



BERENATO & WHITE

Leaders in Intellectual Property Law



## Patents from John White's Point of View

### 1st: What is a patent?

Definition: A patent is the limited right to exclude others from making, using, selling, or offering to sell, or inducing others to do the same, the subject matter covered by the claims of the grant.

What a patent is not: The right to do or perform the subject matter covered by the claims of the grant.

There are many definitions and analogies of what a patent is floating around. Some are legalistic, such as the first definition that precedes this paragraph, and others just don't make sense or are too simplistic to be useful, such as the second one that precedes this paragraph. To really understand these definitions, it is helpful to have an historical perspective of the origins of patenting and their incorporation into the U.S. constitution.

### Historical Perspective & Morality (...in the beginning...)

The third act of Congress in the United States, that is the third law passed in this country, ever, in its history, was the First Patent Act! It may surprise you to know that the first thing done in this country after the Congress gave itself the authority to raise money and pay an Army was to secure the rights of authors and inventors. Clearly, the Congress and President Washington had their priorities in order in 1790. Washington was himself the inventor of an improved plow, among other things (i.e., an octagonal horse powered wheat threshing building). As it turns out, Thomas Jefferson was the first Patent Examiner, as well as being Secretary of State (doubtless a part-time endeavor inasmuch as patents took up all his time! A topic we shall re-visit momentarily).

The notion of "patenting" something did not, of course, originate in the United States. According to some research I did, (years and years ago), while writing for the Commissioner of Patents, the whole concept of patenting likely started in Venice among various craftsmen who lived and worked servicing the considerable mercantile exploits of the citizens of that city-state in the 14th and 15th centuries. The concept was to secure "property like" rights in a person's work product. Third parties were forbidden from imitating the work within the city-state or even leaving the state with the idea unless permission had been obtained from the originator of the work. [The penalty was execution!] By this time the idea of a trademark or seal came to the fore as an even more widespread mechanism to indicate the authenticity (as to origin) of a given item of commerce. ("Trademarks" date back to almost the earliest recorded trading between East and West.) This distinction holds to this day between patents and trademarks, i.e. a patent protects the item itself and a trademark indicates the source or origin of the item.

Another widespread and different use of the term “patenting” existed throughout the European colonial exploits of the 15th, 16th, and early 17th centuries. A person or entity could be awarded the “patent” for a given commercial undertaking by the relevant governmental form having ultimate authority over the good or service in the region. For example, the British reserved for themselves, i.e., “the Crown”, the salt “patent” in India (and other places). The “sugar” patent might be given to the Governor of a selected colony or region, i.e., Lord Fairfax and the colony of Virginia, or perhaps the patent for river travel along the Hudson was awarded to a specified shipping company. This use of the phrase “patenting”, often used synonymously with “monopoly”, created considerable antipathy towards the concept inasmuch as it seemed like just another system to enrich the “haves” at the expense of the “have nots”, (A view surprisingly widespread to this day!). This was true in view of the fact that the person or entity awarded the patent did not have to do anything to obtain the patent except be well positioned vis-à-vis the governmental authority giving out the rights. However, an important and essential feature associated with “patenting” came into existence with this monopolistic type of award. This concept was that the use of the right and your own self-enforcement of the right was essential to exploiting the right. That is, it did you no good to have the tobacco patent in Virginia unless, of course, you went about harvesting or hiring others in Virginia to actually do something with the tobacco. Likewise for sugar, timber, river travel, or whatever, if you didn’t use the right either directly or through others, the right was worthless. If you didn’t use the “patent”, it would likely be taken from you and given to someone who would make use of it; the overarching Governmental objective here being revenue and resources. The more the merrier.

Happily, when the concept of “patenting” was written into the U.S. constitution it retained the historically good and useful features and left behind the bad.

The first Patent Act of 1790 limited the right that an inventor had in the idea he or she had created both in time and in scope. The time limitation was on the order of 15-20 years and the right was only given in exchange for disclosure of the idea. Once the right expired, the idea became the property of the public. Further, the idea had to be novel. That is, the idea had to be a provable advance in whatever the state-of-the-art was for whatever technology the idea had to do with.

Hence, the notion of “patenting” retained the original concepts that a patent was a protection for the thing (Venice) and that it was awarded by the relevant governmental authority (England). In addition, it was awarded as an incentive for the person being granted the award. The purpose of the grant was to spur the owner to do something with the right. If no activity was undertaken owing to the grant, the grant was essentially worthless and was an award of nothing (England).

You might think that since the Patent Act was the third item on the agenda of Congress that it has been a subject oft re-visited. That would be incorrect. Revisions to the original have occurred on only 4 occasions. In 1793, Congress tried a registration system to alleviate the burden on Thomas Jefferson who was spending all his time examining patents and none doing anything else. (Did anything else really matter?) In 1836, Congress introduced the present numbering system and created the Patent Office as a separate and distinct governmental entity. In 1952, they codified the concept of “obviousness” (inventive leap, etc.). And, in 1999 they finished a series of adjustments to “harmonize” the U.S. laws more closely with the patent laws around the world.

The U.S. patent has, from this 1790 beginning, been a bargained for exchange. The inventor obtains immediate rights but gives up future rights upon expiration. The public obtains, firstly, the disclosure (upon publication) and, secondly, the idea itself (upon expiration). The monitor of the exchange is the United States Patent and Trademark Office (PTO) and the 3000 plus Examiners who handle upwards of 300,000 applications each year.

### **Summary:**

The rules to keep in mind from our historical beginning are that patents still protect an item in commerce that embodies the execution of an idea, just as they did in Venice, are granted by the relevant governmental authority for a limited time, and are, by themselves, worthless unless the owner of the right does something with the right. In addition, the “idea” can only be protected if it is new and is not obvious from what has gone before.

### **Role Played in U.S. vis-à-vis rest of World**

A United States patent has no moral component. It is simply a right that can either be exercised or not. The exercise of that right may have a moral component, (i.e., cloning or genetic alterations), in a particular culture or profession, (i.e., medicine, agriculture, treatments of disease), and may lead to business consequences, (i.e., boycotts or unpopular press). These issues are wholly unrelated to whether the subject matter ought to have been patented in the first place. Many an emotional exchange has been had on the topic of whether certain technologies should be patented both here and around the globe. Much moral outrage, indignation, and frustration has been expressed.

The U.S. Supreme Court said it very clearly (a surprise, eh!) when they characterized what you could patent in this country, to wit: “Everything under the sun made by man”. Reasonably this leaves nothing out. If that definition is not clear enough for you, the Patent Office and lower courts broaden it each year. (Business Methods, etc.) This is not the case the world over. It is relatively more the case than not among the western oriented democracies of the world, but in many countries patenting is not a universally accepted concept or principal. Far and away the U.S. embraces the broadest and most amoral concept of what can be patented. The result is that the U.S. is the cross roads of all technologies even if it doesn’t have the highest number, in absolute terms, of patents. (Japan has that title.)

Where does this early adoption of patenting into U.S. culture and law put patenting in our daily lives? Earlier today I awoke and peered out at the world through my patented laser vision corrected eyes and listened to the radio with the patented station stability circuitry while I brushed my teeth with the patented bristle arranged head using patented advanced formula whitening toothpaste and then showered in patented chemically treated water and, after drying off, used a patented dispenser to apply deodorant, dressed in my clothes washed in patented soap and treated with patented fabric softener. I then turned the patented keyless coded entry door handle in my hotel door and rode the elevator equipped with a patented floor call software system after stepping through the patented safety door to the ground floor where I stepped onto the patented stain resistant napped floor covering. I walked to my car and started a myriad of series connected patented circuits, software, mechanical assemblies, surface treatments, coatings, etc. (roughly 1000 patented elements in a given vehicle), and drove here at times beneath patented overhead

sign structures lined along patented asphalt mixed roads with the occasional patented high strength concrete drain structure reinforced with patented treated steel, etc.

Obviously you get the message of the foregoing paragraph. In the United States, regardless of the technological pursuit of a business, patenting plays an unavoidable role. Even if you wanted to factor patenting out of your business decision-making, you couldn't. It would be like living in Southern California and wanting to avoid the sun! You'd be better off moving.

My advice, use a little sunscreen and enjoy the sunshine and all the benefits bestowed thereby. The United States has, for much of its existence, enjoyed the fruits of technological advancement like no other society - ever. In addition, the U.S. holds out innovation and new ideas as a general social good and holds those who participate in the highest esteem (Ben Franklin, Thomas Jefferson, Thomas Edison, Alexander Bell, Orville and Wilbur Wright, etc, etc.) As great an intellect as President Lincoln believed that the creation of the U.S. patent system was among the three most important developments in the history of the world (the other two being the discovery of America and the creation of the printing press.) As a result, the United States has an established reputation (aside from Mr. Disney's efforts) as "the land of the tomorrow" all fueled, no doubt, by the patent system.

