its own.[(119)] Generally, the third party has minimal involvement with this proceeding.[(120)] Nevertheless, this procedure requires minimal effort and expense to initiate so a third party, such as a competitor, may avail herself of this option if she is aware of relevant information that can affect patentability.[(121)]

It is also possible that more than one party can invent and file a patent on the same invention. If multiple parties independently invent the same thing an administrative proceeding, called an *interference*, is conducted by the Patent and Trademark Office to determine who is the first inventor.[(122)] Only one inventor is eligible to receive a patent so it must be determined who is the first inventor.[(123)] The loser of the interference action becomes an infringer if they utilize the technology. [(124)]

Interference actions can be costly[(125)] and difficult to litigate.[(126)] Typically, the date of conception[(127)] of the invention and the date the invention was reduced to practice[(128)] are critical to determining who is awarded a patent. Additionally, in some cases, an inventor must prove she was continuously diligent in completing the invention in order to prevail.[(129)] Often these things are very difficult to prove; plus, everything must be corroborated.[(130)] Also, if a foreign inventor is involved some actions that occurred outside the United States may be deemed irrelevant.[(131)] Finally, the first party to file their patent application has a procedural advantage. They are deemed the senior party and are presumptively considered the first inventor.[(132)] The result is that the burden of proof falls initially on the other party. [(133)]

Additionally, in a patent infringement suit, the alleged infringer is permitted to challenge the validity of the issued patent which is the basis of the infringement action.[(134)] Absent an infringement action, the mere threat of bringing such an action can trigger the ability of the alleged infringer to respond to the threat with a declaratory judgment action that asserts the patent is invalid.[(135)] In both cases, despite the existence of a statutory presumption of patent validity,[(136)] a court is free to determine whether the Patent and Trademark Office properly issued the patent in question. It is not uncommon for an appellate court to determine a patent is invalid.[(137)] Such a finding essentially injects the technology disclosed in the patent into the public domain.[(138)] The result is that anyone can freely use the disclosed technology.

(3) Exclusive vs. Non-Exclusive Rights

The grant of a patent provides the patent owner with "the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States."[(139)] Patent rights are exclusive.[(140)] Therefore, independent development of a patented invention by a third party does not allow that party to freely utilize

her invention. Likewise, innocent infringement is not a defense to a patent infringement action because patent rights are exclusive for the patent term.[(141)]

Typically, under United States patent law only the first inventor is entitled to a patent.[(142)] However, if the first inventor maintains her invention as a trade secret a subsequent second inventor may be entitled to a patent on the invention rather than the first inventor.[(143)] Maintaining an invention as a trade secret can lead to forfeiture of any right to obtain a patent.[(144)] Additionally, if the second inventor is granted a patent the prior trade secret owner is now an infringer despite being the first inventor.[(145)]

Any rights protected under trade secret law are non-exclusive.[(146)] In contrast to patent law, third party use of a trade secret is only actionable if the secret was obtained from the trade secret owner via breach of a non-disclosure obligation or via improper means.[(147)] Independent development by a third party is not actionable by the trade secret owner.[(148)] Additionally, a third party can lawfully use any information, including your trade secret, if it is ascertained by reverse engineering[(149)] a lawfully acquired copy of a product containing the trade secret.[(150)] Finally, what a third party does with the trade secret information can affect the future existence of your trade secret. If the third party publicly discloses the trade secret any property rights in the trade secret are extinguished, since absent secrecy a trade secret ceases to exist.[(151)] In contrast, due to the non-exclusive nature of property interests in a trade secret, if the third party maintains the secrecy of the trade secret it may continue to be a trade secret despite the fact that two parties are in possession of it.[(152)] The fact that more than one enterprise has knowledge of the same trade secret does not destroy its property status provided other enterprises are at a competitive disadvantage because they lack knowledge of the trade secret.[(153)]

(B) Business & Marketplace Considerations

For inventive subject matter that is protectible via either patent or trade secret law, the choice of which type of legal protection to utilize must be based on business and market considerations in addition to the legal considerations discussed above.[(154)] The following discussion provides an overview of some of these considerations.

(1) Market life of the Subject Matter

The commercial life of a product varies considerably. Some products, such as new toys or apparel items, may have a commercial life of only a few months to a year.[(155)] Other products may have long-term commercial viability. Analyzing the type of product and its targeted market is therefore critical in assessing whether to rely on patent or trade secret protection.[(156)]

Simple products, which serve an everyday function in a simple and inexpensive manner, often have a long commercial life. For example, a cardboard insulating sleeve which encircles a hot coffee cup is a simple, inexpensive and ubiquitous invention. Such characteristics suggest such a product, like a cup or a plate, is likely to have a substantial market life. This may explain why the inventor obtained patent protection for this product.[(157)]

On average, a patent typically takes twenty-five months to be issued. (158) Therefore, for some products patent protection may not exist until after the market life of the product has expired. (159) Nevertheless, the potential market life of a product may be difficult to predict in advance. Consumers can be fickle; additionally, changes in society, unexpected events, catastrophic events and advances in technology can radically alter market demand. For example, the close 2000 presidential election focused attention on the inadequacies of voting technology. (160) The result may be an increased market for new voting devices. Additionally, the terrorist attack on the World Trade Center in New York City (161) has resulted in adoption of heightened security measures at airports (162) and other facilities in the United States. (163) This will increase the market demand for technology that can be used for security purposes. (164) Hence, a patent can be a form of insurance for providing market control for the patented product if it has a longer market life than expected.

Alternatively, prior to seeking a patent , a product can be introduced into the marketplace to assess consumer response in an effort to predict the potential market life of the product. However, United States' law only allows one year of commercialization of an invention before the right to obtain patent protection is forfeited. (165) Additionally, most foreign countries lack any grace period so introducing a product into the marketplace typically would destroy the ability to obtain any patent protection outside the United States. (166) In light of the global expansion of business enterprises today such loss of foreign rights may militate against commercializing an invention prior to seeking a patent protection. (167)

(2) Likelihood of the Subject Matter Being Reverse Engineered

Trade secret law provides minimal protection if competitors can reverse engineer (168) the protected technology. Consequently, technology that can be easily reverse engineered is an ideal candidate for patent protection rather than trade secret protection. (169) Therefore, it is necessary to assess the likelihood of third parties successfully engaging in such action.

If the proprietary technology is incorporated into a product that is widely sold to consumers it may be difficult to prevent reverse engineering. Realistically, widespread distribution of the product limits the ability to exert any meaningful control over what is done with the product. In contrast, if the technology will only be sold to a limited number of third parties it may be possible to control utilization of the technology to minimize risk of reverse engineering. For example, the technology can be licensed to each third party pursuant to a contractual agreement which forbids reverse engineering and which requires the licensee to maintain the technology in strict secrecy. (170) This approach can work for expensive technology sold to a limited number of buyers; in such transactions it is possible to individually negotiate with buyers. However, if the technology is incorporated into a widely sold product, such as mass-market consumer product, it is impractical to individually negotiate each sale.

The difficulty and expense of engaging in reverse engineering must also be considered. The time, manpower requirements and monetary costs for a competitor to engage in reverse engineering must be determined by persons with technical expertise in the relevant field. However, this may be a difficult determination to make. A time consuming and expensive task

can become easy, quick and inexpensive in light of rapidly changing technology. Additionally, the difficulty of predicting technological advances increases the uncertainty of this determination. Nevertheless, some companies have relied on trade secret protection for substantial periods of time without their products being reverse engineered despite widespread consumer sale and distribution of the product. [(171)]

(3) Likelihood of the Subject Matter Being Independently Developed

The complexity of the invention is relevant to predicting whether independent development is a real concern. [(172)] **Highly complex inventions may be technically difficult to independently develop. Additionally, such development, even if possible, may be too costly to pursue. Nevertheless, in technology-dependent markets exponential advances in technology can quickly render a complex invention simple.**

However, the relevance of this factor is dependent on the industry and field of technology in addition to the particular invention. In some industries change is slow; while in others, such as computer hardware and software, technology changes so quickly that complex and innovative products rapidly become obsolete. [(173)] **For example, the microprocessor chips used in computers are continuously being significantly improved so rapidly that after a few years existing microprocessors become virtually commercially worthless. Nevertheless, some products even in a fast moving field such as computers remain static. For example, the power supplies used internally in most computers utilize basic technology that has changed little in over a decade or more. Additionally, numerous everyday products, such as paper clips and wire coat hangers, have been used for years and continue to be used with little change to the products.**

The number of competitors working in this field is also relevant. The more competitors that exist the higher the likelihood one of them may independently develop the same secret information. The size of the competitors in the field and the necessary capital expenditures to enter a market must also be considered. If the relevant product market is dominated by a few multi-national enterprises the difficulty of competing with such enterprises may deter new competitors from entering the market; thereby, reducing the odds of independent development. Necessary capital expenditures to enter the field are also a factor. Some businesses, such as certain types of manufacturing, require tremendous capital investment. [(174)] **Such large capital requirements can create an economic barrier to entry into the marketplace, which also reduces the number of competitors.** [(175)]

Additionally, the amount of money being expended generally by competitors on research and development activities in the field is related to the likelihood of independent third party development of a trade secret. The potential payoff for achieving market success in the field is also relevant. For example, the potential economic reward for a drug that cures cancer could lead to extraordinary research and development expenditures to develop such a pharmaceutical. This increases the likelihood of more than one competitor developing the same cure. Consequently, the likelihood of parallel independent development of the same technology dictates reliance on patent protection, since unlike trade secrecy, the patentee obtains exclusive rights to the patented invention, provided she is the first inventor. [(176)]

It is also relevant if multiple technological approaches or methods exist to achieve the same

result as your technology achieves. The more options that exist, the more likely someone will develop technology that, even if different from yours, will provide the same economic advantage; or, it might provide a superior economic benefit. In such a case, patent protection may provide broader protection. For example, if both a method of creating a product and the resulting product can be patented, the patent owner may be able to bar creation of the product via any method.[(177)] Additionally, third party improvements to your patentable technology, although independently patentable, may require licensing your patent.[(178)] Patent claims[(179)] may also be broadly construed. This is particularly true if the patented technology is a basic or pioneer technology.[(180)] Additionally, under certain circumstances, the judicially created doctrine of equivalents[(181)] may allow a patent to cover technology that is not literally within the language of the patent claims.[(182)]

(4) Educating Your Competitors

Patents require significant public disclosure of your invention as the price for receiving a patent.[(183)] Most patent applications will be initially published eighteen months after filing.[(184)] Additionally, even if the application is not published all issued patents are typically published.[(185)] This effectively educates your competitors with regard to your research and development activities. It also teaches your invention to your competitors. Although a patent provides exclusive rights, the knowledge it discloses may facilitate the ability of competitors to "invent-around" your patented technology. It may also provide competitors with ideas which stimulate additional innovations.

Furthermore, patents have no extraterritorial effect so a third party can freely use your invention in another country in which you have not acquired patent rights.[(186)] Additionally, some technology patentable in the United States may not be patentable in other countries.[(187)] This technology may therefore be freely usable in some countries.[(188)] In light of the expanding global economy and the development of new world markets this is a significant concern for many business enterprises.[(189)] One solution is obtaining patent protection in many countries.[(190)] However, this adds substantial cost since typically patent rights must be pursued in each country individually pursuant to each countries'patent laws.

