Inventors DIGEST

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Baseball, apple pie and ingenuity

Yankee ingenuity abounds—and I'm not talking about Alex Rodriguez's quest to elude steroid detection. If you need proof of our escalating fascination with entrepreneurial innovation as America celebrates its 240th birthday, scan your TV listings.

The subject has been the theme of plentiful small-screen fare in the past decade, anchored by the Emmy Award-winning PBS series "Everyday Edisons" that premiered in April 2007. Mainstream reality peddler Simon Cowell tried to adapt the "American Idol" format to his short-lived "American Inventor" competition (2006-07). The Sundance Channel's "Quirky" (2011) was about a product development company that let its online community propose ideas for new inventions. The History Channel brought us "Invention USA."

More recently, The Smithsonian Channel's "My Million Dollar Invention" overlooks basic details such as hyphens in its pursuit of "the stories behind inventions that changed the world." CNBC's "Make Me a Millionaire Investor"—referred to as "Mythbusters meets Shark Tank"—continues the theme, even if being a millionaire isn't nearly as rare or compelling as it used to be.

These shows had or have varied styles and sub-themes. But all have the commonality of a passion for inventing, a driving factor in a revived entrepreneurial spirit in America.

Many of us grew up in a culture that often portrayed business as something cold and mean. "Big business" has never been a term to inspire warm and cuddly feelings. For American sitcom icons Beaver, Wally and Eddie Haskell, there could be no greater ignominy than a parent or contemporary "giving me the business." When someone says "the business end of a .45," nobody has to draw us a picture. "Risky Business" was a popular movie that's associated with a worrisome or dangerous proposition.

Now we're re-asserting that business isn't a dirty word, nothing of which to be afraid or ashamed. That includes our motivations. As Bill Gates and other historically wealthy entrepreneurs have proven with their lavish philanthropic pursuits, making "obscene" amounts of money can result in a pure common good. Even those who aren't as generous with their wealth have the satisfaction of providing untold riches and security for family members and loved ones.

For Bryan Pate, money is far down the list of motivations. The subject of this month's cover story interview by *Innovator Insights* says that the prize lies in fulfilling a commitment to a useful product. With stark honesty, he adds that if he and ElliptiGO cofounder Brent Teal "don't see a path to benefitting personally from bringing an innovation to market, then we're not going to do it. Instead, we're going to take the safer route and work at established companies, and the pace of innovation is simply going to slow down."

There's nothing wrong with taking the safer route at an established company. But a slower pace of innovation wouldn't be a good thing looking ahead, because that's not how we made it to 240. Happy birthday, American ingenuity.

—Reid

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America has been on the cutting edge of innovation for over 200 years because of a strong patent system. If Congress passes harmful patent legislation, it will devalue the system that has helped turn America's best thinking into our nation's #1 export. That will mean fewer new ideas brought to market, fewer jobs and a weaker economy. We can't maintain our global competitive edge by undercutting our greatest asset.

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ElliptiGO co-founders Bryan Pate and Brent Teal: photograph by Nils Nilsen

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BRIGHT IDEAS

Frodo Adventure Camera

VIDEO AUTO-EDITING

frodocam.com

It can seem a waste of time, shooting adventure videos that you never share because you don't know how to edit them properly. The expense is another drawback.

Frodo has an Evolutionary Algorithm that lets you instantly edit hours of footage on your phone. Because it's easy to strap on and use, you don't need mounts and accessories. A lightweight 3.8 oz., Frodo resembles a smartwatch and is designed to primarily be worn on the wrist. But you can use the strap to mount the camera to just about anything.

Image clarity is strong, with footage in full HD at 30 fps and 8MP for still photos. Press the Record button, and Frodo's gyroscopic stabilization keeps the action smooth while collecting motion data. When the camera is paired to your phone through Wi-Fi, the Frodo app collects all data to start intelligently editing footage. The app automatically detects faces and the most interesting scenes recorded, with five automatic editing modes from which to choose. You also have the option of manual control.

Retailing at $239, Frodo's Adventure Bundle on Demand is available at Indegogo with a scheduled November shipping date.

Flak Sack

LOCK IT, LEAVE IT

loctote.com

No drawstring bag is theft proof, but the Flak Sack provides many strong deterrents that have attracted record-breaking interest. In late May, it set the new standard for any Ohio-based campaign on the crowdfunding website Kickstarter, racking up $855,000.

Flak Sack's first theft-deterring feature is the material made by LocTote, bags crafted with a double layer of advanced cut-resistant fabric. Made of state-of-the-art fibers, the bags have the highest possible blade cut resistance, tear resistance and abrasion resistance ratings per international standards.

A patent-pending locking strap and heavy-duty solid brass and hardened steel lock allow you to lock your bag shut, and to a fixed object. The tubular nylon lock strap, which resists cuts and breaks, is reinforced and grommeted with custom stainless steel components and 49 strands of stainless steel wire. It has been tested to more than 1,000 lbs.

The LocTote bag also has a large, water-resistant internal pocket lined with a government-approved material that shields against "electronic pickpocketing" of sensitive information. Scheduled to ship in September, Flak Sack is available on Indiegogo for $179.

"There are no rules. That is how art is born, how breakthroughs happen. Go against the rules or ignore the rules. That is what invention is about."

—HELEN FRANKENTHALER

Uslon Swimwear

DROWNING PROTECTION

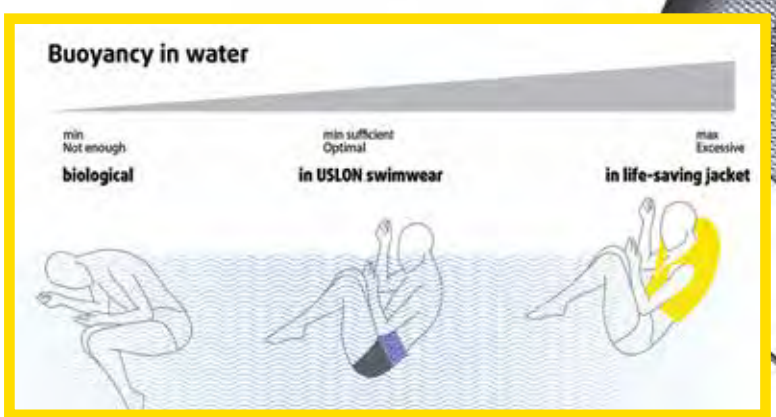
semenkodesign.com

A life jacket is a literal life saver, but it's also bulky and heavy. Russian designer Katarina Semenko is working on an unsinkable swimsuit with inventor Valery Griaznov that adds small but efficient extra buoyancy in the water, just enough to support what's naturally in our lungs.

The Uslon swimsuit adds the same volume in air that we lose when breathing out, which is about 5-6 lbs. of buoyancy. Unlike a life jacket, it doesn't need inflation. On the men's trunks, tiny air-filled tubes run along the waistband. On a women's swimsuit, decorative tubes cover the neckline with air bags hidden in pushup cups. The swimsuit can't be punctured and deflate.