### **Where we find ourselves (i.e., Us vs. Them)**

Contrary to the perceptions you may have about innovation, disclosure, and what can be built upon this system by the next inventor, patenting has many a detractor. Some of this is perhaps a little hold over from the "monopoly" character of the right granted in colonial times. However, more of it is based on an anti-rights sentiment against the concepts that under gird what a patent is all about. For example:

**"Patently Absurd"** (*This is a Summary, the complete article can be found in: The Economist Technology Quarterly, June 23, 2001*)

The recently issued "Business Method" patents from the U.S. PTO have done more to slow innovation than to promote it. Among the most egregious examples is the Amazon patent on "one-click" ordering. (Other notables include Priceline's patent on reverse auctions and E-Data's patent on selling "material in a download fashion via the Internet".)

The controversy stems from whether the PTO is sufficiently skilled to issue only "good" patents which do what they are meant to do – reward invention and, thereby, encourage innovation. Growing numbers of economists are unearthing evidence that America's patent regime is out of step with precisely the values it was designed to promote. Some believe that, in certain industries, strengthening intellectual property accomplishes nothing positive. Others think it may actually do some harm. Computing, semiconductor and information-technology firms now encounter a "thicket" of patents that constrain their inventiveness. (The study period was 1982-2000). This phenomenon has been labeled the "Tragedy of the Anti-Commons" to wit: when lots of property owners have to grant permission before a resource can be used, the result is that the resource tends to be chronically under-used. Innovation is stifled.

Patenting in these technologically interdependent industries is increasingly strategically based as opposed to innovation based. Companies sought to build up their portfolios so that they could use them defensively as bargaining chips to ward off competitor's accusations of infringement or to block a competitor's product. Such "portfolio wars" could lock firms into a zero- or even negative-sum game. In the end, none of them would

succeed in increasing their returns to innovation. Innovation at this level can be stifled if the developer cannot secure permission to use other key components.

In contrast, “discrete” technologies used in the pharmaceutical, chemical and medical-equipment industries rely more on “stand-alone” patents. In these industries, the role of patents is not for bargaining purposes, but instead is to secure greater returns from investment in research.

Some alternatives to the foregoing stifling have arisen, but these alternatives can lead to anti-competitive practices among the participants. These alternatives involve cross-licensing or technology swapping among those who have patents or, alternatively pooling of patents among those who have them. Either of these alternatives, however, raises the possibility of anti-competitive practices because of the practical limitations on who can participate and the effective raising of the entrance bar for given industries.

In an ideal world, the American PTO would have the authority to distinguish between areas where strong patents promoted innovation and those where they hindered it. More realistically, policy-makers need to examine how firms use property rights once they have them. One thing is clear, though, the stronger patents are made, the greater the incentive to avoid them. And avoidance leads to anti-competitive practices.

The article summarizes that gauging the relative merits of these countervailing claims will take years. However, given the conflicting needs of different industries, different companies and different peoples around the world, the patenting authorities need to find a greater variety of tools for protecting intellectual property. One size definitely does not fit all.

#### **~John White's View~**

I was quite surprised at this view being expressed by the Economist since it is generally a rather “hands off” free market cheerleader. In this instance, however, their study and data badly conflict with the “situation-on-the-ground”. In the period 1982-2000 the “tragically” technologically interdependent semi-conductor, information technology, and electronic industries experienced an unrivaled reduction in cost and rise in productivity despite their “stifled” and non-innovative condition.

In 1985, I researched a speech for the then Commissioner of Patents to give in Minneapolis and included a folksy note about Cray super-computers “rattling along at 10 billion” calculations per second. Each of these machines cost on the order of \$ 10's of millions and required all manner of specialized support to work properly. By 2000, 4 connected Pentiums from one of the “tragically” stifled companies doubtless using anti-competitive cross licensed technology from other similarly stifled companies, pulls off the same speed stunt for about 1/100,000th of the price and is available to sit on a dusty real world desktop near you! In contrast, for many of the “discrete” technology based companies in medicine, the present circumstance is a hail of criticism for unchecked rising costs and anti-competitive healthcare practices all subject to the all-knowing regulation of governmental authorities.

It seems to me that the usual applicable rule of what statistics can reveal, (i.e., nothing, unless you try real hard), once again belies reality. I would prefer for myself, and whatever industry I was participating in, more of the same old patents as usual treatment. Instead of more “creative” regulation, let us work through the well-understood briar patch to our individual advantage.

**“The right to good ideas” or “Patents kill”** (*This is a Summary, the entire article can be located in the Economist, Technology Quarterly, June 23, 2001*)

Patents are bad for poor countries. They are the preserve of large multi-nationals allowing them to establish monopolies, drive out local competition, divert research and development away from the true needs of the country and they force the price up on everything from seeds to software. On the other hand, intellectual property rights are the engine of modern economic growth, along with free trade and democracy. These conflicting views have turned intellectual property into one of the most contentious areas in international development.

Adding fuel to the foregoing debate is the issuance of patents directed to “one-click” online purchasing, and advances and patents in genetically modified organisms. These issues challenge conventional thinking about patenting (See prior article “Patently Absurd”), but also raise tricky issues about the ethics of laying claim to living things.

Whereas Intellectual-property rights used to be a largely domestic issue, the World Trade Organization (WTO) has changed all that with the successive TRIPS (trade-related aspects of intellectual-property rights), rounds of talks, and agreements. Many poor countries believe TRIPS gives them a raw deal. TRIPS has become a battleground for those who favor and those who oppose the spread of global capitalism. TRIPS sets forth a long list of ground-rules describing the requirements of the intellectual-property rights systems and the various domestic procedures and protections necessary to qualify as satisfactory for WTO member countries. For example, rights should extend to any new and useful product or process that had an industrial application. These should include computer programs, integrated circuits, plant varieties, and pharmaceuticals. Protection, from initial application through enforcement, must be extended equally to foreign and domestic applicants alike.

Owing to the cost and complexities of the various and extensive system requirements for application and enforcement, few countries have managed to fully comply with the agreement. TRIPS is essentially a set of rich-world conventions that include a few concessions to poor countries. It was pushed onto the trade agenda by America, Europe, and Japan, which together hold the lion’s share of the world’s patents and whose companies wanted more protection abroad. Developing countries went along with TRIPS in the hope of winning trade concessions in such areas as farming and textiles. Such indirect gains have yet to materialize. In the short term, a stronger patent regime will mean higher prices for goods and more unemployment once copycats are driven from the market.

Much of the poor world’s anxiety about TRIPS is focused on two issues: access to medicines, and protection of traditional resources. Many developing countries, among them India and some sub-Saharan states, would like clarification of the agreements provisions and exceptions to protect public health and the environment, and outright amendment of its articles on the patenting of life-forms. The U.S. and Japan oppose any changes whatever, the EU may be more sympathetic.

Many of the most effective drugs against diseases, among them being HIV and malaria, are covered by patents in the industrialized world. In much of the poor world, however, these patents do not apply. In theory these drugs could be imported in generic versions from countries with the capacity to turn them out (India for example), but the poor countries do not have the money, even at generic prices, nor do they have the health care systems to deliver the drugs even if they were available.

Rich as well as poor countries are worried over the effects of patents on drug prices. They are also worried about the patenting of plants, animals, and genes. Part of the concern is morally based, and part of the concern is practical. Few people in developing countries have the money to bio-prospect in, say, the Andes or Indonesia, nor do they have the money, once something is discovered, to patent the knowledge in the western world. A growing alliance of developing countries would like to see this "biopiracy" stopped. Costa Rica, for example, has laws exempting genes from patenting. Other countries would like applicants for plant variety patents to declare where they got it and to prove that they not only have the consent of the native users, but have also arranged to share the eventual rewards of commercialization.

New patenting models will probably be needed to protect such traditional knowledge, and these will not come easy. Their introduction would help turn the rising tide against TRIPS by showing that intellectual-property rights can be an opportunity, not just a threat.

### **~John White's View~**

Right or wrongly, this article represents a fair re-statement of the views of patenting, if not Intellectual-property rights in a general sense, of much of the world outside of the U.S., E.U., and Japan. Whether these views are well-founded is not so much an issue as that this is the view that exists. I think, also, historically, the uninterrupted record of colonialist-imperialist-capitalist charm the developed world has brought to the developing world over the past centuries does not help. It seems that the WTO efforts, through Trips and otherwise, are largely viewed as yet another aspect of the over-riding effort to solidify the world stage with the western-style democracies economically on top and the developing world somewhere further down the scale.

One could reasonably argue that the country with the most exposure to patents, (i.e., the U.S.), is also, the country enjoying the greatest abundance of fruits - if rotten on occasion - that such a system will eventually bear. Hence, if a country would rather hue more towards what it is the United States has mustered technically, then perhaps heading in a similar direction on the Intellectual-property protection front might also be helpful. Realistically, however, many cultural and societal hurdles need to be cleared before these issues can even become a part of a relevant political dialogue. Other, more pressing, issues reasonably dominate the respective domestic political agendas of much of the developing world. This situation is likely to remain for the foreseeable future.