Despite the information disclosure provided by a patent it is important to evaluate potential technological improvements related to the invention that may be developed after filing a patent application. Frequently, patents applications are filed prior to actually building and testing the patented invention.[(191)] Such applications must contain a written description of the invention that discloses the best mode of making and using the invention that is known to the inventor at the time of filing the patent application.[(192)] The description must be sufficiently complete so that someone skilled in the relevant technology area could make and use the invention based on the written description.[(193)] However, subsequent to filing, improvements to the invention may be developed when the invention is actually constructed and tested. Also, engineering difficulties may be encountered and solved during the process of converting the invention into a commercially viable product. Such technological know-how developed after filing the patent application does not have to be disclosed in the patent.[(194)] Consequently, it may be maintained as a trade secret. Such information, for some inventions, may minimize the educational effect of the patent.[(195)]

(5) Type of Subject Matter

The type of technology involved is relevant. Processes utilized to produce products may be ideal candidates for trade secret protection.[(196)] It may be impossible to reverse engineer the technology from the product because the innovation lies in the internal production process rather than in the product that is sold. Additionally, if a secret process is used to create something that is a marketplace commodity, competitors may be unaware of the existence of the process. For example, it may be possible to maintain a new manufacturing process in secret if the product made by the process is indistinguishable from the same item made by other well-known processes. In contrast, if the trade secret is embodied in a product that is sold to the public it may be possible to reverse engineer the trade secret. For example, it may be impossible to maintain the ingredients of a new cleaning fluid as a trade secret if any skilled chemist can determine the ingredients via conventional techniques.

If a new basic technology is involved patent protection may be highly desirable. Patents on such technology, called pioneer patents,[(197)] are typically broadly enforced.[(198)] Additionally, because of their basic nature, they may end up being used by everyone in the industry. Such widespread adoption may allow the patent owner to set the licensing fees low enough so that third parties have an economic incentive to obtain a license rather than engaging is extremely costly patent infringement litigation.[(199)] Widespread licensing of the technology may insure an adequate return even at a low license rate. In contrast, if the technology is a minor improvement in a well-developed field any patent may be narrowly construed. This may encourage third parties to attempt to invent around your patent, or to use preexisting technology in lieu of your patent. The result may be minimal licensing revenue from the patent which may make the cost of obtaining patent protection uneconomical in light of the potential return on investment.

(6) Difficulty of Maintaining Subject Matter as a Secret

An enterprise must make a realistic assessment of whether it can maintain an invention in secret. Maintenance of such secrecy, which is a necessity if trade secret law is relied on,[(200)] is typically not an easy task. It requires developing internal policies that stress the importance of maintaining secrecy.[(201)] Employees must be taught, on a continuing basis, the importance of protecting trade secrets.[(202)] Furthermore, an ongoing program must be adopted to continuously monitor compliance with any secrecy policies. Internal security measures may also be necessary to isolate trade secrets in order to minimize the number of employees with access to trade secret information.

In light of the mobility of the American workforce, precautions must be taken in advance to minimize the possibility that departing employees will reveal trade secrets to a subsequent employer. This may require an employer to have all employees sign covenants not to compete and/or contractual agreements to maintain the employer's trade secret in confidence both during employee and after termination of employment.[(203)]

Finally, an employer must be willing to spend the necessary funds to initiate immediate legal action to protect trade secrets from disclosure. Often this means seeking a temporary restraining order or a preliminary injunction to prevent trade secret disclosure prior to a trial on the merits.[(204)] Such action must be brought immediately since a trade secret is destroyed

once it is publicly disclosed.[(205)]

Absent the ability or the willingness to take the above steps reliance on trade secret law may be misplaced. Instead, patent law may be a preferable option.

(7) Cost of Maintaining Secrecy vs. Value of Subject Matter

Maintenance of an invention as a trade secret can entail significant costs. For example, all of the things discussed in the prior section require a monetary investment as well as employee time. The type of invention, the number of employees who require access to it and the types of physical barriers that must be utilized to maintain secrecy can all affect the cost of maintaining secrecy. Nevertheless, ascertaining such costs in the abstract is only part of the analysis. The value of the invention being maintained as a trade secret must be determined so that it can be compared to the costs to maintain secrecy. This supports reliance on trade secret law if the economic value of the invention exceeds the costs of maintaining secrecy. In contrast, patent protection may be desirable if the costs of maintaining secrecy exceed the value of the invention.[(206)]

(8) Economic Barriers to Competitors Entering the Field

In some industries the economic costs to enter the business can be significant. In such situations a trade secret may not provide a significant marketplace advantage even if the secret technology is superior to what competitors possess. This is especially true in businesses where a single enterprise has a dominant marketplace position.

Additionally, if a company has a widely recognized trademark[(207)] that represents a high quality product in the minds of consumers it may be hard to overcome that consumer perception.[(208)] Established companies with strong trademarks invest substantial sums in marketing and advertising, on an ongoing basis, to maintain the strong consumer association with the trademark.[(209)] Additionally, such companies may have extensive sales forces with well-established contacts in the industry and/or a good reputation for providing quality service to customers. In this type of marketplace the existence of superior technology, protected via trade secret law, may not provide adequate economic leverage to effectively compete against established enterprises. In contrast, patenting the technology may facilitate selling or licensing the patent to an established enterprise to avoid a costly potential patent infringement action.

(9) Number of Persons Who Need Access to the Subject Matter

As a practical matter, the ability to maintain secrecy can be affected by the number of employees who must have access to the trade secret. As this number increases, both the costs and the difficulty of maintaining secrecy will typically increase. Moreover, the greater the number of persons who have knowledge of the trade secret, the higher the risk of disclosure due to accident, deliberate conduct or inadvertent disclosure by a former employee to a new employer.

Depending upon the technology involved, it may be possible to limit knowledge of the trade secret to a small number of employees. In such cases, this factor supports reliance on trade

secret law rather than patent protection. However, if the technology involved makes it impossible or extremely difficult to prevent widespread employee access or knowledge of the trade secret this dictates reliance on patent law.

Alternatively, some trade secrets can be broken down into a series of parts or steps. If different individuals can be restricted to only knowing an individual part or step of a trade secret it may be possible to protect the trade secret despite numerous employees needing access to the trade secret. This approach is effective if knowing one part of the trade secret does not facilitate ascertaining the overall trade secret. This reduces the risk of public disclosure of the trade secret since actions of any individual employee can not disclose the trade secret.

(10) Expense and Time to Obtain Patent vs. Trade Secret Protection

It is important to consider both long and short-term expenses. Initial up front costs to obtain a patent can be substantial.[(210)] However, patent rights are exclusive[(211)] so once a patent is granted the patent owner has a statutory property right to prevent others from utilizing the patented invention.[(212)] In contrast, trade secret protection necessitates ongoing costs to maintain secrecy for the life of the trade secret.[(213)] Depending upon the type of technology, the ongoing costs to maintain secrecy may make trade secret protection more costly than patent protection in the long run.

The time to obtain protection is also a factor. Trade secret protection allows immediate commercial use of an invention that is maintained in secrecy. In contrast, a patent can typically take several years to issue.[(214)] As a result, commercial use of an invention must await patent issuance; or, use while the patent is pending must rely on trade secret law, which entails all the costs necessary to maintain secrecy. Of course, any trade secret protection will typically end eighteen months after a patent application is filed since most patent applications are published at this time;[(215)] thereby, ending secrecy.

Typically, many patent applications take longer than eighteen months to issue.[(216)] Therefore, neither trade secret nor patent protection can be utilized after the patent application is published but before the patent issues. This can be problematic if patentability is unclear. If a patent is ultimately denied, the subject matter ends up in the public domain due to publication of the patent application eighteen months after it is filed. In contrast, reliance on trade secret law eliminates this risk.

(11) Economic Effect if a Trade Secret is Lost

If trade secret law is utilized the consequences that will result from loss of that trade secret must be evaluated. If the trade secret is a critical asset whose loss can financially devastate the enterprise patent protection may be desirable because it eliminates the risks of reverse engineering,[(217)] independent development and inadvertent public disclosure which can all extinguish a trade secret.[(218)]

Additionally, a small thinly capitalized enterprise may lack sufficient capital to commercialize its technology. Reliance on trade secret law may increase the risk of loss of the technology if the company must engage in disclosure of the trade secret to numerous potential investors

and third parties in an effort to obtain venture capital. Even if such investors sign secrecy or non-disclosure agreements [(219)] the technology may still be at risk. If one of these third parties discloses the trade secret they may be subject to a breach of contract action for violation of the secrecy or non-disclosure agreement but the trade secret will become public information. Additionally, the third party can defeat the action if she can show she previously knew of your trade secret or obtained it from another party. Finally, venture capitalists may be leery of risking their investment based on the ability to maintain the secrecy of novel technology and the probability that a third party will neither reverse engineer nor independently develop the secret technology. They may prefer the exclusive rights accorded by patent protection, [(220)] which eliminates the risks of reverse engineering and subsequent independent third party development of the technology. [(221)]

In contrast, loss of a trade secret may not financially devastate some enterprises. For some products, being first in the marketplace provides a significant economic advantage over competitors. In such situations, loss of a trade secret may only have a small negative impact on the business. This is especially true if the company making or selling the product utilizing the trade secret is well-known to purchasers such that is has a reputational marketplace advantage. [(222)] Under these facts, reliance on trade secret law may entail limited risk.

Additionally, a highly capitalized company with a dominant market share may suffer only a small economic effect from the loss of a trade secret. Competing enterprises may find it difficult to enter such a market due to economic entry barriers. Therefore, it may be difficult to utilize the trade secret to effectively compete against the dominant company.

(12) Employee Mobility

Projected employee turnover is an important issue with regard to choosing reliance on trade secret or patent protection. Departing employees typically work in similar capacities for competitors. This is particularly true with regard to highly educated employees, such as engineers, who are most likely to have exposure to trade secrets in the course of employment. A high employee turnover rate among employees exposed to technical know-how may increase the likelihood that a former employee will reveal your trade secrets to a competitor. [(223)] Therefore, such circumstances may favor reliance on patent protection which avoids the problem of employee disclosure to competitors.

(13) Internal vs. External Use of Technology

Certain subject matter, such as an internal manufacturing process, may be easy to maintain in secrecy. Therefore, if an enterprise will use its novel technology exclusively in-house reliance on trade secret protection may be a desirable option.

In contrast, if the business model involves licensing the technology to third parties to generate revenue it may be more difficult to maintain secrecy. Additionally, the more successful such a business model is the larger the number of third party licensees who have knowledge of the technology. This increases the risk of reliance on trade secret protection since the risk of disclosure of the trade secret increases in proportion to the number of parties it is sold or licensed to. Therefore, patent protection may be preferable if widespread licensing of technology is engaged in since reliance on patent protection eliminates the risk of loss

accompanying reliance on trade secret protection.[(224)]

(14) Consequences of Bringing a Patent Infringement Action

Reliance on patent rights may necessitate bringing patent infringement actions against third parties. Such litigation is extraordinarily expensive.[(225)] Additionally, it can be very time consuming. Typically, an alleged infringer responds to an infringement action by asserting a counterclaim of patent invalidity.[(226)] The result is significant uncertainty during the pendency of the litigation since the outcome could result in substantial infringement damages. Alternatively, the patent could be declared invalid[(227)] which would provide no recovery but still leave the patent owner with substantial legal expenses; plus, the invention would now be in the public domain and therefore free to be used by anyone.

(15) Alternate Forms of Protection

In some businesses, for example selling consumer products, the mere fact that you are first in the marketplace may provide a significant economic advantage.[(228)] This is especially true if you engage in substantial marketing efforts which create a strong trademark.[(229)] In such cases, the reputation of the seller, which is associated with a trademark and/or trade dress,[(230)] may be adequate to create and maintain a large market share even though the seller will not have exclusive market rights.[(231)] Furthermore, the owner of a strong trademark can rely on both trademark infringement[(232)] and dilution[(233)] actions to maximize consumer recognition of the mark by minimizing third party use of the trademark on both similar and dissimilar goods and services. This may allow the trademark to occupy the field of commerce such that other parties can not use the trademark, or a substantially similar mark, on any other goods.