Semenko told Inventors Digest that the product is in the development stages, with testing of prototypes. The product is planning to launch on Kickstarter this fall, so it will be available to pre-orders this October.

Prices will be comparable with ordinary swimwear, she said. A woman's one-piece swimsuit will be $80-95, a man's trunks about $70.



FICTION ADDICTION

5 INVENTION MYTHS OF AMERICANS—AND WHY WE CLING TO THEM

BY REID CREAGER

THESE ARE OUR STORIES, AND WE'RE STICKING TO THEM. Many Americans' love affair with our country's colorful history is so intense, so entrenched, that sometimes we don't want facts to get in the way. This is especially true as it pertains to inventions and their origins.

We embrace these myths because they often sound more interesting than reality, or because we're wary of information that conflicts with long-held theories, biases or teachings. English plumber Thomas Crapper didn't invent the toilet, even if some may find it more amusing to think that he did. He invented the ballcock, the floating device with the long arm in some toilets. In fact, the name Crapper has nothing to do with the origin of the word used to describe the matter in toilets. According to Time magazine, that word first appeared in the Oxford English Dictionary in 1846, when Crapper was 10 years old and obviously not a plumber yet.

But let the British sort out that one. Here are five common invention myths by Americans, starting with the sport that many say best personifies our love for the red, white and blue:

Myth 1:

Abner Doubleday invented baseball.

For nearly a quarter-century, Major League Baseball's all-time hits leader Pete Rose and longtime commissioner Bud Selig had starring roles as adversaries in one of our national pastime's most passionately debated controversies: Should Rose be on the Hall of Fame ballot despite the fact that he bet on baseball?

Ironically, Rose and Selig agree on a different debate—even though history says both are wrong. "Abner Doubleday got it right when he invented the game of baseball," Rose has said. Selig wrote, not so eloquently, in 2010: "From all of the historians which (sic) I have spoken with, I really believe that Abner Doubleday is the 'Father of Baseball.'"

Many fans know there is precious little evidence to support either statement; Biography.com goes so far as to say that Doubleday was disproved to be the inventor of baseball because the game evolved from English games such as rounders and cricket. Doubleday served in the Mexican War and Civil War, advancing to major general. His only connection to baseball came when he wrote a letter to superiors in 1871 requesting baseball implements for entertaining soldiers he commanded, according to baseball historian John Thorn.

Even the sport's hall of fame concedes this invention fantasy is borne of a stubborn obsession with traditional beliefs, evidenced by an article it published in 2010: "The Doubleday Myth Is Cooperstown's Gain." There's no crying in baseball and no known inventor of it, either.

Myth 2: Thomas Edison invented the light bulb.

This myth has been so widely held that it's connected to an axiom—an Edison moment, referring to the light-bulb-over-the-head imagery of conceiving an idea. We think of Edison as a tireless tinkerer and plotter, which is true. Yet although he secured more than 1,000 patents in the United States, the first light bulb was not one of them. Rather, his light bulb was one of them.

Thomasedison.org says: "Contrary to popular belief, Edison did not invent the light bulb; it had been around for a number of years."

According to Time magazine, "electric lights already existed on a streetlight scale when … Edison tested the one he's famous for." His bulb was the first to provide dependable and affordable illumination in people's homes. He filed a patent for an electric lamp with a carbon filament in 1879.

Twenty-five years earlier, according to many reports, German watchmaker Heinrich Göbel invented the first true light bulb by using a carbonized bamboo filament inside a glass bulb.

Myth 3: Al Gore claimed to have invented the internet.

Everyone knows the former vice president didn't invent the internet. But the perception that he claims to have done so lingers among many, especially detractors and political opponents.

When Gore was preparing for his run as the 2000 Democratic presidential candidate, he said in a 1999 CNN interview: "During my service in the United States Congress, I took the initiative in creating the internet. I took the initiative in moving forward a whole range of initiatives that have proven to be important to our country's economic growth and environmental protection, improvements in our educational system."

Creating means to bring into existence; inventing means to be the first to conceive or implement an idea. Yes, Gore could have phrased this better (and obviously likes the word "initiative"). But he simply meant that by pushing certain legislation, he furthered the development of technology that became the internet—similar to how President Dwight D. Eisenhower pushed for America's interstate highway system in the 1950s before signing the Federal-Aid Highway Act of 1956.

Internet working protocols date to the late 1960s with the launching of the Advanced Research Projects Agency Network (ARPANET). There is no known single inventor of the internet, although Sir Tim Berners-Lee invented the World Wide Web in 1989. Before the web, the internet basically only provided full screens of text.

Myth 4: Alexander Graham Bell invented the telephone.

This one arguably leaves room for doubt on both sides of the issue. If no one called and told you, maybe you read or heard that 14 years ago the U.S. House of Representatives issued a resolution linked to this.

The debate involves an alleged miscarriage of justice. According to theguardian.com, Bell filed a patent for the telephone in 1876, two years after actual inventor Antonio Meucci sent a model and technical specifications to Western Union in hopes of getting a meeting with the company. Rejected, Meucci asked for the materials to be sent back to him but was told they had been lost. Not soon after, Bell—who shared a laboratory with Meucci—struck a big-money deal with Western Union.

The Florentine sued and was reportedly near victory after the Supreme Court agreed to hear the case. But Meucci died in 1889.

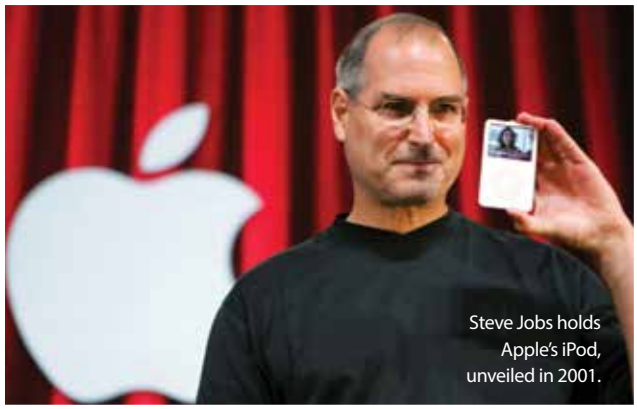
There's more confusion (and misreporting) about what Congress said. The resolution read: "Resolved, That it is the sense of the House of Representatives that the life and achievements of Antonio Meucci should be recognized, and his work in the invention of the telephone should be acknowledged." That falls short of declaring Meucci the first and/or sole inventor of the telephone.

We embrace these myths because they often sound more interesting than reality, or because we're wary of information that conflicts with long-held theories, biases or teachings.

Myth 5: Apple invented the iPod.

Apple is synonymous with high-tech innovation, so when the iPod was unveiled in 2001 it was logical to assume the company had invented that technology. A 2008 court case indicated otherwise.