### **"Patent Play"**- *(This is a Summary, the complete article appears in Forbes, September 17, 2001, Money & Investing)*

The generic pharmaceutical business is set to take off owing to the numerous well-established branded drugs about to come off patent. These drugs includes such blockbusters as Prilosec (\$4.1 Bil. 2000 sales), Prevacid (\$2.8 Bil.), Claritin (\$1.7 Bil.), and Prozac (\$ 2.6 Bil.). Altogether more than \$ 35 Bil. (2000 sales) patented drugs will lose their protection through 2005. Within 12 months 80% of the business will migrate from drug pioneers to copycat manufacturers. For example, within two weeks of Merck's patent expiration on Pepcid, 17 generic manufacturers had launched copies. Owing to these practices, generics' share of the prescription drug market has swelled over the past decade to 45%. The major beneficiaries of this shift: manufacturers of the knock-offs, the taxpayer who picks up the tab through Medicaid, and the middlemen distributing drugs. For long-term growth, it's hard to beat the prescription drug market. As boomers age, their consumption of drugs triples compared to the population as a whole.

### **~John White's View~**

This is a typical Forbes' "Capitalist Tool" style pursuit of where the money must be going. It observes the expiration of patents as a moment for celebration for the pill popping mutual fund investor. Good advice? Sage observation? Well, it is reasonable to observe that there are more forces than these at play in determining who obtains the spoils from such events as patent expirations. For example, see the following article, "Betting on the Brain".

-“Betting on the Brain”- (This is a Summary, the entire article can be found in Forbes, January 7, 2002).

Merck & Co. earned its reputation as a research powerhouse developing breakthrough medications for the heart. In 1980's and 90's Merck unleashed an arsenal of heart treatment related drugs helping people live longer more productive lives and reaped billions in profits. However, much of that franchise is now gone, with \$ 11 Bil. (2000 sales) of drugs coming off patent by the end of 2005. Merck's faltering growth has pushed share prices down by 38% in the past year and whereas it used to be the world's largest drugmaker, it now trails Pfizer and GlaxoSmithKline as number 3.

Chief Executive Raymond Gilmartin is betting the future on the last frontier in medicine: the brain. Recent advances in gene research have opened up tantalizing results, and Merck's researchers aim to translate these lab findings into real-world treatments. Merck will spend \$ 400 million on brain research this year, up ten-fold from only five years ago, and has 800 researchers in this hell-bent pursuit. Gilmartin remains confident, "I have no doubt about our strategy, because we've got the goods." If Merck succeeds, it will be in large part because of the dogged efforts of a cadre of researchers at a distant outpost in Terlings Park, England, founded in 1984, studying the basic biology of the brain.

However, Merck faces heavy competition in almost every area of brain research from Pfizer, and it isn't at all clear whether Merck's brain drugs will come soon enough, and be successful enough, to make up for the expiration of the Zocor patent, for example. Perhaps realizing that internal research alone may not be enough, Merck has sought to beef up its efforts to license new drugs. Merck has also formed a joint venture with Schering-Plough to produce a combo cholesterol pill blending Zocor with another agent; it would have patent protection through 2013.

Despite its high stakes bet on the brain and anticipated success, Merck has little wiggle room. The company probably needs to add four or five hot sellers in the next few years to survive Zocor's passing.

### **-John White's View~**

I expect that, aside from the real and genuine help that Merck's drugs provide, they also have a crack and convincing sales program to back up their overall business efforts. Also, let's not forget the lobbying, convincing, etc. that it takes to obtain drug approval through the FDA. The approval process alone is a tremendous hurdle to potential entry into the field by others who are accomplishing the basic research but who cannot translate those efforts into approved treatments. If Merck can reach out and collaborate with some of those efforts, its resources and skills can go that much farther.

**“Me-Too Patents”** (*This is a Summary, the entire article appears in Forbes, April 16, 2001.*)

Festo, the biggest intellectual property case going, could make copycat products perfectly legal. The case is all about the “doctrine of equivalents” that was laid down by the Supreme Court in 1950. The “doctrine” set forth the notion that you couldn’t alter a patented product just a little, i.e., without departing from the true spirit and scope of the claimed idea, and still avoid an accusation of infringement that could stick. In Festo, the “doctrine” is under attack and on its way back to the Supreme Court for a re-argument.

The stakes couldn’t be larger. The case pits companies like Ford, IBM, and Intel, against smaller companies who worry that their inventions will be ripped off without the “doctrine” to shore up awkwardly worded claims that sometimes miss the mark. The large companies insist the “doctrine” has created a fuzzy indistinct line regarding what is and isn’t claimed by a given patent. So far, the case is going in the big guys favor with the patent appeals court curtailing the doctrine to cover only the literal wording in the patent that describes the invention. After all, companies need to be able to introduce new products without fear of unjustified, protracted and expensive litigation. The appeals decision has already been cited in at least 11 cases to throw out accusations of patent infringement. The D.C. appeals court cited the Festo decision in reversing a verdict that could’ve required Honeywell to pay Litton \$ 1.2 billion for infringing on ion-beam technology used in aircraft navigation systems.

Big companies such as HP and P&G are jubilant at the Festo ruling, insisting the new freedom will encourage innovation, not crimp it. We’ll see!

#### **-John White’s View-**

It is always interesting to patent attorneys when a popular business rag refers to companies as jubilant about anything related to their field. It can only mean more business. After all, any publicity is good publicity. Right? In this case, the business rags have really overstated what it is that this decision may mean. It is a case having to do more with the pendulum effect of changing odds between those who are accused of infringement of patents and those who defend such accusations. In the 60’s and 70’ the pendulum had swung heavily to those accused of infringement. Patents were held invalid left and right and, in some federal circuits, a patent owner never won! (Patents are “monopolies” aren’t they?) In the 80’s and 90’s the pendulum swung back in favor of the patent owner and accuser with record damage awards being made yearly. (Inventors are all heros, aren’t they?) Festo simply swings it back towards the middle. The patent right cannot be as flexibly enforced as plaintiff’s lawyers would have you believe. Likewise, those who compete close to the edge, will have a better notion of exactly where that edge is.

### **Strategies for Use** (situation “on-the-ground”)

Now that you have a notion of what a patent is, (i.e., a time limited right to exclude others from using an idea, obtained in exchange for disclosure of the idea), what is it that these patents are commonly used for? In this regard, having a single notion of what a patent is and what it is useful for is not unlike the three blindfolded people encountering an elephant for the first time. The one who finds the leg determines an elephant is really like a tree. The one who encounters the trunk determines the elephant is most like a snake. The third one encountering the thin flexible ear determines an elephant is most like a large leaf. None are right, but, also, none are wrong. It all depends on where you start and where you stop.

### **Incentives/Rewards/Recognition**

In keeping with the idea that innovation and creating the future is what America is all about and those who participate should be held in high regard, patents are often used as an incentive in the workplace. These incentives can take many forms, and do. In some companies there are stock reward incentives where a certain number of company shares are awarded for every patent that issues. In some instances, where stock is not a possibility, cash, vacation, or travel awards are a part of the package.

Recognition is also a factor for some companies where innovation has been a hallmark of the company culture. Inventor “Hall of Fames” and “Walks of Recognition” along building gathering points are not uncommon. In some instances, simply funding the patent application process and having it issue is recognition enough in that the patent signifies participation in the greater mission of the company. Engineers and scientists alike sometimes don’t feel as well connected to the overall company purposes as they might, but having patents issue can give them a better feeling of connection through a recognized “patented” contribution. Simply being a recognized “inventor” can make a person feel better about who they are and put a little spring in their step both in attitude and productivity.

### **Protection/Enforcement (Strategic Planning & Patenting)**

Protection of an asset and enforcement of that protection, as a part of an overall business purpose, is classically what most people think a patent is really useful for. This is good and traditional thinking. However, the part of the thinking that is often incomplete stems from a lack of understanding that a patent is not self-enforcing. Simply obtaining a patent and placing that number on a product achieves nothing. Let me repeat, obtaining a patent and numbering a product that is patented achieves nothing. This may seem wrong or unfair, but that doesn’t change the basic truth of the statement.

Patent infringement is a tort that the injured party, (i.e., the patent holder), must do something about in order for any compensation to be paid over. Unlike other property rights or even other intellectual property rights, (i.e., copyrights), there is no criminal or public enforcement aspect. No one except the patent holder really cares whether a patent is being infringed. So the question is often asked, “How much do you really care?” The operative word in the phrase is “much”, as in how “much” money are you prepared to invest towards a lawyer to reflect your degree of caring. Patent attorneys are expensive, and litigation is a time consuming distraction that, if left unattended, can spiral out of control and bring about needless and costly consequences. We will look in more detail at these pitfalls in a later section, but you should know that patenting by itself does not enforce the right. It is, instead, up to the patent owner to police and pursue those rights as they so choose, both here in the U.S. and around the world.