(16) Financial Status

A well-established business may have adequate capital to fund the patent process. Many large corporations budget substantial monies on an ongoing basis for the appropriation of patent rights on its technology. The cost to obtain a single patent can be I the range of $10,000 to $30,000.[(234)] Small enterprises and startup enterprises may lack adequate funds for this. Consequently, trade secret protection may be the only realistic approach for many businesses provided the costs of maintaining secrecy are not higher than the expense of obtaining patent protection.

Additionally, even if adequate funds exist to obtain patent protection sufficient capital must exist to enforce patent rights against infringers. Typically, patent infringement litigation, which often costs millions of dollars, is among the most expensive litigation to engage in.[(235)] This enables accused infringers to aggressively exploit the limited funds available to a patent owner. For example, a well financed infringer can respond to a patent owner's assertion of infringement by filing a declaratory judgment action asserting the patent is invalid.[(236)] This can seriously threaten the finances of a small enterprise that owns patents.[(237)]

Consequently, a decision to rely on patent protection must be made with an understanding of

the substantial costs involved in protecting patent rights. Patents may represent a poor choice if a business lacks the ability to fund patent litigation.

(17) Industry Culture and Custom

In some industries, such as high technology, patents are often used to attract investment capital. Venture capitalists in such industries will often require the existence of patent protection before investing in a new technology. In other industries, investments may be made on the basis of other data. For example, in the media industry the number and demographics of viewers, and the amount of advertising revenue generated are significant factors considered by potential investors. In many non-technology based industries, such as some service industries, reliance on protecting technology is neither critical to an enterprise attracting investment capital nor to its competing in the marketplace.

The respect accorded trade secrets in an industry is also a consideration. If respect for protecting confidential information is not part of the industry culture it may be difficult to change that culture. For example, some academic researchers and some members of the cybercommunity posit the view that the results of research should be widely disseminated to the public.[(238)] As a result, a decision to rely on trade secret protection in some industries must be made with the understanding that substantial efforts to reeducate employees as to the importance of confidentiality will have to be undertaken.

The culture of the target market must also be considered. If a high technology company develops a product that will be widely licensed to customers, the licensor must consider the public disclosure risk of its trade secret by a customer since that could potentially destroy the trade secret.[(239)] The culture and mobility of the licensee's employees who will be exposed to the trade secret is also a factor. If such employees frequently change employers the risk of trade secret disclosure increases.

Additionally, industrial espionage to ascertain competitors' trade secrets is becoming increasingly common in some industries.[(240)] This may also be an important factor to consider in deciding whether to utilize trade secret or patent protection.

Conclusion

Businesses rely heavily on intellectual property which represents a substantial portion of the assets of many enterprises today.[(241)] In light of this widespread reliance on intellectual property decisions with regard to protecting such property are critical, and consequently they must be carefully made.

Trade secret law has expanded to allow protection for virtually any business information, technology or know-how that is maintained in secrecy and which provides a competitive advantage over competitors.[(242)] Likewise, the scope of patentable subject matter has greatly expanded in recent years.[(243)] Often innovations and technical know-how are potentially protectible either via trade secret law or via patent law.[(244)] This provides an opportunity for an enterprise to make a choice between reliance on trade secret law or patent law. Generalizations about which type of protection is superior are difficult to make because both legal and

business considerations can affect the choice.[(245)]

Patent protection provides the patent owner with exclusive rights.[(246)] However, in return for such rights the patent owner must fully disclose to the public how to make and use the invention.[(247)] Additionally, patents have a limited term which means that at the expiration of that term the invention moves into the public domain where it can be freely used by anyone.[(248)] Patent validity can also be attacked subsequent to a patent being granted both via administrative[(249)] and/or judicial proceedings.[(250)] If such proceedings result in the patent being invalidated the disclosed technology enters the public domain.[(251)]

Trade secret protection can potentially last forever.[(252)] However, trade secret rights are not exclusive.[(253)] Therefore, a third party is free to reverse engineer a trade secret or to independently develop it without any recourse from the trade secret owner.[(254)] Additionally, since secrecy is necessary element of reliance on trade secret law public disclosure of a trade secret due to any means, including mistake, eliminates any protection pursuant to trade secret law.[(255)]

The choice between patent and trade secret law is heavily dependent on a variety of business and marketplace considerations. The projected market life of a product is an important consideration.[(256)] However, subsequent advances in technology and unforeseen occurrences can make this determination difficult.[(257)] The likelihood of a trade secret being reverse engineered,[(258)] independently developed[(259)] or publicly disclosed must be considered. The difficulty[(260)] and cost[(261)] of maintaining technology or know-how in secret is also important. This can be affected by the type of technology involved,[(262)] the number of employees who require access to a trade secret, the mobility of such employees[(263)] and whether the technology will be utilized in-house or licensed to third parties.[(264)] Plus, the cost of reliance on trade secret protection must be compared to the expense of utilizing patent protection.[(265)] In the event patent protection is used it is important for the patent owner to have sufficient resources for patent infringement actions which are extraordinarily costly.[(266)] An enterprise must also consider the whether they want to educate their competitors with regard to their technology as a consequence of the required disclosures in a patent.[(267)]

The importance of the technology to the business and the consequences if it is discovered by competitors is critical.[(268)] The size and market share of an enterprise can affect this determination. A large enterprise with a substantial market share may not be greatly affected by loss of trade secrets to competitors if economic market barriers limit the ability of new entrants to enter the relevant market. Finally, alternate forms of protection, such as trademarks, may make it difficult for a competitor to gain market share.[(269)] Even if a competitor can provide the same products to consumers it may be difficult, absent substantial advertising and marketing expenditures, to draw customers away from a company which has a significant market presence due to a strong trademark.

FOOTNOTES

[1]*See* Susan Scafidi, *Intellectual Property and Cultural Products*, 81 B.U.L. Rev. 793, 799 (2001) ("When protected by law, the intangible aspects of creations of the mind constitute intellectual property"); Robert J. Gutowski, *Comment*, 47 Buffalo L. Rev. 713, 713 n. 1 (1999) ("Intellectual

property has been defined as information with a commercial value"). *See generally* Kevin W. O'Connor, *Patenting Animals and Other Living Things*, 65 S. Cal. L. Rev. 597, 598 (1991) ("Rooted in the Constitution, intellectual property law provides a personal property interest in work of the mind"); Anthony D. Sabatelli & J.C. Rasser, *Impediments to Global Patent Law Harmonization*, 22 N. Ky. L. Rev. 579, 582 (1995) ("Intellectual property law generally deals with property rights of intangible forms of property in the industrial, scientific, and literary or artistic fields"); Marshall Leaffer, Understanding Copyright Law § 1.1 at 1 (2d ed. 1995) (intellectual property law protects products of the mind).

[2] *See, e.g.,* Aimee A. Watterberg, *Perfecting a Security Interest in Computer Software Copyrights: Getting it Right*, 15 J. Marshall J. Computer & Info. L. 855, 858 (1997) (intellectual property used by famous inventors such as Thomas Edison as collateral to raise capital). *See also* Robert J. Gutowski, *supra* note 1, at 714 (recognition of intellectual property is old). *See generally* Playboy Enters. v. Chuckleberry Publ., 939 F. Supp. 1032, 1040 (S.D.N.Y. 1996) ("long-standing system of intellectual property protections has encouraged creative minds to be productive").

[3] *See generally* Jenna Greene, *Patent Office at center stage*, National L. J. at B8 (January 15, 2001) (Intellectual property accounts for two-thirds of market valuation of U.S. corporations today); Lars S. Smith, *Trade Secrets in Commercial Transactions and Bankruptcy,* 40 Idea 549, 549 (2000) (intellectual property represents major assets for many corporations today). *See also* Mark A. Lemley, *Reconceiving Patents in the Age of Venture Capital*, 4 J. Small & Emerging Bus. L. 137, 138 (2000) (significant increase in number of patents being obtained today). Even universities now view intellectual property as economic assets capable of generating revenue. *See* Hayden R. Brainard, *Survey and Study of Technology Development and Transfer Needs in New York*, 9 Alb. L.J. Sci. & Tech. 423, 433-34 (1999).

[4] *See, e.g*., Mary Kay Pelias & Nathan J. Markward, *The Human Genome in the Public View: Genetics, Geneticists, and Eugenics*, 13 St. Thomas L. Rev. 827, 843 (2001) ("explosion of technologies over the past two decades has created a new environment for genetics research"); Andre R. Barry, *Balancing Away the Freedom of Speech: Turner Broadcasting System v. FCC, 117 S. Ct. 1174 (1997),* 21 Harv. J. L. & Pub. Pol'y 272, 272 (1997) ("In the past two decades, technological innovations in the field of telecommunications have revolutionized the way Americans speak to each other").

[5] *See generally* Maureen A. O'Rourke, *Toward a Doctrine of Fair Use in Patent Law*, 100 Colum. L. Rev. 1177, 1178 (2000) (Congress, the Patent and Trademark Office and the courts have expanded the subject matter protected by intellectual property laws).

[6] *See* Paul Goldstein, Copyright, Patent, Trademark and Related State Doctrines 556 (rev. 4th ed. 1999) ("Copyright law began in England with the printing press").

[7] *See* 17 U.S.C. § 102(a)(1994). Legislative history of current Copyright Act indicates that the term "works of authorship" was deliberately undefined in the Act in order to allow the Act to be flexible so it could cover the use of new technology by authors. *See* Leaffer, *supra* note 1, § 3.2 at 70. *See also* ADA v. Delta Dental Plans Ass'n, 126 F.3d 977, 979 (7th Cir. 1997) ("Any original literary work may be copyrighted").

[8] ***See*** **17 U.S.C. § 102 (a)(1)(1994).**

[9] ***See*** **Central Point Software v. Nugent, 903 F. Supp. 1057, 1060 (E.D. Tex. 1995) ("That software programs are copyrightable material is beyond dispute").**

[10] ***See*** **17 U.S.C. § 102(a)(2)(1994).**

[11] ***See id*****. § 102(a)(4).**

[12] ***See id.***

[13] ***See id*****. § 102(a)(6).**

[14] ***See*** **Ets-Hokin v. Skyy Spirits, Inc., 225 F.3d 1068, 1075 (9th Cir. 2000) ("photograph of an object is copyrightable").**

[15] ***See*** **Leaffer, *supra* note 1, § 3.17 at 97.**

[16] ***See*** **U.S.C. § 102(a)(5)(1994).**

[17] ***See id.*** **§ 102(a)(8).**

[18] ***See generally*** **Graeme B. Dinwoodie, *The Death of Ontology: A Teleogical Approach to Trademark Law*, 84 Iowa L. Rev. 611, 639 (1999) (traditional trademark law rooted in protection of words used to identify source of a product).**

[19] ***See*** **15 U.S.C. § 1127 (1994)("term 'trademark' includes any word, name, symbol, or device, or any combination thereof * * * used by a person * * * to identify and distinguish his or her goods, including a unique product, from those manufactured or sold by others and to indicate the source of the goods, even if that source is unknown"). Trademarks can also be used to identify services; such trademarks are called "service marks." *See id.* A recent Supreme Court opinion rejected limiting trademarks to specific categories. Instead it provided a functional definition of a trademark that focuses on whether the purported device asserted to be a trademark serves the function of indicating the source of the product at issue. *See* Qualitex Co. v. Jacobsen Products Co., 514 U.S. 159, 115 S. Ct. 1300 (1995). *See also* American Direct Marketing, Inc. v. Azad Int'l, Inc., 783 F. Supp. 84, 87 (E.D. N.Y. 1992) ("law of trademarks * * * protects the consumer's mental association between the commercial item and the source of that item").**

[20] ***See*** **Roux Laboratories, Inc. v. Clairol Inc., 427 F.2d 823 (C.C.P.A. 1970) ("Hair Color So Natural Only Her Hairdresser Knows For Sure" registerable as a trademark for hair coloring product); American Enka Corp. v. Marzall, 92 U.S.P.Q. 111 (D.D.C. 1952) (court held that the slogan "The Fate of a Fabric Hangs by a Thread" was registerable as a trademark for the rayon yarn sold by the company).**

[21]*See* In re Minnesota Mining and Manufacturing Co., 335 F. 2d 836, 840 (C.C.P.A. 1964) (Arbitrary shape of an object can be a trademark). *See also* Goldstein, *supra* note 6 at 291 (Coca-Cola bottle configuration registered as a trademark).