British furniture salesman Kane Kramer says he was on a ladder and painting at home when he got a call from Apple asking him to fly to America to help defend the company in charges of patent infringement for its iPod digital audio player. By using Kramer's notes and sketches as evidence in the case, the Cupertino, Calif., company all but admitted he was responsible for the initial invention of the digital music player in 1979 as a 23-year-old. Apple has never disputed this.



Steve Jobs holds Apple's iPod, unveiled in 2001.

Kramer had secured a worldwide patent for his machine (the IXL could store only 3 ½ minutes of music on a built-in chip, though quite a feat back then). But he ran into complications in renewing the patent—most significantly, coming up with the required $120,000. The patent expired in 1998, leaving it open for adoption.

The father of three closed his struggling furniture design business several years ago and had to sell his house. He was compensated by Apple for his court appearance and consultancy work, but there's no indication he received any money beyond that.

Kramer told the London Daily Mail that Apple gave him an iPod, "but it broke down after eight months."

INVENTOR ARCHIVES: July

The song "America the Beautiful" was copyright registered by Katharine Lee Bates. She made virtually no money from her composition, which was consistent with what she deemed important in life.

According to ABC News correspondent Lynn Sherr, author of the book "America the Beautiful: The Stirring True Story Behind Our Nation's Favorite Song," Bates received $5 for the first publication of her poem in a church bulletin and surrendered all royalties once it was published. Her love for America and its beauty climbed to a peak—Pikes Peak in Colorado—when the 33-year-old English instructor at Wellesley College in Massachusetts rode a mule to the top of the summit in 1893.

As she stood awed by the mountaintop view, "It was then and there, as I was looking out over the sea-like expanse of fertile country spread away so far under those ample skies, that the opening lines of the hymn floated into my mind," she said, according to the Library of Congress web page on the song.

However, "America the Beautiful" isn't a simple, patriotic ode to beauty. Bates—a feminist, Christian socialist and staunch anti-imperialist—also referred to an America she felt was compromised by capitalistic corruption. She challenged the country to push harder for true equality:

America! America! God mend thine ev'ry flaw,
Confirm thy soul in self-control,
Thy liberty in law!

America! America! May God thy gold refine
Till all success be nobleness,
And ev'ry gain divine!

Eighty-five years after President Herbert Hoover signed a law making "The Star-Spangled Banner" our national anthem, there is still significant support for giving "America the Beautiful" that mantle. Backers say the song is easier to sing and that there are no warlike reference in the lyrics; dissenters say that references to war rightfully acknowledge the courageous sacrifices by our military.

Samuel A. Ward, a church organist, wrote the music for "America the Beautiful," though it was meant for a different hymn, "Materna." Ward died in 1903, a year before his music was put to Bates' lyrics. The two never met. A version recorded by Ray Charles in 1972 is probably the best-known modern recording of the song.

Bates' wealth of talent was lost on The New York Times. Reviewing her collection "America the Beautiful, and Other Poems" (1912), a critic wrote: "We intend no derogation to Miss Katharine Lee Bates when we say that she is a good minor poet." —*Reid Creager*

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PART 1 OF 2

Inventing on a Shoestring

SOME LOWER-COST OPTIONS TO HELP KEEP YOU MOTIVATED

BY JACK LANDER

I receive a lot of emails from inventors who don't have the money to spend on a patent—and who ask if I can connect them with a partner who will finance and license their patents in exchange for a split of the profit. I'm not kidding.

I hesitate to use the word "naive," because we all had to start someplace. But a good idea is only an idea until we prove that it is sufficiently novel to qualify for a patent, and that it offers an entrepreneur or a potential licensee a proprietary advantage in the marketplace. Good ideas are abundant; promoters who will run with someone else's bare idea are essentially nonexistent.

To interest a promoter—better known as an angel investor or your rich Uncle Herbert—you'll almost always need the following:

- A professional patent search with a written patentability opinion that compares the claims of prior art (issued patents and published patent applications, existing products, etc.) with the assumed claims for your invention. This means engaging a patent attorney or patent agent at a cost of up to $1,200, or even more if your invention is complicated.
- Market research demonstrating that people or businesses are waiting for your invention, and will buy it when it becomes available.
- A prototype in order to show and tell the features and benefits of your invention.

Even with these three items convincingly prepared, an angel will not be easy to convince. Angels prefer to invest in early production that shows promising sales demand. They generally will not invest in a raw idea no matter how brilliant it appears to be, or how many millions of the eventual product you think the public will buy.

To interest a promoter, you'll almost always need a patent search, market research and a prototype.

OK, now that I've ruined your day, let me present an approach that won't shut you down completely—even if it won't be as effective as properly financing the three points above.

Patent search alternatives

The best way to search is to save the typical $800-$1,200 and obtain a professionally written patentability opinion based on a professional search. Remember, a favorable search does not guarantee that you'll get a patent, or even if you get one that the claims will support a strong proprietary advantage to you or your licensee.

The next-best way to search is to grit your teeth a little and obtain a search that provides a "file or don't file" patentability opinion—in other words, an opinion that does not explain its basis. After all, at the relatively low cost involved (about $250), the patent attorney or patent agent can't spend two or three hours or more detailing why you should consider filing or abandoning. Caution: Most ethical patentability opinions will recommend against filing. So this kind of search will leave you frustrated because you "just knew that no one had ever thought of your great idea before you did."

The last and desperate way to search is to do it yourself. A self-search is easy on one's teeth, and not a bad idea if you use it only as a preliminary means to convince yourself that your idea may be novel or not. But even the most competent professional searches can miss prior art that the patent examiner may find. And a patent application based on a self-search has a much higher probability of being rejected. The typical cost of a self-search ranges from nothing to $10,000.

Saving on market research

As for market research, you mainly want to know whether potential users of your invention will buy it. A professional market research is usually beyond budget limits.

Most of us count on intuition and the reaction of friends and relatives, neither of which are objective and reliable. But the possibilities for market research are too vast to cover here. In next month's issue, I'll list 13 ways to assess the marketability of your invention, many of which cost very little.

Prototype alternatives

Prototypes have a number of uses but only two basic types: physical and virtual.

The best physical prototype is generally not inexpensive. Professional methods available today, such as stereolithography, selective laser sintering, 3D printing and machining, result in the expectation of a polished and functional prototype. The typical cost is $500 to $2,000.

The second-best physical prototype is the same as above but non-functional (typical cost: $200 to $500). The third-best physical prototype is homemade from whatever odds and ends we can cobble together (typical cost: $10 to $100).

The virtual prototype is a sell sheet or animated video that depicts your invention, created using 3D computer-aided design to produce an image that appears to be photography of a physical product. The typical cost is $500 to $2,000. The great advantage of the virtual prototype is that you can circulate it to an unlimited number of prospects. A physical invention has to travel serially, often with months between reviews by prospects.

Plan for big expenses

This scant outline of steps and rough estimates of cost may be sobering and discouraging to the would-be inventor, but this is reality.