## **Revenue/Assets (Valuation/Finance/Urban Legends)**

I've just told you that a patent is not self-enforcing. That is, without a lawyer and a financed plan of enforcement, no enforcement will occur. Not very comforting inasmuch as your company has gone to the trouble and investment of obtaining the right. There is still more to do. Surely, there must be some worth in all these rights that can be recognized on balance sheets and be offered as collateral for loans, etc? - Wrong again! A patent has no intrinsic worth at all. Aside from the heat value of the paper it may be printed on if set fire to, the right conferred by a patent has no discernable value.

There are not any ready analogies that apply to this odd circumstance. You've disclosed the idea to the public so they have an immediate benefit, you've paid money to the PTO and your lawyer, and yet you have nothing that can be ascribed any value. No tax write-off, nothing. Even if you start selling something that falls within the scope of the patent, the patent still has no value. Hopefully, you make money on your activities regarding the manufacture and sale of the item covered by the patent. However, you would make the same money even if you didn't already have the patent. So where does the value come from?

### **Is there any infringement?**

The only value that can be identified in a patent is the right to exclude others from doing whatever it is that is covered by the claims of the patent. The question should then be investigated as to whether anyone, other than yourself, is engaged in activities covered by the patent. If such activity exists and you are prepared to stop them, then the patent may have value. [Note: even if there is infringement, if you do not have a financed plan to stop the infringement, there is still no value in the patent.] Remember, the value is in the right to exclude others from the subject matter; so commence excluding. You may succeed in the collection of damages in the form of lost profits. [Note: You must sell the item and the infringing sales must cut your own sales to collect lost profits.] Or, if you do not sell the item, you can collect a reasonable royalty. In addition, you may obtain an injunction to stop that person or entity, (i.e., exclude them), from doing whatever it is that is covered by the patent until the patent expires. If successful in these damage pursuits, you have wrung value from the patent, and the right you worked so hard and spent so much time and effort to obtain has been proven to be worth something.

The worth of patent, once you have convinced others of your resolve and likely success in enforcing the patent, now becomes a tangible and calculable asset. If you have excluded others from selling the item, and there is demand for the item, you can charge what the market will bear for what you're prepared to make and sell. For example, once a patented drug is approved and made popular, the margins are embarrassingly high. Drug companies will reasonably justify the margins on the basis that they've got ground to make up in R&D expense and lack of success from other efforts, and that may be true. That story, even though, remains a tough sell to the public. In addition, you can license others under the patent, divide markets anyway you like, etc, and have a reasonably predictable revenue stream. These accountant friendly terms add up to an asset that, not unlike rent or a note payment, goes to the bottom line.

The urban legend aspects of patent licensing revenues have grown more and more in recent years. This is particularly so since patents have gained a media touted reputation as a smart technology play by well-run knowing companies. Texas Instruments is rumored to have made it through several revenue lean periods on patent licensing income alone. Likewise the major drug companies, but for their patents, would simply fold and cease to

exist. Qualcomm is said to be a patent license revenue company. Priceline was worth billions (as were so many others, but at least Priceline had some patents!) based on its patent portfolio asset value. [In truth, Priceline didn't own any patents, it licensed its technology from Jay Walker, the inventor, patent owner, and CEO of Priceline.] Some of this may have a little truth to it. But as we now know, for a patent to really generate any income at all, it must be backed by a well-financed and convincing enforcement strategy for the income possibilities to be real. As Socrates once said, "Do not issue any decree that you cannot enforce". I think he must have been instead referring to the obtaining of patents!

### **Odds and expense of recovery**

I have mentioned more than once that a patent has to be backed by a well-financed enforcement plan. What I really mean is, prepare to spend more than you think at a pace you didn't think possible. Patent trials are expensive. Figure on \$ 1.5 million to trial, with another \$ 500,000 through trial and appeal, on average. [Note: In California, median legal costs for a patent litigation were \$ 2,493,000. 1999 AIPLA, Report of Economic Survey.] The most recent case I participated in cost the defendant on the order of \$ 3.5 million, and cost the plaintiff \$ 1.5 million in costs alone. In the end, the plaintiff recovered on the order of \$ 50 million. All this took three years on a case that the plaintiff offered to settle for \$ 1 million up front with a license costing about \$ 300,000 per year for the remaining six-year life of the patent. Poor decision making on the part of the defendant led to this result. [We shall talk more about this case in the course section on litigation and we shall examine statistical analysis relating to patent litigation around the U.S. as well.]

As you can see, the odds of succeeding in patent litigation have to do with your capacity to go forward with the expense and see it through. For many companies, it becomes too much to bear financially and the cases settle somewhere in the midst of the mayhem and distraction.

Another factor in handicapping the odds of success and recovery is the nature of the defendant coupled with the dollar value of what is at stake. Where relatively little is at stake and alternatives abound for the patented item, accused infringers are more likely to switch than fight. However, if the dollar value is high, and the defendant has the capacity and will to see it through, the full measure of litigation will be the likely result. For example, if the item is a string of holiday lights, and the cost at retail is \$ 5.00 and availability is almost as a commodity, no lengthy dispute should result regardless of the nature of the offense. However, where the item is a mixing head for a plastic injection device for steering wheels with thousands made daily and the mixing head is installed on machines throughout the U.S. and Europe and the alternative mixing head slows production while increasing the rejection rate of the finished piece by 10%; the parties battle to the last threshold of appeal - spending millions.

### **Designing Around**

One aspect of the patent system is that the disclosure of the invention is included as a part of the patent publication process. The publication, in the U.S. as well as most of the rest of the world, predates the accrual of actual rights to the owner. This is useful in two respects. Firstly, it puts potential infringers on notice that you are trying to perfect rights in a certain idea. Secondly, it provides time for potential infringers to "design around" the right that may eventually issue.

As much as patent owners and innovators might not like it, one half of the reason for the patent system existing in this country is the disclosure aspect of publication and what public benefit that provides. Patent owner's may feel it gives third parties a "tip off" as to their R&D and general technical direction. That may be true. More than that, it also provides a greater information base on which further innovation can be built. For example, when Teflon first came out it was obviously useful for something, but the

many, many, uses it would eventually be put to come from innovative minds encountering the material through disclosure. Entire companies were founded (W.L. Gore comes to mind, i.e., “GoreTex”) based on a single discovered property of the material. This is an excellent example of what was intended by the exchange of rights for the disclosure of an idea. Many laws and procedures surrounding our patent system are directed to encouraging those who have ideas to come forward, and those who come forward first through the patent system are rewarded with this limited right to exclude. The system is weighted against those who would abandon, suppress, or conceal an idea.

The “design around” possibilities available to late arrivals to a market are based on the notion that a patent, upon review of its files history (i.e., the documentation surrounding the issuance of the patent), can be predictably interpreted in light of applicable case law. Once interpreted, alternative non-infringing products can be devised through a collaboration between your patent attorneys and researchers. This “design around” process can be fairly straight forward and perhaps even yield an alternative product that is patentable in its own right.

As an analogy for “designing around” consider water as it heads downhill. If you block it one way, it will find another path of least resistance and keep on flowing. In the analogy, the slope of the hill is the potential market for the eventual product, the water is the accumulating investment in the technology and the various dams erected to catch the water are the investments in would-be patents. However, given enough market potential and accumulating investment in the technology, alternatives will abound and the market will be served, with all the players subject to the usual vagaries of business cycles, etc. Hence, “designing around” was and is a primary purpose of the patent system that the framers had in mind when the concept of patenting was written into the Constitution.

### **Trade Secrets**

So far we have spent our time and thinking pondering the patent and its limited right to exclude gained in exchange for the disclosure of the innovation or idea. Keep in mind, however, that the limited right obtained under a patent will eventually expire. For some, this is not a good plan. The notion of disclosing where their R&D effort is going and then giving away the results for free for others to gain an advantage from, just doesn’t seem like money well spent. Even worse, by the time the technology is really developing and markets are coming together, the patent rights expire and all the advantage moves to the low cost producer in a matter of months, if not weeks. Altogether, not good. Surely there must be a way to compete outside of the patent system, reap the efforts of your R&D, and have those hard won advantages inure to the benefit of your company and yours alone. Happily, there is. The label for this concept is a “Trade Secret”.

### **Definition of a Trade Secret:**

The short and memorable definition of a trade secret is that it is the anti-thesis of a patent. Trade secrets involve no disclosure, no governmental authority, and they do not expire. For as long as no one fairly figures out what the secret is, the secret is treated as a secret, and can be kept as such, the trade secret may exist.