[22] *See* In re World's Finest Chocolate, Inc., 474 F.2d 1012 (C.C.P.A. 1973) (trademark registration allowed for candy bar wrapper). *See also* Goldstein, *supra* note 6 at 291 (noting trademark registration of packages accepted without question today).

[23] "Trade dress involves the total image of a product and may include features such as size, shape, color or color combinations, texture, graphics, or even particular sales techniques." John H. Harland Co. v. Clarke Checks, Inc., 711 F.2d 966, 980 (11th Cir. 1983). Trade dress can also be embodied in the overall appearance and image of a business. *See* Two Pesos, Inc. v. Taco Cabana, Inc., 505 U.S. 763, 112 S. Ct. 2753 (1992) (finding appearance of a restaurant protectible trade dress). *See* Aromatique, Inc. v. Gold Seal, 28 F.3d 863, 868 (8th Cir. 1994) (trade dress registerable as a trademark). *See also* William F. Gaske, *Trade Dress Protection: Inherent Distinctiveness as an Alternative to Secondary Meaning*, 57 Fordham L. Rev. 1123, 1123-24 (1989) (trade dress registerable as a trademark if it meets requirements for trademark registration).

[24] *See* In re Morton-Norwich Products, 671 F.2d 1332 (C.C.P.A. 1982) (shape of spray bottle containing cleaning fluid could serve as a trademark); Ex Parte Haig & Haig Ltd., 118 U.S.P.Q. 229 (Comm'r Pat. 1958)(bottle for holding whiskey registerable as a trademark).

[25] *See* Fotomat Corp. v. Cochran, 437 F. Supp. 1231 (D. Kansas 1977) (building design protectible as trademark. *See generally* Annette Lesieutre Honan, *The Skyscraping Reach of the Lanham Act: How Far Should the Protection of Famous Building Design Trademarks be Extended*, 94 Nw. U.L. Rev. 1509 (2000).

[26] *See* In Re Owens-Corning Fiberglas Corp. 774 F. 2d 1116, 1120 & n. 6 (Fed. Cir. 1985) (trademark registration allowed for a sequence of chime-like musical notes used to identify a television and radio network).

[27] *See* In re Clarke, 17 U.S.P.Q. 2d 1238 (T.T.A.B. 1990)(Patent and Trademark Office allowed registration of a trademark for a floral fragrance applied to embroidery yarn).

[28] *See* Qualitex Co. v. Jacobsen Products Co., 514 U.S. 159, 115 S. Ct. 1300 (1995). *See also* In Re Owens-Corning Fiberglas Corp. 774 F. 2d 1116 (Fed. Cir. 1985) (holding pink color of fiberglass insulation protectible trademark).

[29] *See* In re Penthouse Int'l, Ltd., 565 F.2d 679 (C.C.P.A. 1977) (jewelry that was a three-dimensional copy of a trademark was allowed trademark registration).

[30] *See* In re Beauregard, 53 F.3d 1583, 1584 (Fed. Cir. 1995) (Commissioner of Patents and Trademarks stated "'that computer programs embodied in a tangible medium, such as floppy diskettes, are patentable subject matter'"). The Patent and Trademark Office has also published guidelines entitled "Examination Guidelines for Computer-Related Inventions." *See*

Irah H. Donner, Patent Prosecution, App. C-9 at 1383-1406 (2d ed. 1999) (Guidelines also available at http://www.kuesterlaw.com/swguide.htm (last visited Feb. 15, 2002)).

[31] *See* Diamond v. Chakrabarty, 447 U.S. 303, 100 S. Ct. 2204 (1980). *See generally*, Kevin W. O'Connor, *Patenting Animals and Other Living Things*, 65 S. Cal. L. Rev. 597, 612 (1991). Arguably, a human could not be patented in light of the Thirteenth Amendment of the Constitution which prohibits slavery and involuntary servitude. *See id.* at 620.

[32] *See* State Street Bank & Trust Co. v. Signature Financial Group, Inc., 149 F.3d 1368, 1375 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 1093, 119 S. Ct. 851 (1999).

[33] *See* J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc., 122 S. Ct. 593 (2001). It should be noted that asexually reproduced plants are also protectible by "plant patents." *See* 35 U.S.C. §§ 161-64; sexually reproduced plants are also protectible by the "Plant Variety Protection Act." *See* 7 U.S.C. § 2321 *et seq*.(1994).

[34] *See* U.S. Patent No. 5,498,162 (March 12, 1996) ("Method for demonstrating a lifting technique").

[35] *See* U.S. Patent No. 5,616,089 (April 1, 1997) ("Method of putting").

[36] *See* Susan Street Whaley, The Inevitable Disaster of Inevitable Disclosure, 67 U. Cin. L. Rev. 809, 838 (1999); Diane Amann, Publicker Industries v. Cohen: Public Access to Civil Proceedings and a Corporation's Right to Privacy, 80 Nw. U.L. Rev. 1319, 1343 (1986).

[37] The Uniform Trade Secrets Act, which has been adopted in most states, defines a trade secret as follows:

"Trade secret" means information, including a formula, pattern, compilation, program, device, method, technique, or process, that:

(i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and

(ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.

***See* Uniform Trade Secrets Act § 1(4), 14 U.L.A. 433 (1990); *see also* (last visited Feb. 15, 2002) < http://www.law.upenn.edu/bll/ulc/fnact99/1980s/utsa85.htm> (complete text of Uniform Trade Secrets Act). *See* (last visited Feb. 15, 2002) <http://www.nccusl.org/nccusl/uniformact_factsheets/uniformacts-fs-utsa.asp>(list of states adopting the Act). Additionally, in *Forro Precision, Inc. v. IBM*, 673 F.2d 1045, 1057 (9th Cir. 1982), the court stated:**

It is now settled that a trade secret may consist of any formula, pattern, device or compilation

of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. It may be a formula for chemical compound, a process of manufacturing, treating or preserving materials, a pattern for a machine or other device or list of customers . . . .

***See also* Hoffmann-La Roche Inc. v. Yoder, 950 F. Supp. 1348, 1357 (S.D.Oh. 1997) ("no specific subject matter criterion for a trade secret").**

[38] *See* Buffets, Inc. v. Klinke, 73 F.3d 965, 968 (9th Cir. 1996) (ideas can be trade secrets). In contrast, copyright law does not protect ideas. *See* 17 U.S.C. § 102(b)(1994). Additionally, patent protects embodiments of ideas rather than mere ideas. *See* In re Zahn, 617 F.2d 261, 270 n. 2 (Baldwin, J., dissenting).

[39] *See, e.g.*, Forest Laboratories, Inc. v. Formulations, Inc., 299 F.Supp. 202 (E.D. Wis. 1969), *rev'd in part*, 452 F.2d 621 (7th Cir. 1971) (process for packaging effervescent sweetener tablets determined to be a trade secret)

[40] *See* A. H. Emery Co. v. Marcan Products Corp., 389 F.2d 11, 16 (2d Cir. 1968).

[41] *See* Trandes Corp. v. Guy F. Atkinson Co., 996 F.2d 655, 663 (4th Cir. 1993) (trade secret law can be used to protect computer software source code).

[42] *See* Curtis 1000 v. Suess, 24 F.3d 941, 947 (7th Cir. 1994) (secret customer list can be trade secret); *see* Titus v. Rheitone, Inc., 758 N.E.2d 85, 95 (Ind. Ct. App. 2001) (customer list of business can be trade secret).

[43] *See* PepsiCo, Inc. v. Redmond, 54 F.3d 1262 (7th Cir. 1995).

[44]*See* Hoffmann-La Roche Inc. v. Yoder, 950 F. Supp. 1348, 1357 (S.D.Oh. 1997) ("virtually any type of information can be a trade secret"). *See generally* Flotec, Inc. v. Southern Research, 16 F. Supp. 2d 992, 1000-01 (S.D. Ind. 1998) (information maintained in secret can be a trade secret).

[45] *See* Raphael Winick, *Copyright Protection for Architecture after the Architectural Works Copyright Protection Act of 1990*, 41 Duke L.J. 1598, 619-20 (1992) (noting overlap between design patents, copyrights and trademarks). *See also* Lionel M. Lavenue, *Intellectual Property for the Protection of Databases*, 38 Santa Clara L. Rev. 1, 24 & n.113 (1997) (software may be protectible via patent, copyright and trade secret law); Michael J. Schallop, *Protecting User Interfaces: Not as Easy as 1-2-3*, 45 Emory L. J. 1533, 1535 (1996) (computer software user interface may be protectible via patent, copyright and trademark law). *See also* Shubha Ghosh, *The Morphing of Property Rules and Liability Rules: An Intellectual Property Optimist Examines Article 9 and Bankruptcy*, 8 Fordham I.P., Media & Ent. L. J. 99, 111 (1997) (overlap exists between copyright and trademark law which can each protect different aspects of same product).

[46] *See* 17 U.S.C. § 102(a)(5)(1994) ("pictorial, graphic, and sculptural works" copyrightable

subject matter). "Pictorial, graphic, and sculptural works" are defined by the Copyright Act to include "three-dimensional works." *See id*. § 101.

[47] *See supra* note 21 & accompanying text.

[48] *See* 35 U.S.C. §§ 171-73 (1994). *See also* (last visited Feb. 18, 2002)<http://www.uspto.gov/web/offices/pac/doc/general/design.htm>(general discussion of design patent law provided by U.S. Patent & Trademark Office).

[49] *See* In re Yardley, 493 F.2d 1389, 1394 (C.C.P.A. 1974) (overlap can exist between copyright and design patent protection); *see also* Titan Sports, Inc. v. Hellwig, 1999 U.S. Dist. Lexis 10523, * 35 (D. Ct. 1999) (overlap can exist between copyright and trademark protection).

[50] *See* Lavenue, *supra* note 45; *see also* Schallop, *supra* note 45.

[51] *See* J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc., 122 S. Ct. 593, 603-04 (2001). *See also* 7 U.S.C. §§ 2321 et seq.(1994)(codification of Plant Variety Protection Act).

[52] *See id*. at 599-600. *See also* 35 U.S.C. §§ 161-64 (1994)(codification of Plant Patent Act).