I know firsthand the agony of having several "great" ideas and not being able to act on them. When I was first married and paying for a fixer-upper home, a used car and a baby, I didn't have a dollar left over with which to begin my invention projects. I was even more frustrated because no one explained to me the essential steps and expense that I've presented here. No one said, "Jack, be patient, keep a notebook of your dreams, and make plans for how to earn enough money to develop your inventions without an economic disadvantage to your family."

So, to the inventor who is itching to begin, be aware that you can start for as little as $250 for a competent patent search. The result will most often be that prior art exists, and you are advised against filing a patent application. If the result is encouraging, be aware of the costs ahead, and don't go forward unless you have a way to pay the going price. Inventing is not a practical, pay-as-you-go project. Expenses come in big chunks; service providers expect a substantial amount upfront.

Above all, remember that to invent is to gamble. Be sure you can afford to lose.

Jack Lander, a near legend in the inventing community, has been writing for *Inventors Digest* for 19 years. His latest book is *Marketing Your Invention–A Complete Guide to Licensing, Producing and Selling Your Invention*. You can reach him at jack@Inventor-mentor.com.

Check the Water: Is it Calm, or Chaotic?

DEFINE THE PROBLEM, SEE WHERE YOUR IDEA FITS **BY JOHN G. RAU**

Who cares about your new invention idea besides yourself, family and perhaps a few friends?

You need more than these to care about your idea in order to be successful. You want the world to care. You want everyone to say, "That is the greatest thing I have ever seen," and "I need it and can't live without it." In reality, of course, you can't expect to capture the whole world but maybe a big enough subpopulation to make money from your idea. This is why market research and a market analysis are important. You need to know where your product idea fits in the marketplace.

To answer this question, start with the problem that your invention idea solves or addresses. The people who potentially care about your product are the ones who have the problem and seek a solution. If not enough people have this problem and/or are not willing to buy a solution for it, you don't have a significant market. Albert Einstein once said that if he was given an hour to save the planet, "I would spend the first 59 minutes defining the problem" and one minute finding solutions. This is where you need to start.

Once you define the problem, focus on how many people have this problem, how it is being solved (if at all) and current product solutions.

For example, suppose you have an idea for a new widget that is a potential solution to an existing problem and you determine that the market for widgets like this is on the order of $100 billion. You can be assured that if the market for widgets that you plan to produce is this large, there are already many companies fighting over this market with their products. You will have to determine where your niche is and how big it is.

As simple as blue and red

In their best-selling book "Blue Ocean Strategy," published by the Harvard Business School Press in 2005, W. Chan Kim and Renée Mauborgne define the business universe as consisting of two distinct kinds of space: red and blue oceans. According to them, "red oceans represent all the industries in existence today." They say that "in red oceans, industry boundaries are defined and accepted, and the competitive rules of the game are well understood. Here, companies try to outperform their rivals in order to grab a greater share of the existing demand. As the space gets more and more crowded, prospects for profits and growth are reduced. Products turn into commodities, and increasing competition turns the water bloody."

On the other hand, according to Kim and Mauborgne: "Blue oceans denote all the industries not in existence today—the unknown market space, untainted by competition. In blue oceans, demand is created rather than fought over. There is ample opportunity for growth that is both profitable and rapid." When you're in the blue ocean, you are in potentially uncharted territory. Your market 'niche' may not necessarily be totally understood and/or well defined. You're not sure who the potential competitors may be and how these entities might react to the introduction of your new invention idea. It is, however, a great opportunity for 'first to market entry.' In this situation, Ralph Waldo Emerson put things in perspective when he said: 'Do not follow where the path may lead. Go instead where there is no path and leave a trail.'"

As you further research the commercialization potential of your product idea, determine where you are with your business idea in the sense of which ocean you are trying to navigate.

This will shape your marketing strategy, as well as your overall marketing plan. If you believe you're in the blue ocean when in reality you're in the red ocean, you're in for a surprise! That's why market research is so crucial in your invention planning and development process. You need to know the "color of the water" you are trying to navigate and what you need to do in order to be successful, because there is a different set of challenges in each ocean.

Find where you stand

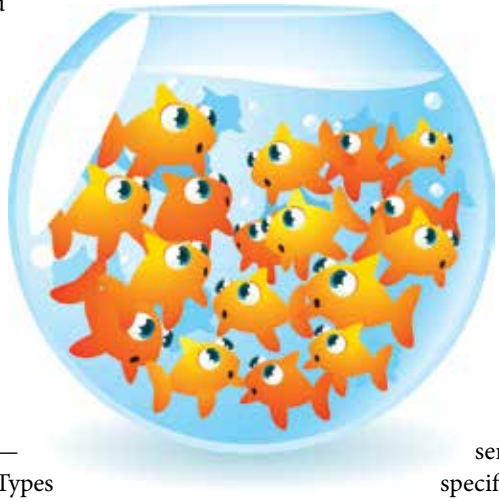
So how do you determine where you are? Here are some basic steps to help you find out:

Step 1: Define what you believe to be the market area that you are addressing in your invention development pursuit—the "problem space" you are addressing. Types of information you will need to gather include the following:

- Facts about your industry (such as how it's organized), sales trends, products and services involved, growth history, etc.
- Total size of the market you are addressing within this industry sector. In particular, specifically define the market niche you are addressing. If it's a niche currently ignored by competitors or ill served by competitors, you may be in the Blue Ocean.
- Description of your target market or focus area, along with an assessment of the growth history and current demand.
- Description of any barriers to entry in your target market and, if any, how these apply to you and what steps you need to take to overcome them.
- Description of your potential customers, such as consumers, businesses or both. For consumer customers, provide demographics such as age, gender, location, income level, social class/occupation, education, etc. For business customers, demographics would include industry or segment of an industry, location, size of firm, demand for products and/or services you plan to provide, etc.

Step 2: Define the competition in your market area. Never assume that you have no competition for your product or service just because you were unable to identify any direct competitors; there will always be companies that have the capability to move into your market area if they see a significant market for themselves. Here, you need to gather the following types of information:

Determine whether your market space is crowded or unknown.



- A description of the competitive environment in your industry and market area in terms of the names of such companies, a description of what they provide that makes them competitive, annual sales and pricing information, estimates of their market share, etc. If your target market area is dominated by a few companies that control a major share of the market, you're in the Red Ocean and should not consider competing directly with them.
- An assessment of the nature of the competition in terms of whether these companies compete with you across the board, just for certain products, certain customers or in certain locations.
- A comparative assessment of your new invention idea (product and/or service) as it relates to your competitors—specifically what is different and/or better about what you are offering (your potential discriminators). You need to provide reasons that customers who may already be buying/using your competitors' products or services might switch to yours.

Step 3: Based on what you learned in Steps 1 and 2, conduct a summary assessment of where your invention idea fits in the big picture. According to Stephen Lawrence and Frank Moyes at the Deming Center for Entrepreneurship at the University of Colorado at Boulder, you should address the following key points in your summary:

- What is the size of the opportunity? How rapidly is it growing? What trends support the opportunity?
- What is the compelling need? What problem(s) are you solving?
- What evidence do you have that proves there is a market?
- Who is the target market?
- What is unique about your product or service? What are the benefits?
- What is your competitive advantage?