### **Elements of a Trade Secret:**

How do you know if you’ve got something that can be protected as a trade secret? Does your company have or has it developed any work product that will give it an advantage over a competitor. In addition, is the work product unknown and unused by your competitors? This work product can be as simple as a customer list or it can be as complicated as a formula or machine pattern. It doesn’t matter. The next concern is how well, once this work product has been identified, can it be kept as a secret? Factors to consider include: How many people both inside and outside of company already know of

the “secret”? (e.g. consultants, former employees, etc.). How well is the secret being guarded? (i.e., what measures are being taken to ensure its proprietary nature?). What is the value of this information to the company? (i.e., how much was spent to develop the idea?) How valuable is the market to which the product pertains to the company? In the foregoing discussion, notable by its absence, is the lack of any requirement for “novelty”. In contrast to an idea that can be eligible for a patent, no similar novelty hurdle comparing the idea to “prior art” for trade secrets exists. However, it must be understood that for the label “secret” to attach to the something it has to have novelty at least with respect to those whose acquisition of it would do harm to the holder of the secret. That is, a trade secret doesn’t have to clear an objective standard of novelty, but it must be “novel” in the sense of being unknown and having some worth or “economic value”. If it is unknown, but has no provable worth, it can have no trade secret protection. (E.g., the middle names of all residents of a town.) Likewise, an idea may have tremendous economic value, but if it is widely known or subject to easy surmise, then it cannot be protected. (E.g., the household income of a zipcode.) Novelty and worth go hand-in-hand is assessing whether an idea can have trade secret protection.

The second element of a trade secret is that it can be kept secret. Can the idea be ascertained from available public information or can it be readily reverse engineered? If it can be readily determined by reasonable and fair means (i.e., not hiring your former employee or engaging in corporate spying), then it cannot be protected. Obviously, any publication or other disclosure, either purposeful or inadvertent, removes the possibility of protection. For example, a professor publishes a paper or delivers a talk that enables the trade secret to be translated into practical use by third parties.

Lastly, to determine whether trade secret protection is a possibility requires that efforts be made to keep the secret a secret. For example: Does the owner keep secret documents in locked files? Are there guarded entrances to the plant? Are visitors restricted and required to wear badges? Are non-disclosure agreements used with all non-employees? Are password protections used where appropriate? It is not enough for an owner to have a mere intent to keep something secret, rather the owner must actually, objectively enforce its secrecy steps. Bear in mind, though, you only have to take reasonable steps, you are not obliged to guard against the unanticipated, undetectable, or the unpreventable and create an impenetrable fortress. (For example, you do not have to protect against overflights by camera equipped aircraft.)

An almost universal method of creating at least an initial basis to maintain secrecy involves the use of confidentiality agreements with both your employees, any third parties and/or consultants who may encounter the secrets during the course of their work. The agreements are often put in place upon employment and reviewed once per year, for example with each performance review, whereby the employee acknowledges, once again, that they comprehend the terms of the agreement. In addition, upon separation from the company, for any reason, the employee is given an “exit interview” where upon, once again, a signed acknowledgement of their obligations and duties is obtained. The confidentiality agreement should be separate and apart from any non-compete agreement if possible. The reason for the separation is that these agreements accomplish separate objectives. Non-competes are generally read rather narrowly, whereas a confidentiality agreement is not subject to the same criteria and is likely not going to expire as quickly. Keep in mind that even though a straight forward employment relationship creates some form of “implied” duty of non-disclosure, it may not be all that obvious exactly what it is that should and should not be confidential. The better course of action is to have an agreement in place and to mark documents as well as areas as being confidential, and to do so reasonably. (Unreasonable examples would be to routinely stamp “Confidential” on sales literature that is widely distributed. After a while the term loses its meaning.)

## **Ownership**

As a part of a written employment agreement, employees must understand and acknowledge that any innovation, idea, or concept that they create, and that has to do with any business purpose of the company, even peripherally, must be owned by the company. This must be true even if the employee comes up with the idea on their own time using their own resources. The company should have in-place an idea submission system whereby employees can clear their creations through company ownership. For example, suppose an employee of a chemical firm devises a new electronic frequency filter that eliminates interference issues between equipment pieces working alongside one another. The idea is owned by the chemical company inasmuch as the employee created the idea in the context of solving a company problem. Even though the company's main purpose is chemical not electrical, the idea belongs to the company first. The company may, alternatively, reserve to themselves a royalty free right in the idea and otherwise turn the idea back to the employee. [Note: This procedure should be in place for an idea whether eligible for trade secret or patent protection.]

If a company fails to pin down exactly, by written agreement, what ownership assertion they make with respect to an employee's creations the rights will be determined according to various state common law practices. Typically, an employee owns what they create under these standards unless the employee was specifically directed as a part of their work to create an invention. If not specifically instructed to do so in the context of their work or if the idea is created on their own time, all that may be reserved to the employer is a non-exclusive "shop right" whereby the company can use the idea on the basis that they made a contribution to the idea through materials, time, and equipment. Otherwise, the idea is the property of the employee.

Many states have statutory exemptions for what an employer may claim as their property in the context of employee inventions. For example, where no facilities, supplies, equipment, or trade secrets of the employer were used, and the invention does not relate to the employer's business or R&D, and did not result from work the employer asked the employee to perform, then the work product is owned by the employee. Where such statutes exist, the employment agreement cannot be read to contravene such statutes.

## **Strategies for Use:**

The use of a trade secret is entirely up to the owner. No permission needs to be sought from a third party because, objectively, no one is supposed to know what it is that you are putting out with your product and/or service. (If your trade secret involves someone else's patented technology, beware of an accusation of infringement!) In addition, using it or not is up to the owner in consideration of which strategy creates the most value to the owner. If you use it, then the notion is that some competitive advantage results, that cannot be taken up by a competitor, and which benefit inures to the trade secret owner. If the secret is unused, it can accrue advantage for later use when technology or markets catch-up. In not using a trade secret, there is no amelioration of the right as there is for a patent with the mere passage of time. Remember, trade secrets last for as long as the definition of a trade secret can be applied to the subject matter at issue.

## **Misappropriation Suits**

By now you should understand what a trade secret is and how it might be used, but what happens if the secret gets out? The law gives you some protection in the form of a misappropriation suit. The suit has two possible basis: one, the employee uses the secret in violation of a confidentiality agreement; or, two, a third party learns of the secret and is aware that it is a secret and that the mechanism by which they learned the secret was a breach of a duty of confidentiality owed by the person from whom it was learned.

Usually, the second type involves some form of theft, bribery, misrepresentation, breach, inducement of a breach (see bribery), or espionage through electronic or other means. If you use a little imagination, it is clear that a complete list of what constitutes “improper” is impossible to create. [Note: reverse engineering is an acceptable method of acquiring a trade secret and is not considered “improper”.]

In terms of a remedy for a trade secret misappropriation, the trade secret owner may seek an injunction as well as damages (actual loss, i.e., lost profits, plus unjust enrichment, or a reasonable royalty) and attorneys fees. These damages may be doubled where the misappropriation was willful and malicious.

### **Keeping IP understanding straight:**

It wouldn't be right to talk only about patents and trade secrets without even mentioning the other commonly included forms of intellectual property, namely trademarks and copyrights, here is a handy memory item to help anyone distinguish between them and to entertain guests at cocktail parties!

“Coca-Cola® is the copyrighted trademark of a non-patented trade secret.” © John M. White, 2002.

[Of course the foregoing is only going to be entertaining at a cocktail party after many cocktails have already been consumed and every other subject, keen or dull, has been utterly exhausted!]

2nd - Perfecting Patent Rights: Business decisions v. Legal decisions

### **In U.S.:**

The process for perfecting rights through a patent is straightforward and fairly predictable in the United States. The laws have been substantively adjusted only 4 times since they were first written into law in 1790 (adjustments in 1793, 1836, 1952, and 1999). In this regard, the law is well understood even if elements of the procedures at the Patent Office are subject to frequent adjustment to accommodate various business trends, (i.e., electronic communications, fees, etc.) What is protectable is also predictable both in terms of what the law allows (everything!) and what the patents and public disclosure of others will allow. That is, once you've identified the idea you'd like to protect, done some research in the patents related to the field, and have a good understanding of the state-of-the-art, a patent attorney can give you a good idea of how broadly your rights might be characterized by the claims in the patent you would eventually obtain. This first step is often called a “patentability study”.

Once this first step has been completed, this first step being rather devoid of any business judgment or input, it is time for some thought to be given to whether a patent should be obtained at all. The mere fact that obtaining a patent is a possibility, is no reason by itself to proceed. Rather, this thinking should bear in mind the purposes the company has for obtaining patents, previously discussed, and if the various criteria are satisfied and the worth measures up, the process should then move forward. After all, patents are not free, the individual cost being largely determined by the technology involved, and budgets are not limitless.

### **Procedures**

Any company that has as a part of its approach to business the routine pursuit of technological development, should have in place well established and well understood procedures for determining what technical developments should and shouldn't be patented or earmarked for trade secret protection.