[53] The very nature of each of type of protection mandates an election because trade secret law requires secrecy (*see supra* note 37 & accompanying text) while patent law is based on public disclosure of the invention in return for granting a patent (*see* Avery Dennison Corp. v. UCB Films PLC, 1998 U.S. Dist. LEXIS 15727, n. 1 (N.D. Ill. 1998) (issued patent public document). *See also* 35 U.S.C. § 122(a)(1999)(providing for publication of U.S. patent applications 18 months after filing). *See* Scott S. Kokka, *Property Rights on an Intranet*, 3 J. Tech. L. & Pol'y 3, 36 (1998) (noting election must be made between reliance on trade secret or patent law). *See generally* 35 U.S.C. § 112 ¶ 1 (1994)(patent must disclose sufficient information so someone skilled in relevant technology can make and use invention). *See also* 35 U.S.C. § 102(g)(1999) (providing for loss of patent rights due to concealing invention). *See generally* Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 234 F.3d 558, 618 (Fed. Cir. 2000), *cert. granted*, 121 S. Ct. 2519 (2001) (trade secret may be preferable to patent protection, in some cases, to avoid public disclosure of invention).

[54] *See* Robert G. Bone, *From Property to Contract: The Eleventh Amendment and University-Private Sector Intellectual Property Relationships*, 33 Loy. L.A. L. Rev. 1467, 1501 n. 133 (2000) ("Patent and trade secret are mutually exclusive alternatives"). *See also* Kevin W. O'Connor, *Patenting Animals and Other Living Things*, 65 S. Cal. L. Rev. 597, 612 (1991)(in some cases trade secret protection can be an alternative to patent protection).

[55] *See id.*

[56] *See generally* David Friedman, William Landes & Richard Posner, *Some Economics of Trade Secret Law*, 5 Journal of Economic Perspectives 61, 62 - 66 (1991)(discussion of choice between patent and trade secret law from economic perspective).

[57] ***See*** **35 U.S.C. § 101(1994).**

[58] ***Id.*** **"The term 'process' means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material."** ***Id.*** **§ 100(a). "A process is a way to produce a result." Herbert F. Schwartz, Patent Law and Practice § 4.I.A.1 at 62 (3rd ed. 2001). The term machine has been defined as "an assemblage of parts that transmit forces, motion, and energy to one another in a predetermined manner."** ***Id.*** **§ 4.I.A.1 at 63. The term manufacture has been defined to be "'the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery.' Also, 'anything made for use from raw or prepared materials.'" American Fruit Growers, Inc. v. Brogdex Co., 283 U.S. 1, 11 (1931). A manufacture has also been defined as "anything man-made that is not a machine or a composition of matter." Schwartz,** ***supra*** **§ 4.I.A.4 at 63. A composition of matter includes "all compositions of two or more substances and includes all composite articles, whether they be results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids." Shell Development Co. v. Watson, 149 F. Supp. 279, 280 (D.D.C. 1957). A composition of matter is also defined as "a new substance resulting from the combination of two or more different ingredients." Schwartz,** ***supra*** **§ 4.I.A.3 at 63.**

[59] ***See*** **Diamond v. Chakrabarty, 447 U.S. 303, 309 (1980) (noting legislative history of patent act stated "anything under the sun that is made by man" is statutory subject matter under patent law).**

[60] ***See id.***

[61] ***See id*****.**

[62] ***See id.***

[63] ***See id*****. ("Einstein could not patent his celebrated law that E=mc^2").**

[64] ***See id.*** **(Newton, who discovered gravity, could not patent his discovery).**

[65] ***See id.***

[66] ***See id.***

[67] ***See*** **Funk Bros.Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 130 (1938). However, if something naturally occurring in nature is substantially modified in a novel way via human interaction the modified result may be patentable.** ***See, e.g.*****, Merck & Co. v. Olin Mathieson Chemical Corp., 253 F.2d 156 (4th Cir. 1958) (artificially purified form of naturally occurring vitamin B-12 patentable).**

[68] ***See*** **Exer-Genie, Inc. v. McDonald, 453 F.2d 132, 134-35 (9th Cir.1971). However, it is possible to patent a** ***new use*** **as a new process in some cases.** ***See*** **35 U.S.C. § 100(b)(1994).** ***See also*** **In re Zierden, 411 F.2d 1325, 1328 (C.C.P.A. 1969) (new use of old compound not patentable but**

process based on such new use patenable if it is novel and nonobvious).

[69] *See* 35 U.S.C. § 102(f)(1994).

[70] *See* Freeman v. Hammond Corp., 464 F. Supp. 404, 406 (N.D. Ill. 1978). *See also* 35 U.S.C. § 102(a)(1994).

[71] *See id.* § 103.

[72] *See id.*

[73] *See* Joel J. Garris, *The Case for Patenting Medical Procedures*, 22 Am. J.L. and Med. 85, 88 (1996) (non-obviousness requirement bars issuance of patent on invention that would be obvious to someone skilled in the relevant technology).

[74] The Supreme Court has adopted a similar functional test for determining whether something is a trademark. Rather than fitting trademarks into fixed categories the Court determined that anything that serves the underlying function of a trademark is potentially a trademark. *See* Qualitex Co. v. Jacobsen Products Co., 514 U.S. 159, 115 S. Ct. 1300 (1995) (court held the overall exterior color of a product could be a trademark). In light of this approach numerous things have been found to be trademarks. *See supra* notes 18 - 29 & accompanying text.

[75] *See supra* note 37.

[76] *See* Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1243 (Fed. Cir. 1989) (noting manufacturing process can be trade secret even if it is not patentable). Additionally, a trade secret does not have to be original, novel and non-obviousness like a patentable invention. *See* Vincent Chiappetta, *Myth, Chameleon or Intellectual Property Olympian? A Normative Framework Supporting Trade Secret Law*, 8 Geo. Mason L. Rev. 69, 77 (1999).

[77] *See supra* note 42.

[78] *See supra* note 43.

[79] *See* Buffets, Inc. v. Klinke, 73 F.3d 965, 968 (9th Cir. 1996).

[80] *See* Ferro Precision, Inc. v. IBM, 673 F.2d 1045, 1057 (9th Cir. 1982).

[81] *See* Gordon U. Sanford, III, 19 Miss. C.L. L. Rev. 177, 206 (1998); *see also* Uniform Trade Secrets Act § 1, official comment, 14 U.L.A. 439 (1990) (negative information can be a trade secret under Act).

[82] Patentable subject matter must fit within the statutorily specified categories. *See* 35 U.S.C. § 101 (1994).

[83] ***See generally*** **Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1244 (Fed. Cir. 1989) (trade secret law encourages innovation and invention with regard to unpatentable subject matter). Arguably, the functional definition of a trade secret (*see supra* note) makes it a more flexible and adaptable body of law with regard to eligible subject matter. In contrast, the statutory categories defining patentable subject matter (*see* 35 U.S.C. § 101 (1994)) limit, to some extent, the expansion of what is patentable subject matter.**

[84] **In *Kewanee Oil Co. v. Bicron Corp*., 416 U.S. 470, 94 S.Ct. 1879 (1974), Chief Justice Burger opines that an inventor is unlikely to rely on trade secret protection if patent protection is available. *See id*. at 490; 1890. However, the petitioner in the case relied on trade secret law to protect what appears to be patent eligible subject matter. *See id*. at 473; 1882. *But see* A. Samuel Oddi, *Un-Unified Economic Theories of Patents - The Not-Quite-Holy Grail*, 71 Notre Dame L. Rev. 267, 285 n.126 (1996) (trade secret protection preferable to patent protection for processes because difficult to detect infringement of process); Chris J. Katopis, *Patients V. Patents?: Policy Implications of Recent Patent Legislation*, 71 St. John's L.Rev. 329, 375 (1997) (decision to use patent or trade secret protection is a strategic choice). *See generally* Christopher J. Lewis, *When is a Trade Secret not so Secret? The Deficiences of 40 C.F.R. Part 2, Subpart B*, 30 Envtl. L. 143, 149 (2000) (noting enterprise must choose between patent or trade secret protection).**

[85] ***See, e.g.*, Jared Earl Grusd, *Internet Business Methods: What Role Does and Should Patent Law Play?,* 4 Va. J.L. & Tech. 9, 49 (1999) ("Small companies and start-up firms usually opt for trade secret protection over patent protection when given the choice").**

[86] **If an inventor relies on trade secret law she typically forfeits her right to subsequently utilize patent law for the same invention. *See* Peter D. Rosenberg, 1 Patent Law Fundamentals § 3.14, at 3-63 (2d ed. 2000)("first inventor who practiced the invention for more than a year is barred from thereafter patenting [invention]"); *see also* 35 U.S.C. § 102(b) (1994); Metallizing Engineering Co. v. Kenyon Bearing & Auto Parts Co., 153 f.2d 516, cert. denied, 328 U.S. 840 (1946). Reliance on patent law bars subsequent reliance on trade secret law once secrecy is eliminated by publication of the patent application eighteen months after filing or upon publication of the patent upon issuance. *See supra* note 53 & accompanying text.**

[87] ***See* 35 U.S.C. § 122(b)(1)(A)(1999).**

[88] ***See generally*** **Dennis M. de Guzman, *In Re Epstein: A Case of Patent Hearsay*, 70 Wash. L. Rev. 805, 829 n. 144 (1995).**

[89] ***See generally*** **Pierre Hubert, *The Prior User Right of H.R. 400: A Careful Balancing of Competing Interests*, 14 Computer & High Tech. L.J. 189, 206 (1998) (patent issuance places invention in public domain which destroys any trade secret rights).**

[90] ***See generally*** **Paul A. Ragusa, Eighteen Months to Publication: Should the United States Join Europe and Japan by Promptly Publishing Patent Applications?, 26 GW J. Int'l L. & Econ. 143, 169 (1992) (argument that amendment of patent law to allow publication of applications at eighteen months will prevent reliance on trade secret law for disallowed patent applications).**

[91] **Patent claims, which appear at the end of a patent, set out the precise metes and bounds of the invention that is protected by patent law. *See* 35 U.S.C. § 112 ¶ 2 (1994). They must adequately define the invention so the public is put on notice of what the patented invention is. *See* Robert C. Faber, Landis on the Mechanics of Patent Claim Drafting § 1, at I-1 to I-2 & § 2, at I-2 to I-3 (4th ed. 1999).**

[92] ***See* Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 234 F.3d 558 (Fed. Cir. 2000), *cert. granted* 2001 U.S. LEXIS 4495 (2001).**

[93] **It should be noted that the Supreme Court agreed to hear an appeal of this case. *See id*. Regardless of the decision in this case a more general problem still exists. In *Festo*, the law was altered retroactively. Due to the fact that patent rights typically last for a long time, the effect of this decision could significantly limit or reduce the value of a patent long after it is issued. This adds some additional uncertainty into the economic value of a patent. Regardless of the ultimate outcome in *Festo*, a future court could retroactively alter patent rights.**

[94] ***See* Uniform Trade Secrets Act § 5, *supra* note 37.**

[95] ***See id.***

[96] ***See generally* 3 Roger M. Milgrim, Milgrim on Trade Secrets § 14.01[2][a], at 14-26 n.15 (2d ed. 2000) ("there is a long line of authority upholding content-neutral injunctions to protect intellectual property and that such injunctive relief is not an impermissible prior restraint.")**

[97] ***See* In re Shalala, 996 F.2d 962, 965 (8th Cir. 1993) (public disclosure of trade secret destroys property rights in trade secret).**

[98] ***See* Mark A. Lemley & Eugene Volokh, Freedom of Speech and Injunctions in Intellectual Property Cases, 48 Duke L.J. 147, 229-32 (1998). But see Andrew Beckerman-Rodau, Prior Restraints and Intellectual Property: The Clash between Intellectual Property and the First Amendment From an Economic Perspective, 12 Fordham Intell. Prop. Media & Ent. L.J. 1, 57-67 (2001) (arguing preliminary relief prohibiting disclosure of trade secret not unconstitutional prior restraint in violation of First Amendment); see also Milgrim, supra note 96 (rejecting prior restraint argument).**

[99] ***See, e.g.,* Standard & Poor's Corp. v. Commodity Exch., Inc., 541 F. Supp. 1273, 1275 (S.D.N.Y. 1982) ("[i]nterference with access to business confidences and trade secrets is not an abridgement of the freedom of speech and of the press protected by the First Amendment.").**

[100] ***See* Ford v. Lane, 67 F. Supp. 2d 745 (E.D. Mich. 1999). *But see* Milgrim, *supra* note 96 (one of the leading commentators on trade secret law criticizes result in *Ford* case).**

[101] ***See Ford* at 746.**

[102] ***See* DVD Copy Control Assoc. v. Bunner, 93 Cal. App. 4th 648, 113 Cal. Rptr. 2d 338 (Ct.**

App. 2001) (preliminary injunction enjoining trade secret disclosure invalid prior restraint under First Amendment); 2002 Cal. LEXIS 614 (2002) (California Supreme Court granted petition to hear this case on appeal); *See also*, State ex rel. Sports Mgmt. News, Inc. v. Nachtigal, 921 P.2d 1304 (Or. 1996) (pursuant to Oregon state constitution preliminary relief barring newsletter publisher from publishing trade secrets lawfully obtained prior to trial was unlawful prior restraint).