Remember, it's not enough to say there is a big market for your invention idea. If there is, back it up with facts. You will need this information in order to decide how to move forward with your idea.

John G. Rau, president/CEO of Ultra-Research Inc., has more than 25 years experience conducting market research for ideas, inventions and other forms of intellectual property. He can be reached at (714) 281-0150 or ultraresch@cs.com.

The Kingii weighs less than 5 oz. Its wristband houses a carbon dioxide cylinder and a bladder that's folded into a pouch. When the wearer needs flotation assistance, he or she pulls a lever and the bladder is instantly inflated from the attached cylinder.

Water Safety Gets a Lift

FRIEND'S DROWNING INSPIRES BUOYANCY INVENTION FOR WRIST

BY JEREMY LOSAW

Tom Agapiades remembers the horror and grief of that day five years ago. He's determined to prevent it from happening to others.

He was swimming in a lake near his California home when a 24-year-old friend was stung by a bee, had an allergic reaction and drowned just 150 feet from the shore. His friend was among the estimated 372,000 accidental drowning deaths worldwide each year, according to the World Health Organization.

"A few days later, I was thinking and thinking and thinking … and I came up with the idea of putting a buoyancy aid around the neck," recalls Agapiades, a former insurance salesman. He made a prototype of the idea, but it was very cumbersome having a bag around the neck. After further consideration, he had the idea to put the device on the wrist.

How it works

The Kingii (pronounced KIN-jee) was on its way. Founded in early 2014, the company is named after the frilled lizard (*Chlamydosaurus kingii*) that inflates flaps of skin around its neck when in distress.

The wristband houses a carbon dioxide cylinder and a bladder that's folded into a pouch. When the wearer needs flotation assistance during a potential drowning incident, he or she pulls a lever and the bladder is instantly inflated from the attached cylinder. Although not rated as a personal flotation device and not a replacement for a life vest, the Kingii provides extra buoyancy in an emergency situation.

A whistle attached to the bladder, exposed during deployment, can be used to help attract a rescue team. The wristband

PHOTOS COURTESY OF KINGII

also features a compass to help stranded victims keep their bearings. The Kingii is reusable after inflation by repacking the bladder and installing a new carbon dioxide cartridge.

Weighing less than 5 oz., the Kingii can be used by anyone 6 and older. It's strong enough to support an adult weighing up to 285 lbs.

Early challenges

The first wrist-based prototype of the Kingii was a simple device made from purchased components. Agapiades went to Wal-Mart and bought some CO2 cartridges, a rubber ball, valve and bicycle tire pump. He hacked the components and built a concept model that would puncture the CO2 canister and inflate the ball. He then arranged the elements to fit on a wristband and tested it in the creek behind his house. It worked.

Because Agapiades's concept model had all of the elements of a great product, he took the idea to his patent attorney. Agapiades had experience filing patents for innovations in the industrial sector and knew the value of having intellectual property. He didn't file a provisional patent because he knew from the beginning that he was going to take the idea all the way to production and didn't want to waste time.

For the first wrist-based prototype, Tom Agapiades went to Wal-Mart and bought some CO2 cartridges, a rubber ball, valve and bicycle tire pump.

He brought in a design firm to help refine the concept and create the final product. The task was to design the system to be comfortable, lightweight and work flawlessly. The firm made six different prototypes over the course of a year to battle technical hurdles and stumbling blocks. Some of the prototypes had flaws and the early bladders would explode at different depths, but Agapiades and the team moved forward undeterred.

"You just smile and say, 'Aha! That is what I have to do now. I have to fix that,'" Agapiades says. "In your imagination, it is perfect. In the real world you are going to miss about 2 percent of that, and you have to find it." After a year of design and prototyping, the result was a design that worked flawlessly and was manufacturable.

Crowdfunding's help

The project was self-funded through the design phase but needed an injection of capital to fulfill Agapiades's mission to get it on as many wrists as possible. Like many new product companies, he turned to crowdfunding.

Instead of building the campaign himself, he used a marketing group to help him start and manage the campaign. The group's expertise from other successful campaigns helped spread the word about the Kingii, and consumers from around the world responded in droves. Though Agapiades was hoping to raise $65,000, the project—launched on Indiegogo in June 2015—raised a staggering $636,164 from 1,457 backers. This was the boost Agapiades needed to finish building the device and set a suggested retail price ($89.99).

The next hurdle was getting the product manufactured. Fortunately, the design firm that helped bring the product to life was able to refer Agapiades to a series of trusted factories, which made it much easier than starting from scratch. The Kingii's parts are made in three different factories—two in the U.S. and one overseas. The components are then assembled by Pride Industries in Roseville, Calif., a nonprofit that specializes in providing employment opportunities for people with disabilities.

By last September, the Kingii product video had surpassed 12 million views on social media. The product was awarded the 2016 Edison Awards gold medal in the sports and leisure category. The Kingii is now available in many big-box stores as well as stores in Asia, Europe and the United Arab Emirates.

Agapiades expects to hit $8 million in sales in 2016, but monetary success is not his primary goal. "This is not another product that we want to sell you because we are clever or whatever," he says. "No. This is something you have to have in your life when you go in the water."

Jeremy Losaw is a freelance writer and engineering manager for Enventys. He was the 1994 Searles Middle School Geography Bee Champion. He blogs at blog.edisonnation.com/category/prototyping/.

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A Sleeping Baby? Magic!

INFANT SLEEPSUIT IS OPENING EYES

BY EDITH G. TOLCHIN

Maureen Howard, creator of the Baby Merlin's Magic Sleepsuit, says the initial prototype worked immediately.

The many inventor clients I've worked with through the years have presented all sorts of new products—often with promises that don't deliver. I met Maureen Howard in 2005, when she approached me with a novel design for a sleep garment that calmed a fussy baby. "Yeah, right," I thought. I had two children, and it took them a long time before they would sleep through the night.

But I always enter projects with an open mind—and after listening to Maureen's story, as well as learning her unique background that qualified her to invent and develop such a novel invention, I was sold. Here is Maureen's story.

Edith G. Tolchin: Why is the Baby Merlin's Magic Sleepsuit® different from any other baby sleeper on the market?

Maureen Howard: I began experimenting with various ideas of how to help provide a safe and secure sleep environment for my first baby, when he was about 3 months old and getting too big and strong for swaddling. He began to kick and squirm out of the swaddle, leaving a loose garment in the crib with him—which I knew was dangerous. I tried a sleep sack, which was safe and helped keep him warm but did not provide the secure, contained feeling he needed to help him go to sleep on his own, like in his car seat or stroller. So my goal was to simulate this environment but with a garment for use in the crib. Thus, I created the initial prototype that is now the Magic Sleepsuit. It worked immediately.