### **In house process**

A useful first step is to have invention summary records readily available either in paper

or electronic form to those who are employed by the company to create new ideas in pursuit of the company's business. This documentation step is important because it establishes a mark in time as to when the company efforts were in process, and the stage of that process, for a given technology. Often times, these recorded and dated documents are retrieved years and years later to overcome the claims of another or to offer proof of original creation on the part of the company. Employees should not be shy about recording evidence of their creations. The merits of a given idea are not often appreciated at first blush and the risk of losing the record of those efforts is too great. Record the results and ideas, have them witnessed and dated. If the ideas or research ultimately lead no-where, they can later be destroyed, or not, according to company policy.

### **Ownership**

The moment of creation is also the best time to establish ownership, even before, if that is possible. Let me explain. No one cares much about who owns what when value and worth are not on the horizon. Prior to creation, there is obviously no value or worth to haggle over and be anxious about. It makes it an easy time to sort out by written employment agreement the expectations and obligations of each party, both employer and employee. At the moment of recording the idea or creation, an item on the invention summary record can re-affirm by signature the party who owns the idea or invention. If the process goes forward with patenting, a formal written assignment of rights can be signed at the same time as the formal declaration of inventorship is signed, whereupon a recordable record is made that can be filed at the U.S. Patent Office. In the event an inventor separates from the company prior to these further steps having been taken, the prior written agreements and testaments suffice to provide a record of ownership that can be offered to the Patent Office.

Joint ventures and employee borrowing can lead to difficult to resolve issues surrounding idea and invention ownership. It may be the case that you have one-half of the inventive team all taken care of by written employment agreement, but the other person is a temp or on loan or already obligated to someone else, i.e., a university or state. What then? The best answer is to have addressed this very issue prior to beginning the inventive work or research that might yield usefully protectable intellectual property. Even in circumstances where it may be impossible for you to establish outright ownership (i.e., having participated in a government funded research project), at least reserve for yourself a royalty free paid-up license or "freedom from suit" right to use whatever it is you contributed to the creation of but cannot claim exclusively for yourself.

Again, most of the disputes surrounding issues of ownership do not arise unless and until worth or value is somehow apparent. Hence, the best advice is to agree before there is something to haggle over. Be mindful of past experience by your company and avoid unhappy repeats of disputed claims.

### **Invention review**

The invention review is often carried out by a select committee composed of members chosen from segments of the company that should or could have an interest in guiding the decisions of what, in the end, should be patented or ear marked for trade secret protection. The committee should devise the criteria, based on whatever overarching guidelines the company has established, and apply them faithfully. Remember that many reasons exist for pursuing either a patent or setting up an idea for trade secret protection. We've covered incentive/reward/recognition, protection/enforcement, and revenue/asset generation. It is easily apparent that a patent attorney paired together with an inventor's supervisor cannot divine what should and shouldn't be patented. In fact, patent attorneys or others who are deeply immersed in the patent process often "cannot see the forest for the trees" in terms of what would or could be usefully patented. A good example of this

sentiment relates to the first Commissioner of Patents appointed under the 1836 Act who remarked to Congress, in his first report in 1843, that surely, “it would not be long before everything that could be invented would be”. In retrospect, we know now that as a society we were on a fairly flat part of the innovation curve at that time. [By-the-way, the 1836 Act was also when the present patent numbering system, over 6,500,000 at this time, was initiated!]

Reasonably, the invention review group should gather as frequently as necessary to process the flow of ideas. The group should include one or more of the following: a technologist, a marketer, a patent attorney, a sales representative, and someone who will be writing the checks. Every now and then a company officer who has a clear idea of what business objectives are being pursued by the innovation protection process should sit in, review, and keep the committee mindful of the criteria. Every effort should be made to keep the committee apolitical within the company. Loss of confidence in how the process is being administered can quickly undermine employee morale and incentive. As an attempt to police the process, members on the committee should rotate on and off regularly, with the exception being the patent attorney and accounting representative.

The reason for the various committee members is that looking into the crystal ball of what might be usefully protected is murky at best. Inventions that are technically appealing or unusual may have no market relevance owing to prohibitive pricing. Ideas that are monumentally simple (i.e., packaging shape and access) may make all the difference in marketing (i.e., medication reminder systems). Some ideas will only have narrow protection and should be marketed and sold with that in mind. Some ideas and technical objectives may work their way into the system from the sales and marketing side as opposed to the technology side. Without a group assembled from these various contributors, much opportunity may be missed.

### **Application process**

As mentioned previously, the process for securing patent rights is well established and familiar. The first element in creating an application is to form an understanding of the level of disclosure the Patent Office will require in order for the patent to be granted. This level of disclosure can be determined by reviewing recently issuing patents in the same or a closely related field of technology. The new application should be written to the same level of disclosure. Once a draft of application is complete, the attorney/agent, inventor, and supervisor should review the specification and claims, to be certain the invention review committees instructions for the invention are being faithfully met. As a part of the review, the committee should provide some guidance as to why this invention received approval and what objectives should be pursued in the claims. For example, is it a pure technology play (i.e., a prescription drug) where the exact eventual marketable version is still being resolved? If so, the claiming should be as full of variations as the specification will support. Or, is this a marketing driven invention where a company version of a market desired feature is being claimed? If so, the claim writer should be mindful of the marketing objectives as well as the technically feasible aspects of the invention.

Once the application is finished, the declarations for inventor signature are prepared along with assignment documents. Be certain that assertions of inventorship are accurate and not politically driven (i.e., including department heads or lead researchers on each one without investigation), and file the application as soon thereafter as possible.

### **The Patent and Trademark Office process**

The U.S. Patent and Trademark Office (PTO) is an institution of long standing. It has

been around in one form or another since the U.S. government began. Over the years it has spawned many other government departments (Dept. of Agriculture, Copyright Office, National Weather Service) and has eventually found its home as a quasi-independent agency associated with the Department of Commerce. The PTO is user-fee supported and its' Directors are paid bonuses according to how well they meet various objective performance criteria. The Patent Office itself is located in Virginia across the river from the main offices of government and within sight of the various monuments and Capitol Hill.

### **PTO structure/staff/responsibility**

The PTO is comprised of two major sections: patents and trademarks. The patent section is approximately 10 times larger than the trademark section and is growing rapidly. The principle component of staff on the patent side is comprised of patent examiners. Examiners number about 3000 strong and are degreed engineers or scientists in the relevant field of technology for which they have responsibility. Examiners are highly compensated and have the highest working grades for government employed technically trained staff people (GS 14/15). In many instances, the examiners also have legal training with a significant proportion of the newer examiners attending one of the 8 D.C. metropolitan area law schools. In this way, the Patent Office has been, and continues to be, a steady source of patent attorneys entering the profession. (Also, the PTO has a professional union that has never, ever, lost to management in a dispute. Doubtless, a side-effect of the legal training!)

The Patent Office has been the subject of justified criticism over the years regarding the lengthy turnaround times in certain growing technical fields (1960s solid state electronics, 1970s and 80s computer chips, 1990s software and biotech, etc.) The present day is no exception. In some fields it can take as long as 5 years to obtain a patent even though the average time is 20 months throughout the PTO. In addition, the PTO struggles to catch-up technically with industry and is often accused of issuing overly broad patents as they come up to speed. (E.g., Priceline, Amazon One-click, etc.)

More recently the PTO has been playing a greater role in trade negotiations both bilateral and through the WTO, GATT, and Trips. This is not necessarily work for which the PTO is historically well equipped; having spent the past focused exclusively on administrative and predominantly domestic law issues and not very often at that. However, the PTO has been at the forefront of harmonizing the U.S. patent system with various international bodies and recent domestic law adjustments reflect these efforts (i.e., 20 year term, application publication)

### **Costs**

The PTO is 100% user-fee supported at a rate closing on \$ 1.3 billion per year. In fact, as much as 20% of the money they collect is not available to the PTO, but instead goes into regular government spending. PTO fees to process an application can vary from \$ 1500 to several thousand depending on how many applications a single invention is broken into, how many re-filings occur as prosecution progresses, and how many appeals result. All-in-all a pretty solid government racket given that 500,000 or so applications are expected to pour through the door in 2006.

### **Lawyers**

You'll be happy to know that patent attorneys are among the more reputable of the attorney species and, as a result, few attorney jokes target patent attorneys per se! That is,

they were engineers or scientists first and then became attorneys so as a group they tend to be more rational and stable than emotional and moody. According to my research, based on my teaching of ethics to patent attorneys, the major problems patent attorneys face do not involve substance abuse or commingling of funds, but instead involve over-work. The patent profession is so busy that client neglect is the most oft reported ethical violation to the Patent Office Enrollment and Discipline section. In view of the fact that patent applications and, for that matter, litigation as well can take years to process, clients may have a well-founded concern that patent attorneys do not keep them as well informed as they should as events unfold. When we discuss, specifically, litigation in a later section, we shall discover that litigation, especially, should be tended by a client regularly to determine whether expectations are being met and that costs are being controlled.