[103] A recent Supreme Court decision, *Bartnicki v. Vopper*, 532 U.S. 514, ___ , 121 S. Ct. 1753, 1764-65 (2001), noted, in dicta, that trade secrets are private matters less likely to trigger First Amendment concerns than information of general interest to public.

[104] Of course, damages would still be available if the former trade secret owner prevailed after a trial on the merits. *See* Uniform Trade Secrets Act, § 3, 14 U.L.A. 455 (1990).

[105] Under United States patent law a twenty year patent term is granted upon issuance of a patent. However, the term is measured retroactively from the date the patent application was filed even though no patent rights come into existence until patent issuance. Therefore, the effective term of a patent is actually less than twenty years since a patent is not instantly granted upon filing of the application. *See* 35 U.S.C. § 154 (a)(1). *See also id*. § 154(b) (allowing for patent term extension if certain patent prosecution delays occur); *id.* §§ 155 & 155A (allowing patent term extension for certain inventions subject to FDA regulatory review).

[106] The Constitution grants to Congress the power "[t]o promote the Progress of Science and useful arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." U.S. Const. art. I, § 8, cl. 8.

[107] *See* Goldstein, *supra* note 6 at 513.

[108] *See* Martin J. Adelman, Randall R. Rader, John R. Thomas & Harold C. Wegner, Patent Law § 12.1[d] at 717 (1998) (patent term seventeen years from date patent issued prior to being changed to a twenty year term).

[109] *See id.* (twenty year patent term starts to run on date patent application filed but no patent rights arise until date patent issues). *See also* 35 U.S.C. § 154(a)(2).

[110] *See* Vincent Chiappetta, *Myth, Chameleon or Intellectual Property Olympian? A Normative Framework Supporting Trade Secret Law*, 8 Geo. Mason L. Rev. 69, 78 (1999). The Constitutional requirement that patent terms be limited also applies to copyright law. *See supra* note 84 and accompanying text. However, trade secret law is not subject to this Constitutional limitation because it primarily state law.

[111] *See* James R. Chiapetta, *Of Mice and Machine: A Paradigmatic Challenge to Interpretation of the Patent Statute*, 20 Wm. Mitchell L.Rev. 155, 168 (1994) (in theory trade secret could exist forever).

[112] *See supra* note 97.

[113] The U.S. Supreme Court has defined reverse engineering as "starting with the known product and working backward to divine the process which aided in its development or manufacture." Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 476 (1974). *See also* Andrew Johnson-Laird, *Software Reverse Engineering in the Real World*, 19 U. Dayton L. Rev. 843, 846 (1994)(discussing reverse engineering of software).

[114] *See* 35 U.S.C. § 282 (1994).

[115] Even before patent issuance, any third party with knowledge of a pending patent application can submit information to the Patent and Trademark Office that may bar issuance of the patent. *See* 37 C.F.R. § 1.291 (protest procedure).

[116] *See* 35 U.S.C. §§ 301-307 (1994).

[117] *See id*. § 301.

[118] *See id*. §§ 303-306.

[119] *See id*. § 303.

[120] Recently, a second type of reexamination proceeding was created. This optional proceeding, called an "inter partes" reexamination procedure, provides for more involvement in the proceeding that provided for by the traditional ex parte reexamination procedure. Either proceeding can be initated. *See id*. §§ 301 - 307 (ex parte procedure); *id*. §§ 311 - 318 (inter partes procedure).

[121] A third party merely files a request for reexamination, which accompanies the relevant information (*see id.* § 302 (ex parte proceeding); *id.* § 311 (inter partes proceeding)) and the prescribed fee (*see* 37 C.F.R. § 1.20 (c)(1) & (2) (the current fee effective as of October 1, 2001 is $2520 for an ex parte proceeding and $8800 for an inter partes proceeding)). It should be noted that the Patent and Trademark Office has statutory authority to adjust fees annually on October 1st. *See* 35 U.S.C. § 41(f)(1994)).

[122] *See id.* § 135 (administrative proceeding conducted by Patent and Trademark Office if two pending applications are involved; or, if one pending application and an issued patent is involved). The decision of the Patent and Trademark Office in an interference can be appealed to a federal court. *See id.* § 146. If the interference involves only issued patents it is initially within the jurisdiction of the federal courts to decide. *See id.* § 291. *See generally* Christian J. Garascia, *Evidence of Conception in U.S. Patent Interference Practice: Proving Who is the First and True Inventor*, 73 U. Det. Mercy L. Rev. 717, 719-26 (1996) (brief discussion of interference proceeding).

[123] *See* Charles R.B. Macedo, First-to-File: Is American Adoption of the International Standard in Patent Law Worth the Price?, 1988 Colum. Bus. L. Rev. 543, 548 (1988).

[124] ***See generally*** **Garascia, *supra* note 122 at 721.**

[125] ***See*** **Macedo, *supra* note 123 at 570-71.**

[126] ***See*** **Macedo, *supra* note 123 at 571-72 & n. 134.**

[127] **"The conception of the invention consists in the complete performance of the mental part of the inventive act. All that remains to be accomplished in order to perfect the act or instrument belongs to the department of construction, not invention. It is therefore the formation in the mind of the inventor of a definite and permanent idea of the complete and operative invention as it is thereafter to be applied in practice that constitutes an available conception within the meaning of the patent law." Spero v. Ringold, 377 F. 2d 652, 660 (C.C.P.A. 1967). *See also* Garascia, *supra* note 122 at 732-34 (discussion of conception).**

[128] **"'[R]eduction to practice' normally is thought to be the making of the product and the testing of it to see if it peforms as envisioned." USM Corp. v. SPS Technologies, Inc., 514 F. Supp. 213, 245 (N.D. Ill. 1981). Constructive reduction to practice is accomplished by filing a patent application. *See* Friction Div. Products, Inc. v. E.I. Dupont de Nemours & Co., 693 F. Supp. 114, 119 (D. Del. 1988). *See* Garascia*, supra* note 122 at 733-36 (discussion of reduction to practice).**

[129] ***See*** **35 U.S.C. § 102(g)(2)(1994). *See also* Adelman, *supra* note 108, § 5.2[e] at 345-46.**

[130] ***See*** **Adelman, *supra* note 108, § 5.2[f] at 346 (inventor can only rely on dates of conception, reduction to practice and diligence if they are supported by corroborating evidence).**

[131] ***See*** **35 U.S.C. § 104 (a)(1)(1994).**

[132] ***See*** **Macedo, supra note 123; see also James E. Hudson, III, The U.S. - Japan Agreement for Eighteen Month Publication of U.S. Patent Applications: How Should it be Implemented?, 5 D.C.L. J. Int'l L. & Prac. 87, 90 (1996).**

[133] ***See id*****. The other party is commonly called the "junior party."**

[134] ***See, e.g.,*** **Funk Brothers Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 68 S. Ct. 440 (1948) (patent owner brought infringement action and alleged infringer counterclaimed patent invalid).**

[135] **"[T]he modern test for the existence of an actual controversy [sufficient for a declaratory judgment action] in a patent case has been stated to be whether plaintiff has a reasonable apprehension of an infringement suit or threat of one * * * if plaintiff continues the activity in question." Airship Industries (UK) Ltd. V. Goodyear Tire & Rubber Co., 643 F. Supp. 754, 759 (S.D.N.Y. 1986). Additionally, a patent licensee can assert patent invalidity despite having licensed the patent. *See* Lear Inc. v. Adkins, 395 U.S. 653, 89 S.Ct. 1902 (1969).**

[136] ***See*** **35 U.S.C. § 282 (1994).**

[137] ***See, e.g.,*** **Robbins Co. v. Lawrence Mfg. Co., 482 F.2d 426 (9th Cir. 1973) (patent held invalid in infringement suit).**

[138] **Patents are publicly available documents once they are issued. Therefore, trade secret protection, which is based on the existence of secrecy, is unavailable once a patent is issued. *See supra* note 53.**

[139] **35 U.S.C. § 154(a)(1)(1994). Additionally, for patented processes the patent owner has the right to exclude anyone from using, offering for sale or selling the patented invention in the United States, or importing into the United States any product made in a foreign country by that process. *See id*.**

[140] ***See*** **International Postal Supply Co. v. Bruce, 114 F.509, 511 (N.D. N.Y. 1902).**

[141] ***See*** **35 U.S.C. § 271(a)(1994). However, innocent infringement may negate damages for past infringement; therefore, the only remedy would be injunctive relief (*see id*. § 283). Notice of infringement can be satisfied by constructive notice if the patent number is attached to patented articles. *See id*. § 287.**

[142] ***See*** **Rosenberg, *supra* note 86, § 10.00 at 10-3 to 10-5 (United States is a first- to-invent patent system in contrast to the most of the rest of the world which awards patents based on the first-to-file a patent application).**

[143] ***See id*. § 102(g)(1994).**

[144] ***See id.***

[145] ***See*** **Robert C. Haldiman, *Intellectual Property: Policy Considerations from a Practioner's Perspective: Prior User Rights for Business Method Patents*, 20 St. Louis U. Pub. L. Rev. 245, 252 (2001). The only exception is for patents on methods of doing business where prior invention may be a defense to infringement under certain circumstances. *See id*. at 245; *see also* 35 U.S.C. § 273 (1994); Rosenberg, *supra* note 86, § 10.00 at 10-5.**

[146] ***See*** **Vincent Chiappetta, Myth, Chameleon or Intellectual Property Olympian? A Normative Framework Supporting Trade Secret Law, 8 Geo. Mason L. Rev. 69,151-52 (1999).**

[147] ***See*** **Uniform Trade Secrets Act § 1(2), 14 U.L.A. 433, 437 (1990).**

[148] ***See*** **Kewanee Oil Co. v. Bicron, 416 U.S. 470, 476 (1974).**

[149] **Reverse engineering is the process "of starting with the known product an working backward to divine the process which aided in its development or manufacture." *Id*.**

[150] ***See id.***

[151] *See* In re Shala, 996 F.2d 962, 965 (8th Cir. 1993) (property rights in trade secret destroyed by public disclosure).

[152] *See generally* Ilene Knable Gotts & Alan D. Rutenberg, *Navigating the Global Information Superhighway: A Bumpy Road Lies Ahead*, 8 Harv. J. Law & Tech. 275, 302 (1995) (several parties can independently rely on trade secret protection for same technology independently developed).