The Magic Sleepsuit has a number of design features that help provide the secure feeling in a safe environment. To my knowledge, this is the only product that combines the benefits of both the swaddle and sleep sack in one product. Like the swaddle, the Magic Sleepsuit provides comfort and security and helps muffle babies' reflexive startles to prevent the baby from waking prematurely, and provides proprioceptive input to help calm the baby. However, it is not as confining as the swaddle, so it is appropriate as the next step from the swaddle. Like the sleep sacks, it zips on and off so that the baby sleeps safely without any loose blankets in the crib.

Additionally, the Magic Sleepsuit promotes back sleeping, the recommended safe sleep position by the American Academy of Pediatrics. It can be worn alone with a diaper, onesie or light cotton undershirt. It has open hands and feet for heat dissipation, unlike the swaddles and sleep sacks.

EGT: Tell us about your background, profession, and how they tie in with your invention.

MH: After obtaining my bachelor's degree in biology from the University of Delaware, I pursued a Master of Physical Therapy degree from Temple University. I started work at the world-renowned Children's Hospital of Philadelphia as a pediatric physical therapist. I then worked independently as a physical therapist with preschool and school-age children. After the birth of my second child, I left my job to be a stay-at-home mom and worked on developing a business to share the Magic Sleepsuit with babies and parents.

My education and experience as a physical therapist gave me the tools I needed to create the concept behind the Magic

PHOTOS COURTESY OF MAUREEN HOWARD

Sleepsuit. With an understanding of human physiology, I know that babies calm to certain types of proprioceptive input such as gentle weight and secure positioning. This explains why babies often sleep well in a car seat or stroller and when being held closely. I also know that babies have immature sensory systems and have certain reflexes that can startle and wake them prematurely. By muffling these reflexes and providing this input, it calms and soothes babies. Helping babies with these comfort needs and keeping them at a comfortable, consistent temperature, they sleep better and longer. As a mom, this provided me with the rest I needed and the knowledge that my babies were well rested and happier during wake time.

My husband, Bob, has helped tremendously with the business side of the company, as I had no real experience in this. Together, we have learned a great deal and created a solid business and marketing plan that we continue to improve and grow.

> "My education and experience as a physical therapist gave me the tools I needed to create the concept behind the Magic Sleepsuit."
>
> — MAUREEN HOWARD

EGT: How has being the mom of four added to the development, improvement and/or enhancement of the original Magic Sleepsuit from its prototype days?

MH: The initial prototype was tested on our oldest child. When my second child was having similar issues sleeping, I used it again. When it worked, I started thinking about creating a business to share my invention. When it worked again with my third child, I really started working on the business development. By the time my fourth baby arrived, the Magic Sleepsuit was selling on my website and in stores.

It is definitely busy and challenging to juggle being a mom and business owner. My husband still works outside the company full time and then works at night after the kids are in bed on the Magic Sleepsuit business needs. The kids have been involved with all aspects of the company.

EGT: How did you create your prototype? How many versions did you have before you got it "perfect"?

MH: The original prototype, I created myself. I am not much of a seamstress, so it was rough but worked. After my second baby used the first prototype for nearly nine months (and nine months with my first baby), it was in bad shape. I searched online for someone who specialized in soft goods prototypes.

I found someone, but he eventually referred me to someone else who did short run-short goods manufacturing. This company was located across the country, so it was a long process of back and forth. I had to send materials, and they sent prototypes back for review. I think we got to the eighth version before I was happy. Then the real fun started, getting the "product design evaluation" and having the product safety tested so that it met all regulations for sale to the public. Once I had the final prototype and it passed all required safety tests, I searched for a manufacturer to make large production runs. We then began to work with EGT Global Trading to help find several possible candidates. In the end, I received multiple samples from multiple manufacturers and chose one to finalize and manufacture our product. I then worked to get all the labeling, color choices, sizing, materials, and so on, to get a "perfect" product.

EGT: We hear horror stories about product recalls. How safe is your product?

MH: I have done a lot of research on safety and have done design evaluations on the product to be sure that it adheres to all safety regulations required in its category. I have each pre-production sample tested on each of my production runs to be sure that the manufacturer maintains all requirements needed to pass all testing. I also have our final product inspected prior to shipment to our fulfillment centers. EGT Global Trading advises us on any changes in safety regulations.

I have carefully constructed the Magic Sleepsuit with safety in mind. The sleepsuit is designed for back sleeping only in the crib. In all of my literature, on my website, packaging, and so on, I remind our consumers that the sleepsuit is for back sleeping only in the crib. When a baby can roll while in the sleepsuit, that is when I recommend not using it.

The scooped neckline is designed to keep fabric away from the baby's face for safety. I also designed the arm and leg holes to be open at the hands and feet to help heat dissipation and help prevent overheating. The sleepsuit should fit properly so that the baby cannot wiggle out of it. It also needs to fit properly to do what it is intended to do in providing a secure feeling.

EGT: How is it working with overseas factories? Did you face any obstacles?

MH: Initially, it was very difficult. Communications with a foreign company is very challenging. Most communication is done by email, which is not always efficient.

The worst setback was that just before I went into my first production run, my manufacturer stopped communicating with me and would not return emails for a period of about two months. As it turned out, culturally, the manufacturer was embarrassed that it could no longer fill our order at the original costs they quoted because of material and labor cost increases and taxes. So instead of asking for an increased price, they simply decided to not return emails. Because I had been working for months with this company and was very close to getting my shipment produced, I offered to increase what I would pay to get it to finish the order.

Things are running pretty smoothly now with a manufacturer I have been using for several years. I just added a second manufacturer to help fulfill my needs due to expansion. But it also gives me some additional peace of mind that I have a backup.

EGT: How have safety regulations for baby products changed over the years?

MH: Our work with EGT Global Trading has been critical for the ever-changing safety regulations and requirements. Consumer product safety law provided the CPSC (Consumer Product Safety Commission) with significant new regulatory and enforcement tools as part of amending and enhancing several CPSC statutes, including the Consumer Product Safety Improvement Act. The CPSIA included provisions addressing—among other things—lead content in products, phthalates in products, toy safety, third-party testing and certification, tracking labels, import rules, and civil and criminal penalties, among others.

EGT: How many styles and fabrics are you now selling? Which sizes, colors, and so on?

MH: I have two sizes: a small for babies 3-6 months or 12-18 lbs., and a large for babies 6-9 months or 18-21 lbs. I also have two different types of exterior fabric, fleece and cotton. The fleece comes in yellow, blue and pink. The cotton comes in yellow, blue, pink and cream. This gives us 14 SKUs.

EGT: Where is the product being sold? Was it difficult attempting to export and sell in overseas markets? Any regulations challenges?

MH: The product is sold through my website (www.magicsleepsuit.com), Amazon.com, Diapers.com, Right Start, One Step Ahead, and a number of boutique retailers throughout the U.S., several in Canada, and several in Europe and Australia. I can ship from my fulfillment center anywhere in the world and have done so. I started selling in October 2015 through Amazon.uk in order to get faster and cheaper shipping to customers in Europe. We did have to make sure the shipment going to the Amazon UK fulfillment center complied with all UK requirements for safety, labeling, etc.