With respect to the advice you should seek from a patent attorney, certainly the advice, prior to the filing of an application, is most useful. The question that should be asked and answered is: What is the expected scope of the patent that might be obtained? The answer should be told to the invention review committee so that, viewed from the respective vantage point of each represented company interest, an informed decision of whether to proceed can be made. Almost anything can be patented to the extent it is novel and unobvious. These thresholds can be quite high or quite low depending on the technology. To the extent an attorney can inform the decision makers regarding the nature of the expected exclusory patent right, the decision makers can make more informed decisions about how and where to commit the patent obtaining resources and budget of the company.

Patent attorneys, perhaps owing to their constant immersion in the pursuit of or enforcement of patents, are notoriously poor judges of whether a given idea or patent is “worth” anything. After all, it was the Commissioner of Patents himself who said, more than 150 years ago, that almost everything that could be invented surely had been. We know this assessment was obviously wrong, but it makes us mindful that the legal decision and the business decision about whether to pursue a patent are very separate and mutually exclusive decisions. On the one hand, a legal assessment about how a patent is easily and predictably obtained is easily crafted. On the other, the business decision of divining objectives and directing resources to achieve those objectives is much more difficult.

In terms of costs, patent attorneys are well ahead of their non-patent legal peers. The ABA has, for many years, had special breakout sections for comparisons of compensation for non-patent vs. patent attorneys. The reason is that patent attorneys start high, stay high, but in the end don't reach ultimately the highest of compensation levels of non-patent attorneys. Large law firms with patent sections often have it explained to them why the compensation schedule for patent attorneys as associates and newly minted partners must be up to 50% higher than non-patent types. This difference eventually disappears but only towards the very upper ends of careers and pay scales. As a result, obtaining and enforcing patents is not cheap. However, the costs for obtaining patents are predictable for given technologies. That is, once you've obtained some patents in a selected area, you can expect to replicate that cost each time you file for a patent with the cost being spread over the few years it takes to obtain the patent.

### **PTO and Annuities**

A United States patent can expire before the end of its nominal 17-20 year term in the event the annuity is left unpaid at the end of 3½, 7½, and 11½ years after the patent has issued. These fees rise every few years and, for the 11½ year payment, can account for several thousand dollars. Obviously, if you've taken the trouble to obtain a patent, it amounts to a relatively small fee every few years to make certain it is still an enforceable

right. However, keeping track of a portfolio of several hundred patents both in the U.S. and abroad over the course of a 17-20 year period with changing staff, computers, and docketing systems can become a real challenge. This is especially difficult if each property is to be re-assessed at the time of any interim expiration to determine if it is still worth maintaining. Again, the invention review committee is the best group within the organization to take up these issues, but keeping it straight and timely is still an ordeal to which a dedicated staff person should be wholly focused. In addition, a method for maintaining some form of institutional memory needs to be in-place so that successive groups who take up the repeating issues flowing from decisions to pay or not pay, can understand what strategy was being implemented and why.

### **Timing**

Patents comprise a limited right to exclude. A significant element of the limitation is that the term lasts up to only 20 years from filing. For some technologies that move through entire generational cycles every decade (i.e., microprocessors, cell phones, software), this time element is not much of a factor. Rather it is usually the time element on the front end that makes more of a difference, that is, the two to three years it takes for the right to become enforceable. However, for some technologies that are in the chemical and pharmaceutical fields, it can take years for a product to sell consistently and for markets to mature so that real profits start arriving. In this respect, at least for pharmaceuticals, the opportunity exists for the patent term to be extended to make up for delays in approving the drug through government reviews outside of the patent office. The term can be extended up to five extra years in some instances.

-Timing Issues Related to technology, i.e., is it commercially useful?

An issue for the invention review committee to be aware of is the time element of the patent right and how that factor might effect the decision on the most appropriate form of protection. Some factors to consider: An idea may have such a short life that a patent obtained over the course of 3 years, perhaps as long as five, is simply not commercially relevant. This factor should most appropriately be considered by marketing types since these people would have the most insight into the length of trends that have any effect on the relevant industry and technology. Another timing factor is whether the technical disclosure of the patent, by virtue of the application publishing 18 months after filing, will transfer any time advantage you may have obtained through R&D to competitors who may not be as far along. If that is the case, serious consideration should be given to trade secret type protection where the benefit remains in-house for as long as the secret can be maintained or have commercial value. Timing can also play a role in forfeiting patent rights. We review those issues in a later section.

### **Pitfalls of Patenting – A bit of Paranoia**

In the world of patent attorneys, nothing looms larger than the possibility of events that can forfeit the possibility of obtaining any patent rights. These events and the result are known as “bars” to patentability. It won’t matter how pioneering or novel or unobvious the invention is, if certain events occur, the patent right is forfeited and the idea is given over to the public domain. Ouch! Since these events eliminate property rights, dissipating huge invested sums, with no possibility of retrieving the situation, patent attorneys always begin any discussion of pursuing a patent with a series of questions relating to these “bar” events. These events include:

### **Publication anywhere**

The publication of your idea, more than one year prior to the filing of a patent application in the U.S., at a trade show, in an unrestricted communication to a prospective purchaser,

in a peer review publication, in a sales brochure, etc., dooms the patent possibilities. Hence, the first question asked is always along the lines: “Who else knows about this?”; “How did they come to know?”; and, “When did they come to know?” The when is the essential element that creates the “bar” date. This “bar” date is plugged into the docketing system as the date to beat less than one year hence for filing purposes.

Many persons engaged in research, especially at universities, publish routinely in peer review journals and at symposiums and have done so as a part of their professional craft for as long as they can remember. Oft times the ideas are published as serial installments inasmuch as the research is ongoing and further results are obtained and reported. These habits are not only hard to break, but also hard to track. Papers are sent out to so many places and publishers that to figure out exactly when what went where and the resulting date of publication can be tricky. These are the kinds of scenarios that awaken patent attorneys from sound sleep with sweaty palms and accelerated heart rates! The issue may seem to be resolved, and then litigation pops up years down the road and, for the first time, records are thoroughly searched during the discovery process to determine the actual timing of events only to reveal that the application was filed too late. The result, years of effort, years of potential exclusory rights: gone. Without recourse! Naturally such a scenario is something to be very mindful of and to watch out and prepare for with well-documented routines with which all inventors, and those supporting them, are fully familiar.

Sales and offers, public uses, concealment, abandonment, and suppression obviously other issues also exist that keep patent attorneys awake at night. In fact, there are so many issues that are potentially “per se” mal-practice occurring daily, it is a wonder patent attorneys don’t drink more than they do, just to settle the nerves. For example, another “bar” issue is an offer for sale. Note I didn’t say a “sale”, but an “offer” for sale. Almost every company engaged in any form of commercial enterprise tracks sales. How many track, “offers for sale”? None. This is especially true inasmuch as tracking such a thing would be almost impossible. Even if you only had one sales person employed by the company you wouldn’t be able to track it. Salespeople sell, sell, sell, sell, sell, . . . you get the picture. They sell to people in the seat next to them on the plane, on the bus, at the PTA, in the grocery store line, etc. All you can do is try to track when the idea was released by the product developers for sale and then presume the offers began almost immediately thereafter. All you have is one year following an “offer for sale” to initiate the patent filing process. If you miss the one year anniversary, again the idea is gifted to the public!

Public uses are another tough issue for patent attorneys to research and discover the surrounding facts. Public use might be easy to track, depending on the technology, but the use really doesn’t have to be all that public or, for that matter, public at all for it to disqualify an application. If, for example, you use the idea in a factory smoke stack, unseen by anyone except the installer, and the factory is engaged in commercial activity, that is a public use. If the idea is embodied in an unseen and unknown part of a device used in a public place, that also is a public use. Tracking this is very difficult but, none-the-less, must be done.

A major objective of the patent system is the notion of fostering the disclosure of ideas in exchange for rights in those ideas. The patent system rewards those who are the first to invent and the first to come forward and disclose the idea. Where there is a conflict between the first to invent and the first to come forward with the disclosure, the Patent Office takes a close look at the activities of the first to invent and determines if any of the

conduct adds up to that of abandonment, suppression, or concealment. In this way, trade secrets can never eventually be patented. Concealment would disqualify the trade secret from any patent protection. Likewise, companies may have research that is well ahead of commercial feasibility of an idea (i.e., super conductivity). The decision may be to simply shelve the ideas and await development of markets or cost advantages. Not a good strategy, suppression will disqualify the idea from patent protection. In our last example, a company may have pursued two avenues of solving a problem and, from internal decision making, decided to pursue one over the other. Later, with work completed by a competitor showing greater promise from the alternative the first company chose not to pursue, research on the earlier abandoned technology is taken up again. All of the earlier work is abandoned and cannot be patented, even though the company may have been the first in time with the idea. The second to invent, even though later in time, is rewarded with the patent because they were the first to come forward with the disclosure and benefit the public.