[153] *See generally* Uniform Trade Secrets Act § 1(4)(i), 14 U.L.A. 433, 438 (1990) (trade secret defined, in part, to be something that "derives independent economic value . . . from not being generally known" to competitors).

[154] *See* Rosenberg, *supra* note 86, § 3.14 at 3-62 to 3-65 (brief discussion of choosing between trade secret and patent protection). *See also* D.C. Munson, *The Patent-Trade Secret Decision: An Industrial Perspective*, 78 J.P.T.O.S. 689 (1996).

[155] *See* Cheney Brothers v. Doris Silk Corp., 35 F.2d 279, 279 (1929), *cert. denied*, 281 U.S. 278 (1930) (noting new silk patterns have limited market life of less than a year).

[156] In case of a product with a very short market life the decision may be to eschew both patent and trade secret protection because being first in the marketplace may provide an adequate competitive advantage because consumer demand for the product may cease before competitors can enter the market. This is especially true if the product is associated with a strong trademark that is generally well recognized in the intended consumer market for the product. *See generally* Christopher S. Cantzler, *State Street: Leading the Way to Consistency for Patentabilty of Computer Software*, 71 U. Colo. L. Rev. 423, 436 (2000)(noting in software industry that being first in market with a product and having name recognizable to consumers can provide marketplace advantage).

[157] *See* U.S. Patent 5,205,473 (April 27, 1993) ("Recyclable corrugated beverage container and holder").

[158] *See 2000 Fiscal Year Report of the U.S. Patent & Trademark Office* at 38 (latest available official statistics state average pendency for patent application 25 months) <http://www.uspto.gov/web/offices/com/annual/2000/>(visited on March 18, 2002). *See generally* 35 U.S.C. § 154(b)(1)(B)(1999)(statutory guarantee that patent issues no more than three years after application filed).

[159] Patent rights arise upon patent issuance not upon filing a patent application. *See id.* § 154(a)(2).

[160] *See* Yuval Rosenberg, *Building a Better Election*, Newsweek, Nov. 20, 2000, at 20. *See generally* Clifford Levy, *Counting the Vote: The New York Vote: Manhattan Has Its Own Ballot Dispute*, N.Y. Times, Nov. 11, 2000, at A11 (noting voting problems that exist in New York elections). Additionally, new and unexpected uses for everyday consumer product can develop. *See* Kevin Helliker, *Kingsize, Not Queen: Some Men Have Taken to Wearing*

***Pantyhose*, Wall St. J., Feb. 19, 2002, at A1 (in response to declining sales of pantyhose to women, at least some manufacturers, have considered marketing pantyhose for men to wear in light of the fact that some men wear pantyhose). Also, products designed for complex industrial uses can subsequently find everyday uses in ordinary consumer products. *See* Melinda Patterson Grenier, *Peak Efficiency - A slew of high-tech gadgets makes climbing and backpacking much easier and safer sports*, Wall St. J., March 5, 2002, at R15 (for example, carbon fiber composite materials originally designed for the aviation industry are now used in bicycles, backpacks and ski poles). Additionally, products can find unexpected uses. *See* David P. Hamilton, *VCRs: Still Standing*, Wall St. J., March 5, 2002, at R8 (entertainment industry opposed VCRs when they were introduced but today revenue produced by movies on VCR tapes exceeds box office revenue from movies).**

[161] *See* Wall St. J., Sept. 12, 2001, at A1 (front page contains several articles on Sept. 11 attack on the World Trade Center in New York City).

[162] *See* Laurence Zuckerman, A Nation Challenged: Air Travel: Sigh of Relief on Flight 63 and Its Effect, N.Y. Times, Dec. 25, 2001, at B5.

[163] *See generally* Richard Ernsberger, Jr., *Fortress America*, Newsweek (Atlantic Ed.), Nov. 12, 2001, at 50 (stricter controls on immigration enforced by U.S. after Sept. 11 World Trade Center attack); *see also* Fox Butterfield, *Drug Seizures Have Surged at the Borders, Officials Say*, N.Y. Times, Dec. 16, 2001, at sec. 1A at 32 (stricter security at U.S. borders and airports has increased seizures of illegal drugs).

[164] *See generally* Joellen Perry, James M. Pethokoukis, Pamela Sherrid & Betsy Streisand, *Disaster Dividends*, U.S. News & World Report, Dec. 3, 2001, at 32 (within an hour of Sept. 11 attacks orders began flooding metal detector maker).

[165] *See* 35 U.S.C. § 102(b)(1994). *See also* Rudolph P. Hofmann, Jr. & Edward P. Heller, III, *The Rosetta Stone for the Doctrines of Means-Plus-Function Patent Claims*, 23 Rutgers Computer & Tech. L.J. 228 n. 6 (1997).

[166] *See* Max Stul Oppenheimer, In Vento Scribere: The Intersection of Cyberspace and Patent Law, 51 Fla. L. Rev. 229, 237 (1999).

[167] However, an alternate approach would be to file an international patent application in the United States Patent & Trademark Office pursuant to the Patent Cooperation Treaty. By designating foreign countries in the application, the right to subsequently file foreign applications in those countries is reserved for up to thirty months. Typically, this would allow the applicant to commercialize the invention prior to making a decision to incur the costs of obtaining foreign patents. *See* J. Douglas Hawkins, *Importance and Access of International Patent Protection for the Independent Inventor*, 3 U. Balt. Intell. Prop. J. 145, 151-52 (1995); *See also* 35 U.S.C. §§ 351-76 (1994). Additionally, if a foreign patent application is filed in a country that belongs to the World Trade Organization (*see* <http://www.wto.org/> (visited on March 21, 2002)) for information on the World Trade Organization) a United States application can be subsequently filed on the same invention provided it is filed within one year of the foreign filing. The United States application would then receive the filing date of the prior foreign

application. *See* 35 U.S.C. § 119(a).

[168] *See supra* note 113 (definition of reverse engineering).

[169] *See* Roger D. Blair & Thomas F. Cotter, *An Economic Analysis of Damages Rules in Intellectual Property Law*, 39 Wm. And Mary L. Rev. 1585, 1600 n. 70 (1998) (trade secret protection may be preferable to patent protection if difficult for competitors to duplicate invention).

[170] *See generally* John T. Soma, James Shortall, Jr. & Vernon A. Evans, *The Use of Quiet Title and Declaratory Judgement Proceedings in Computer Software Ownership Disputes*, 71 Denv. U. L. Rev. 543, 561-62 (1994) (noting trade secrets can be licensed but agreement must include obligation to maintain secrecy).

[171] *See, e.g.*, Judith A. Szepesi, *Maximizing Protection for Computer Software*, 12 Computer & High Tech. L.J. 173, 194 n. 174 (1995)(formula for Coke maintained as trade secret for more than one hundred years despite widespread sale of the soda). *See also* Coca-Cola Bottling Co. v. Coca-Cola Co., 107 F.R.D. 288, 289 (D. Del. 1985) ("complete formula for Coca-Cola is one of the best-kept trade secrets in the world").

[172]*See generally* Roger D. Blair & Thomas F. Cotter, *An Economic Analysis of Damages Rules in Intellectual Property Law*, 39 Wm. And Mary L. Rev. 1585, 1600 n. 70 (1998) (complexity of invention may favor trade secret protection if such complexity makes duplication of invention difficult).

[173] *See* David S. Levitt, *Copyright Protection for United States Government Computer Programs*, 40 Idea 225, 230 (2000) (rapid changes in computer technology often renders software obsolete in a few years).

[174] *See generally* Richard W. Palmer & Frank P. Degiulio, Admiralty Law Institute Symposium: Terminal Operations and Multimodalism: Terminal Operations and Multimodal Carriage: History and Prognosis, 64 Tul. L. Rev. 281, 299-00 & n. 107 (1989) (ports and terminals that provide an interface between ships and land based transportation must invest substantial capital to be competitive).

[175] *See generally* Todd Kirsch, *Ball Memorial Hospital: Section 2 Sherman Act Analysis in the Alternative Health Care Delivery Market*, 14 Am. J. L. and Med. 249, 266 (1988) (discussing economic barriers for insurance companies seeking to enter the health insurance market).

[176] *See supra* notes 140-42 & accompanying text.

[177] *See* 35 U.S.C. § 101 (1994) (both "methods" and "new compositions of matter" are patentable subject matter.

[178] In *Cantrell v. Wallick*, 117 U.S. 689, 695 (1886), the Supreme Court stated: "Two patents may be valid when the second is an improvement on the first, in which event, if the second includes

the first, neither of the two patentees can lawfully use the invention of the other without the other's consent." *See also* G. Peter Albert, Jr., Intellectual Property Law in Cyberspace 412-13 (1999).

[179] *See supra* note 91.

[180] *See* McCullough Tool Co. v. Well Surveys, Inc., 343 F. 2d 381, 401 (10th Cir. 1965) (pioneer patent should be broadly construed). *See also* Studiengesellschaft Kohle m.b.H. v. Dart Industries, Inc., 666 F. Supp. 674, 678 n. 3 (D. Del. 1987) ("A pioneer patent is . . . 'a patent concerning a function never before performed, a wholly novel device, or one of such novelty and importance as to make a distinct step in the progress of the art, as distinquished from a mere improvement or perfection of what has gone before'") (*quoting* Boyden Power-Brake Co. v. Westinghouse, 170 U.S. 537, 18 S. Ct. 707 (1898). *See generally* Robert P. Merges, *Commerical Success and Patent Standards: Economic Perspectives on Innovation,* 76 Calif. L. Rev. 805, 841 n. 167 (1988) (asserting pioneer patents rare).

[181] *See* Graver Tank v. Linde Air Products Co., 339 U.S. 605, 70 S. Ct. 854 (1950).

[182] *See, e.g., id.; see also* Hilton-Davis Chemical Co. v. Warner-Jenkinson, 520 U.S. 17, 117 S. Ct. 1040 (1997).

[183] *See* Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141,150-51, 109 S. Ct. 971, 977 (1989) (patent system represents a bargain whereby inventor must disclose invention to the public in return for being granted exclusive rights during the patent term).

[184] *See* 35 U.S.C. § 122(b)(1999).

[185] *See generally* Avery Dennison Corp. v. UCB Films PLC, 1998 U.S. Dist. LEXIS 15727, n. 1 (N.D. Ill. 1998) (issued patent public document).

[186] *See* Rotec Industries v. Mitsubishi Corp., 215 F.3d 1246, 1250 (Fed. Cir. 2000) (U.S. patent does not have extraterritorial effect so it can't apply to conduct in a foreign country).

[187] *See, e.g.,* Michael North, The U.S. Expansion of Patentable Subject Matter: Creating a Competitive Advantage for Foreign Multinational Companies?, 18 B.U. Int'l L.J. 111, 117-18 (2000) (software and living matter patentable in United States but European courts have been reluctant to allow such subject matter to have patent protection).

[188] *See generally* North, *supra* note 187 at 116.

[189] *See generally* North, *supra* note 187 at 112.

[190] *See id*.

[191] There is no obligation to actually construct an invention in order to obtain patent it. A filed

patent application is considered a constructive reduction to practice of the invention provided the patent application provides a written description that enables someone of ordinary skill in the relevant technology to make and use the invention. *See* Donner, *supra* note 30 at 223-25.

[192] *See* 35 U.S.C. § 112 ¶ 1 (1994).

[193] *See id.*

[194] *See* Roy E. Hofer & L. Ann Fitz , *New Rules for Old Problems: Defining the Contours of the Best Mode Requirement in Patent Law*, 44 Am. U.L. Rev. 2309, 2237 (1995) ("no duty to update the best mode disclosure in an application after its filing date"). *See generally* Glaxo Inc. v. Novopharm Ltd., 52 F.3d 1043, 1050 (Fed. Cir. 1995) (patent law only requires inventor to disclose best mode of practicing invention that is known when patent application is filed).