EGT: How did you develop your packaging—labels, hang tags, retail packaging, and so on?

MH: I created all of our original concepts for the logo, labels, hang tags and retail packaging. I then hired graphic designers to help finalize the design and create JPG files to send to my manufacturer, which actually has them produced and included with our product. Any changes as a result of new label rules of the CPSIA I send to our graphic designer, who makes changes that are then sent to the manufacturer.

EGT: Do you have plans to design any new products?

MH: I am asked constantly by my customers to design a larger-size sleepsuit because their babies love it so much but eventually grow out of it. I am currently working on other products that will serve to transition babies out of the sleepsuit. I hope to have these ready in the fall of this year.

EGT: What have you learned while creating this product?

MH: Perseverance and belief in yourself and product are foremost. I have been through some difficult times dealing with difficult customers, suppliers, retailers, competitors, etc., and have persevered based on my continued belief in the product and purpose that it serves. In the long run, keeping the customers first has resulted in many referrals and our ability to help others.

I have also learned how to better manage my time, how to not sweat the little things in life and to appreciate my children, family and employees.

EGT: Can you share words of wisdom or encouragement for readers in developing their inventions?

MH: If you truly believe in your product, take time to write a business plan, get good advice, have a support system in place, and then go for it. Read and research the market, the product, the manufacturers, etc., to see if your idea has merit and if it's feasible to build a company around your idea. Don't let anyone stop you from pursuing your dream.

Don't take on too much work or too much debt just for the sake of growth or profits. Make achievable goals and take some baby steps at first. You will make mistakes, but if you are in control they will not hurt too much. Persevere, stay on course, and do not stray from your goals and purpose.

For information, visit www.magicsleepsuit.com.

Edie Tolchin has contributed to *Inventors Digest* since 2000. She is the author of *Secrets of Successful Inventing* and owner of EGT Global Trading, which for more than 25 years has helped inventors with product safety issues, sourcing and China manufacturing. Contact Edie at egt@egtglobaltrading.com.

Easy Riding

SAN DIEGO TEAM'S 'OTHER CYCLE' IS EASY ON THE BODY, BUT THE PATH TO INVENTION HAD ITS BUMPS

This article was originally published April 1, 2016 in Innovator Insights, *a blog interview series of the IPO Education Foundation. For information, visit www.ipoef.org.*

AROUND AGE 30, San Diego native and ElliptiGO co-founder Bryan Pate found his body suddenly rebelling against nearly three decades of competitive sports and participation in endurance races, including the Ironman and other triathlons. He also had a U.S. Marine Corps stint, during which he led a sniper platoon in the Persian Gulf.

"I found myself at the point where I really couldn't run for exercise without being in a lot of pain while running, as well as in the days after," Pate says. "Eventually, the pounding on my knees and hips got to the point where I just couldn't sustain it as a fitness activity."

Resigned to his fate but dissatisfied with outdoor alternatives to running such as swimming and cycling, Pate began using elliptical trainer machines at the gym, which offer a low-impact alternative to the treadmill. Again, he was left wanting. "I really didn't like the gym experience; I didn't like driving to a gym, waiting for machines, not getting the right machines. It really just started to feel like I was exercising for the sake of exercising."

Then, while using an indoor elliptical machine one day, the idea hit him. "There must be some company that sells an outdoor elliptical bicycle-type device, and I should just go buy one," he says he thought. "So I went home and did a search on Google and tried to buy one and it didn't exist, which was very frustrating."

That set Pate—a lawyer by training and former marketing manager—on a unique and ultimately fortuitous path. Partnering with his friend and former coworker at Palomar Technologies, mechanical engineer Brent Teal, Pate began working on the world's first "elliptical bicycle." They called it the ElliptiGO.

Propelled by the same motion as an indoor elliptical machine, the ElliptiGO allows for a high-endurance outdoor experience without the typical wear and tear caused by running. The device is particularly well suited for climbing competitions; ElliptiGO Inc. has hosted its own races, including the Elliptical Cycling World Championships, since 2010.

PHOTOS COURTESY OF ELLIPTIGO


ELLIPTIGO

The ElliptiGO is propelled by the same motion as an indoor elliptical machine.

The road to getting the bike to market and starting a company was full of challenges, including the discovery of an existing patent on the core technology for an outdoor elliptical bike. But Pate's passion to compete outdoors again ultimately spawned determination and innovation to address a void that he and his business partner have now filled for thousands of customers.

Innovator Insights: Describe the ElliptiGO.

Bryan Pate: It's technically not a bicycle; it's an "other cycle," because it doesn't have a seat. However, just like a traditional bicycle, it is classified as a vehicle under the vehicle codes in every state. It works by taking strides like one does on an elliptical trainer, using that horizontal elliptical path, which turns a crank that is then attached by a chain to the rear wheels just like a bike. Imagine that the rear wheel of an indoor elliptical trainer was an actual tire, and then that there were handlebars and a front wheel attached at the front end.

Performance-wise, you can do easily 20 miles per hour on flat ground, 25 mph in a sprint. It can go anywhere a road bike can go. The best thing it does is climb. It has climbed up every major climb in the cycling world: Pike's Peak in Colorado, Mount Washington, the Haleakala volcano in Hawaii, Alpe d'Huez and Mount Ventoux in France. The ElliptiGO has even done some of the toughest cycling events in the world, including the Paris-Brest-Paris, London-Edinburgh-London, the California Death Ride, and the Triple Bypass. There's really no challenging cycling event left that hasn't been completed by an ElliptiGO rider.

The ElliptiGO has been given its own category at a handful of running events as well, and we also create our own events. We'll have our seventh World Championship this year, which consists of a climb up Palomar Mountain, featuring 4,200 feet of vertical gain over 11.7 miles. From an exertion standpoint, it's very similar to running a half marathon. We've had Olympians compete in our races, including Mary Decker Slaney, one of the most successful American runners in history.

II: But it's easier on your body than running?

BP: It's amazing. Take someone like John Mistler, a former NFL football player who has had dozens of knee surgeries and often finds it painful to walk. He bought an ElliptiGO a few years ago and has had zero pain when riding. He is such an enthusiast now that last year, he rode his ElliptiGO from San Francisco to Los Angeles along the Pacific Coast Highway. That is a 500-mile journey.

The mechanism is extremely gentle on your body, particularly your knees. Although we have many customers who are still active runners, even the ones who can't run and the ones who can barely walk for exercise are able to ride the ElliptiGO pain free and challenge themselves to 100-mile rides.

II: Once you conceived the ElliptiGO, how did you start creating it?