*Isn't this stuff great?!*

### **Patent Marking**

So let's say you've survived all of the forgoing pitfalls and you have a patent, can you still mess it up? Yes. A company must mark the patent number on the protected product in order to accumulate any remedies against the accused infringers. If you don't mark the product, you forfeit any basis for recovery up until the time you place the accused infringer on actual notice of their infringement by specific letter. Such policing is obviously time consuming and takes a certain amount of investigation to accomplish. You may be blissfully unaware that your patent is being infringed for years and years, only to discover the infringement towards the end of the patent term. If you didn't mark, you have nothing to recover!

### **Around the World (WTO & Trips)**

We already looked, generally, at the various patenting mechanisms available around the world. It should be understood that among the first world economies, patenting is available in some form or another. In the developing and third world it is becoming a possibility more and more as the WTO has successive trade agreements (GATT) and associated Trips rounds. However, the process can be time consuming, costly, and may not achieve much unless an entity is on-the-ground in the relevant country with a vested interest to see that the rights are pursued and enforced. Another factor is whether the subject matter you'd like to protect is even available for patent protection. Remember that in the U.S. everything is patentable and morality and cultural mores play only a small role. Not so in the rest of the world, even in Europe. Many restrictions exist. Consulting with a patent attorney in the targeted country will be the first step in determining whether a patent is even feasible or useful.

### **Procedures**

The procedures abroad for obtaining patent protection roughly approximate the procedures here in the United States. That is, an application is filed and followed through the relevant national patent office, attorneys write and prosecute the application and, eventually, a patent right of limited time and scope emerges. An issue to pay particular attention to is the "absolute" novelty requirement that exists in much of the world outside of the United States. This hurdle to patenting requires that zero disclosure of the idea has occurred prior to the filing of an application at the selected national patent office. Whereas in the United States there is a one year grace period that creates a "bar" date, no such grace period exists overseas. The only grace period that does exist is the one year

delay between U.S. filing and overseas filing that is provided so that a decision can be made regarding whether to even pursue patents outside of the United States.

### **PCT & the Paris Convention**

An increasingly common mechanism to initiate “world-wide” protection is the use of something called the Patent Cooperation Treaty (PCT) system. This system enables any U.S. resident or citizen to begin the process of obtaining patents overseas. The United States Patent Office becomes an “international receiving office” on behalf of the WTO and researches your application and publishes the results of the search for all to see. You can then determine whether you want to continue the application process in the various national patent offices that you designated at the start of the PCT process. You can proceed in as many countries, or not, as you decide, or you can give up the process altogether. The PCT process is available to begin within one year following the filing of your U.S. application. As a result, you have a one year period within which to determine whether pursuing patents overseas is something that makes business sense. [Note: A filing in the European Patent Office (EPC) is similar to a PCT but is initiated in Munich and can eventually cover European Union member countries upon completion of the process.]

An older and more familiar way of preserving rights in selected countries still exists and makes more sense if you have a pre-determined and familiar set of countries within which you’d like to obtain rights. Under the Paris Convention (signed in 1899), a U.S. patent applicant can begin the patent process in 20 another member country within one year of beginning in the United States. The applicant receives the same benefit as if they had begun the process on the day they filed in the United States up to one year previously. This convention goes both ways and affords overseas applicants the same benefit when they come to the United States after having initiated the patenting process in their own country.

The Paris Convention method of pursuing patent rights outside of the United States is still far and away the most common way to pursue those rights. The reasons for this commonality is that the process is more familiar to more attorneys and it is at least 18 months quicker at obtaining the right in a given country than the PCT process. The reason for the timing difference is that the Paris Convention requires you to initiate proceedings in the many different countries within that first year, whereas PCT allows you to initiate the “international process” in the United States and then, later, pursue rights in the designated countries following a search and publication of the application.

In view of the foregoing differences, if a part of your business strategy relies on quickly obtaining rights in only a few countries, then choose the Paris Convention route. If your strategy can allow the process to draw out more slowly and deliberately, then PCT may be an option.

### **Costs & Annuities**

This is where you learn what a comparative bargain U.S. attorneys and the U.S. patent system are when compared with other countries. To obtain patents around the world count on spending an average of \$ 10,000 per country before you have any rights. In addition, most foreign patent systems require annuity payments to commence in the first year the application is filed and to continue every year thereafter, increasing once the patent has issued. It is an expensive racket, and one that should be engaged in only when a real and present champion of those rights is in-country and prepared to advantage themselves of those rights. If not, foreign patent rights, with the possible exceptions of Mexico and Canada, are really a bridge too far and are a waste of resources in most instances.

## **Attorneys**

Foreign patent attorneys only exist in any number among the first world trading economic powers. This is the reality inasmuch as issues beyond intellectual property rights dominate the domestic legal agendas in most of the rest of the world outside of the western style trading economies. When attorneys are used, they often adhere to an agreed cost structure among their peers (this would be illegal collusion in the U.S.) and the resulting fees are quite high. (\$ 600 per hour is not uncommon in the U.K. and Germany). Also, the educational and training requirements for patent attorneys and agents can vary quite a bit throughout the rest of the world. In some instances the training is more rigorous than in the United States, in others it is much, much, less. As a result, the sophistication of the product and how the rights are pursued can vary considerably country to country. The advice here is not to make any presumptions about the real existence or enforcement of rights in any country before informing yourself about the situation-on-the-ground locally.

## **Timing and Commercial Relevance**

When an idea is worth patenting the emotion often sweeps over the decision maker that not only do they want patents in the U.S. and around the world, but they want them now! Fine. The problem is that patent systems do not move with great speed. Typically, if you initiate patent protection in the United States and then follow all of the steps of the Paris Convention, you can expect enforceable rights in two to three years at the earliest. If you follow the PCT route and its timetable, the elapsed time before rights is on the order of five years! In view of the fact that it is difficult to forecast the coming year commercially, let alone five years out and, at that, outside of this country, how can you expect to make good decisions on pursuing foreign patent rights? The answer is that you must develop a vision along with foreign collaborations that can use those rights to some commercial advantage. This answer is far from universal. It may be that a given market requires only an agreement among competitors to stay away from a product or good and if a patent right is asserted at all it would only cause offense. In other markets, you may determine that unless there is some form of criminal patent action no real rights can result. Your access to enforcement varies widely and depends as much on culture and custom as on laws and courts.

## **Pitfalls Abroad**

We have briefly reviewed some of the concerns relating to “absolute novelty” prior to filing a patent application overseas, and we have also reviewed some of the difficulties of enforcing patents abroad without a local champion to carry the fight forward. These issues are not the end of your concerns.

## **Compulsory licensing**

In some developing countries the so-called compulsory license requirement exists. In the event that either the technology is not used locally, or it is not brought into the country at all, a patent holder may be obliged to license the technology to a third party.

Remembering that a patent right is the right to exclude others, it may be the case that once you have obtained a patent right you choose to exploit the patent by excluding others and exploiting another of your protected products. For example, it may be that a certain prior generation technology is more cost effective in a given country and you choose to keep a later generation of the product outside of the selected country and only in other markets. The country where you are exercising this strategy may have a compulsory licensing provision that necessitates the commercialization of the all of your

patented products in that country either through your own efforts or the licensed efforts of a third party. This “compulsory licensing” provision, in order to maintain the patent right, is obviously not a well-liked feature of some newly minted patent systems. However, it may be the price to be paid to initiate the notion of a patent system in any form at all in some of the developing world.

### **Morality**

The issues connecting patents and morality are not legal. Instead, the issues are cultural and perhaps even religiously or spiritually based. In the United States, patents objectively have no moral component. The rights do not exist but for the creative efforts of a person. You cannot patent merely what you find, rather it has to be in some way modified to create a novel and unobvious idea. Whatever the idea is does not matter to U.S. law. If you created the idea, you can participate in an exchange of rights for disclosure of the idea. This straightforward amoral exchange is viewed very differently around the world. Many subjects, among them being seeds, pharmaceuticals, vaccines, life forms, synthesized natural origin products, medical treatments, etc. cannot be the subject of patent protection because it violates various and basic dignities that mankind is not allowed to violate.

A common notion regarding the essentially unending list of things that Americans think of as patentable, is that such American thinking is a barbaric outgrowth of our collective fealty to capitalism. According to this view of the world, everything has a price. This broad spectrum American view of what a person or entity can claim a right to has no end and cannot be left unchecked!

It is quite a surprise to come across this strongly held view that Americans are patent barbarians! This is especially a surprise when such views are held by economically aligned and culturally, at least I thought so, similar countries in Europe and many others around the world.

The advice for companies is to think, carefully, before taking their patent strategies that may have worked so well in the United States, or other selected regions around the world, and putting them to work elsewhere. In fact, a given strategy that works in the U.S. may not even be possible to implement outside of the U.S. Starting with limitations on the subject matter you can patent and continuing through the various enforcement options that may not be available. A patent strategy needs to be locally developed if it is to be locally effective and implemented.