[195] *See generally* Rosenberg, *supra* note 86 § 3.16 at 3-66 to 3-68 (discussion of using patents and trade secrets together to exploit value of invention).

[196] *See generally* Munson, *supra* note 154 at 695-00 (arguing trade secrets more appropriate form of protection for some technologies but not for others).

[197] *See* Edmund W. Kitch, Taking Stock: The Law and Economics of Intellectual Property Rights: Elementary and Persistent Errors in the Economic Analysis of Intellectual Property, 53 Vand. L. Rev. 1727, 1730 (2000) (pioneer patent is a basic patent which creates a new field of technology); Keith A. Robb, Hilton Davis and the Doctrine of Equivalents - An Insubstantial Difference, 4 Tex. Intell. Prop. L. J. 275, 279 (1996) (pioneer patent covers an invention where little or no prior art exists). See also supra note 180 for definition of pioneer patent.

[198] *See* Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 Tex. L. Rev. 989, 1072 (1997) (pioneer patents construed more broadly than other patents).

[199] *See* Victoria Slind-Flor, *'Markman' precedent holds up patents*, Nat. L.J. (Jan. 15, 2001) at A1 (economic survey conducted by the American Intellectual Property Law Association determined that cost of trial for patent infringement action ranged from $1.5 to $3.5 million). *See* Matthew D. Powers & Steven C. Carlson*, The Evolution and Impact of the Doctrine of Willful Patent Infringement*, 51 Syracuse L. Rev. 53, 101 (2001) ("costs of litigating a patent dispute . . . commonly run $3 to $5 million , or more"). *See also* 3 Roger M. Milgrim, Milgrim on Licensing § 18.42, at 18-69 (1999) ("most corporate counsel have concluded that patent litigation is the most expensive form of litigation, surpassing even so notoriously complex and expensive a forma as antitrust litigation").

[200] *See* Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 475, 94 S. Ct. 1879, 1833 (1974) ("subject of a trade secret must be secret").

[201] *See generally* Derek P. Martin, *An Employer's Guide to Protecting Trade Secrets from Employee Misappropriation*, 1993 B.Y.U.L. Rev. 949, 955-56 (1993) (discussing some basic security measures to protect trade secrets); *see also* Carole P. Sadler, *Federal Copyright*

***Protection and State Trade Secret Protection: The Case For Partial Preemption*, 33 Am. U.L. Rev. 667, 682 n. 74 (1984) (listing security measures to maintain secrecy).**

[202] *See* Martin, *supra* note 201 at 958 (having employees sign trade secret non-disclosure agreements puts them on notice that trade secrets exist and should be maintained in confidence).

[203] The use covenants not to compete is not foolproof. Some states refuse to enforce them. *See* Christine M. O'Malley, *Covenants Not To Compete in the Massachusetts Hi-Tech Industry: Assessing the Need for a Legislative Solution*, 79 B.U.L. Rev. 1215, 1229 (1999) (covenants not to compete statutorily prohibited in California). Additionally, even in jurisdictions that allow such covenants courts will typically evaluate them for reasonableness. *See* Clark v. Mt. Carmel Health, 706 N.E.2d 336, 341 (Oh. Ct. App. 1997). This evaluation will often include balancing the effect of the covenant on employee mobility against the need to protect trade secrets. *See generally* Susan Street Whaley, *The Inevitable Disaster of Inevitable Disclosure*, 67 U. Cin. L. Rev. 809, 817-18 (1999).

[204] *See, e.g.,* PepsiCo, Inc. v. Redmond, 54 F.3d 1262 (7th Cir. 1995) (preliminary injunction sought against departing employee to prevent inevitable disclosure of former employer's trade secrets).

[205] *See supra* note 151.

[206] Of course, the cost of obtaining patent protection must also be evaluated relative to the potential economic value of the invention. Additionally, the significant costs to protect patent rights via an infringement suit must also be considered in light of the fact that such costs can run into the million of dollars. *See supra* note 199.

[207] *See* 15 U.S.C. § 1127 (1994) for the definition of a trademark under the federal trademark law (Lanham Act).

[208] *See generally* Todd Kirsch, *Ball Memorial Hospital: Section 2 Sherman Act Analysis in the Alternative Health Care Delivery Market*, 14 Am. J. L. and Med. 249, 266 & n. 91 (1988) (noting customer brand loyalty can be entry barrier for new competitor in health insurance market).

[209] *See* Quality Inns Int'l, Inc. v. McDonald's Corp., 695 F. Supp. 198, 212 (D. Md. 1988) (McDonald's spends almost a billion dollars a year on marketing and advertising); *see also* In re Owens-Corning Fiberglass Corp., 774 F.2d 1116, 1127 (Fed. Cir. 1985) (evidence advertising expenditures to develop recognition of trademark exceeded $42 million).

[210] *See* Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 Nw. U.L. Rev. 1495, 1498-99 & n. 13 (2001)(cost to obtain patent $10,000 to $30,000).

[211] *See supra* note 140 & accompanying text.

[212] *See supra* note 139 & accompanying text.

[213] **Failure to maintain secrecy can allow the trade secret to enter the public domain which destroys any property rights in the trade secret. *See supra* note 151 (trade secret destroyed if it enters public domain).**

[214] ***See supra* note 158 (on average, takes 25 months for patent to issue).**

[215] ***See* 35 U.S.C. § 122(b) (1994).**

[216] ***See supra* note 214.**

[217] ***See supra* note 149.**

[218] ***See supra* notes 112 & 113.**

[219] **Disclosure of a trade secret to a third party pursuant to a non-disclosure or secrecy agreement is not considered a public disclosure of the trade secret provided the third party complies with the agreement. *See generally* Kewanee Oil Co. v. Bicron Oil Co., 416 U.S. 470, 475, 94 S. Ct. 1879, 1884 (1974).**

[220] ***See supra* note 140 & accompanying text.**

[221] ***See supra* notes 146-50 & accompanying text.**

[222] **Typically, companies with well-known trademarks - such as COKE, McDONALD'S, TYLENOL, KODAK, PEPSI, SONY - have a strong advantage in the marketplace because consumers have strong a mental association with and a strong recognition of such trademarks. *See generally* Mishawaka Rubber & Woolen Mfg. Co. v. S.S. Kresge Co., 316 U.S. 203, 205 (1942) ("trademark is a merchandising shortcut").**

[223] ***See generally* Ronald J. Gilson, The Legal Infrastructure of High Technology Industrial Districts: Silicon Valley, Route 128, and Covenants Not to Compete, 74 N.Y.U.L. Rev. 575, 595 (1999) (noting employer has interest in restricting employee mobility to protect its trade secrets).**

[224] ***See generally supra* notes 146-50 & accompanying text.**

[225] ***See supra* note 199.**

[226] ***See supra* note 134 & accompanying text.**

[227] ***See generally* Sandip H. Patel, *Graduate Students' Ownership and Attribution Right in Intellectual Property*, 71 Ind. L.J. 481, 489 n. 39 (1996) (noting a substantial number of patents involved in litigation are held invalid).**

[228] ***See*** **David P. Hamilton, *VCRs: Still Standing*, Wall St. J., March 5, 2002, at R8 (despite significant improvements in technology VCRs, which were introduced about 30 years ago, are still in use due, in large part, to VCRs being first product in the marketplace to record television programs)**

[229] ***See supra*** **note 19 (definition of trademark).**

[230] ***See supra*** **note 23 (definition of trade dress).**

[231] ***See generally*** **Rosenberg, *supra* note 86 at § 3.15 at 3-66 (noting that use of trademark can be effective marketplace tool).**

[232] ***See*** **15 U.S.C. § 1114 (1994).**

[233] ***See*** **15 U.S.C. § 1125(c) (1994).**

[234] ***See supra*** **note 210.**

[235] ***See supra*** **note 199.**

[236] ***See supra*** **note 135 & accompanying text.**

[237] **One marketplace response to this has been the development of alternate methods of funding patent litigation. For example, insurance can be used. *See generally* Melvin Simensky & Eric C. Osterberg, *The Insurance and Management of Intellectual Property Risks*, 17 Cardozo Arts & Ent. L. J. 321, 329 (1999) (in response to increase in patent litigation patent infringement insurance now available). *See also* Leslie Scism, *Insurance Helps Little Guy Sue Patent Infringer*, Wall St. J., Nov. 25, 1996, at B1. Additionally, some attorneys will use a contingent fee arrangement when representing a patent owner. *See* Richard W. Painter, *Litigating on a Contingency: A Monopoly of Champions or a Market for Champerty?,* 71 Chi.-Kent L. Rev. 625, 625 (1995); *see also* Drew C. Phillips, *Contingency Fees: Rules and Ethical Guidelines*, 11 Geo. J. Legal Ethics 233, 234 n. 8 (1998).**

[238] ***See*** **Jenevra Georgini, *Through Seamless Webs and Forking Paths: Safeguarding Authors' Rights in Hypertext*, 60 Brooklyn L. Rev. 1175, 1206 (1994) ("Some members of the 'cybercommunity' adopt the attitude that 'information wants to be free,' decrying 'intellectual property' as an oxymoron").**

[239] ***See supra*** **note 151 (public disclosure destroys trade secret).**

[240] **Industrial espionage has been increasing and is now estimated to cost United States companies billions of dollars annually. *See* Robert L. Tucker, *Industrial Espionage as Unfair Competition*, 29 U. Tol. L. Rev. 245, 246 (1998). Additionally, foreign governments are engaging in industrial espionage against United States businesses. *See id.* In response to such actions**

by foreign governments the United States enacted a trade secret statute which criminalizes misappropriation of trade secrets. *See* Economic Espionage Act of 1996, Pub. L. No. 104-294, 101(a), 110 Stat. 3488-3490 (1996) (codified at 18 U.S.C. §§ 1831-39).

[241] ***See generally supra* note 3.**

[242] ***See supra* notes 37- 44 & accompanying text.**

[243] ***See supra* notes 30-35 & accompanying text.**

[244] ***See supra* note 54.**

[245] ***See supra* note 56.**

[246] ***See supra* note 140 & accompanying text.**

[247] ***See supra* note 183; *see also* 35 U.S.C. § 112 ¶ 1 (1994).**

[248] ***See supra* note 105.**

[249] ***See supra* notes 115-33 & accompanying text.**

[250] ***See supra* notes 134-37 & accompanying text.**

[251] ***See supra* note 138 & accompanying text.**

[252] ***See supra* note 111.**

[253] ***See supra* note 146 & accompanying text.**

[254] ***See supra* notes 148-50 & accompanying text.**

[255] ***See supra* note 151.**

[256] ***See supra* notes 151-56 & accompanying text.**

[257] ***See supra* note 160.**

[258] ***See supra* notes 168-71 & accompanying text.**

[259] ***See supra* notes 172-82 & accompanying text.**

[260] ***See supra*** **notes 200-05 & accompanying text.**

[261] ***See supra*** **note 206 & accompanying text.**

[262] ***See supra*** **notes 196-99 & accompanying text.**

[263] ***See supra*** **note 223 & accompanying text.**

[264] ***See supra*** **note 224 & accompanying text.**

[265] ***See supra*** **note 210-13 & accompanying text.**

[266] ***See supra*** **note 199.**

[267] ***See supra*** **note 247.**

[268] ***See supra*** **notes 217-22 & accompanying text.**

[269] ***See supra*** **notes 207-09 & accompanying text.**

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top of page

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