BP: I spent about a month researching whether there was something like it already out there. One of the first places I went was to the U.S. Patent and Trademark Office website. I had never done much patent searching up until then, but I'm an attorney by training, so I had some willingness to leap into that without too much fear or concern. I didn't find anything that looked particularly concerning, so I called up a friend of mine, Brent Teal, who is a mechanical engineer and a fellow Ironman triathlete and runner. We had worked together developing new products, and I knew he was a very capable endurance athlete so I was sure he would understand the need for the product and what it would require, performance-wise. So I asked him if he could design and build one and he said, "I can, but I'm sure something like this must already exist."

So we continued our pursuit of the IP (intellectual property) landscape; we understood that if somebody had already bought the IP or was in the process of releasing a product, we weren't particularly well positioned to develop it. We weren't willing to invest a lot of time, energy and money into it if we thought at the end of the day that someone else had already beaten us to it.

We found a handful of patents in the space, but they weren't well written and didn't conceive of what we wanted to make. So in August 2005, Brent actually started designing a prototype. We both had full-time jobs, so it took about a year to get the prototype built. My maiden voyage was June of 2006. We expected that it would be impossible to ride, and that would show us why the product didn't exist. Instead, we found out that it was actually pretty fun and easy to ride. The first time I got on it, I did 20 miles on it. I rode the bike for over an hour, hit 20 mph at top speed and people were pulling up next to me rolling down their windows, hooting and hollering. This first prototype was named Alfa, and it was very much a proof of concept cobbled together from off-the-shelf steel tubing and parts we took from our own bikes or found on eBay. It was a real sight to behold. But it worked.

II: But you eventually discovered that someone already had a patent?

BP: Yes. I rode the prototype for about six months, and then Brent started building his third design after quickly coming up with a better idea than his second design. By Christmas of 2006, he was already starting to finalize the design for the third generation, which is when I came across Larry Miller's patent.

Larry Miller was the inventor of the indoor elliptical trainer. He had 16 patents, 10 of them on the indoor elliptical, all licensed to major fitness equipment manufacturer Precor. The first two patents were the subject of enforcement actions against about a dozen different players in the indoor elliptical space that went through five years of litigation in the 1990s. The result was that, after a reexamination that came back very clean, all the defendants settled in the favor of Precor.

> "The first time I got on (the prototype), I did 20 miles on it. I rode the bike for over an hour, hit 20 mph at top speed and people were pulling up next to me rolling down their windows, hooting and hollering."
>
> — BRYAN PATE

On September 12, 2001, Miller filed a provisional patent on the outdoor elliptical bike. By the time we discovered it in 2007, it was a granted patent that was good until September 11, 2021. We had filed our own provisional patent in September of 2006, and fortunately we had developed a lot of innovations that Miller had not thought of that we believe are important for making a commercial elliptical bike.

II: How did finding that patent change things for you?

BP: When we first found Miller's patent, we were crushed. We actually quit the project for about a month. Brent and I were very focused on IP, because we realized that if we were successful and created something that was a viable product for the world, we would get quickly overrun by the 100-plus existing bike and fitness manufacturers that were so much better positioned than we were to manufacture and distribute a product like this. We had a pretty solid belief in the effectiveness of the patent system, and that belief is what allowed us to move forward into this space. We both had good jobs, so we weren't looking for something to do. The bottom line is that there's just way too much risk in trying to start a company that makes a physical product if you can't protect your innovation and prohibit someone else from copying you.

So when we came across Miller's patent, I spent about a week really reading it, thinking about it, and on the phone with Brent trying to decide if we could design around it. We couldn't figure out how to do that, so we stopped working on the ElliptiGO. About a month went by before I gave Brent a call to see how he was feeling about re-starting the project. Brent had just quit his job to work on the

Co-founder Brent Teal, a mechanical engineer, Ironman triathlete and runner, designed the ElliptiGO.

ElliptiGO project full time, and I knew he wanted to build the next generation. So I told him I'd continue to pay for everything, and we agreed we would chug forward and see how it goes.

Then we noticed that Miller missed his payment for his maintenance fees in June 2007, and he had six months to make the payment before his patent would be abandoned. We had no idea if his concept was already in production or had been totally forgotten about. Rather than keep waiting to see how things played out, we decided to call Miller up. We tracked down his phone number, called him and said, "We want to talk to you about your elliptical bike patent." And he said, "Oh, I love that thing. Let's talk about that." We got into the discussion about how we had started working on something similar and wanted to get an exclusive license to his patent. He laid out a potential license structure, and within 20 minutes we had the material terms of the deal basically agreed to. It was very nerve wracking, but within those 20 minutes the whole world turned 180 degrees for us.

II: Is it an exclusive license?

BP: Yes, it's an exclusive license and we have the right to sublicense. Since then, we have had 23 additional patents issued to us, so we've accumulated quite a bit of intellectual property. Miller's patent covers the foundational concept of using the elliptical motion to propel a vehicle, and our patents cover elements of the product that we think are required to make it commercially viable. We have patents in China, the UK, Germany, France, Australia and Canada.

II: Why didn't you wait to see if the patent would be abandoned?

BP: It becomes an interesting situation, because you can revive an abandoned patent if you show that it was not abandoned due to your negligence. Basically, though, we were done living in limbo. It was an emotional thing. We decided that we were either going to get a license to this patent, or we were done. We called it "our come to Jesus meeting."

II: Some would say it isn't fair that you had to take a license, since Mr. Miller wasn't even using the patent. How did you feel about it?

BP: I think it's a very complicated issue. People who are critical of the patent system probably don't understand the nuances of the problem with incentivizing innovation. People go into it with an assumption that these innovations would happen anyway even if there wasn't a patent system, so therefore they think we're really not incentivizing anything, just grossly over-rewarding the person who thinks of something—as opposed to the person who actually makes it a viable product. I think there are some elements of that argument that are valid in the sense that the monopoly element of the patent can result in a disproportionate windfall to the inventor at the expense of the manufacturer; however, the reality is that if it were not for the patent system, the rate of innovation would drop precipitously. That's because many inventors are unwilling to take the risk to bring an innovation to market if they don't see a path to a payout that justifies that risk.

So I think weakening patent enforcement provisions is shortsighted, and there's an element of entitlement behind that argument. Basically, I perceive those people as feeling entitled to the inventions of others. They expect to benefit from innovative developments like the ElliptiGO, but they're not going to because

the majority of entrepreneurs are people who could be doing other things with their time. Like everyone, innovators like me and Brent are going to optimize for ourselves, not the common good. If we don't see a path to benefitting personally from bringing an innovation to market, then we're not going to do it. Instead, we're going to take the safer route and work at established companies, and the pace of innovation is simply going to slow down.

II: Was finding the patent the biggest challenge you faced during the process?

BP: No. There are a lot of challenges that come with getting a company off the ground. Number one is getting a product that really works well. Without that, you don't have anything. Number two is raising money, getting a team together and figuring out how to get the product produced and distributed. Number three is being lucky enough not to get derailed by the thousands of things that are out of your control. Securing the patent was one of the critical steps in making the company viable, but it wasn't our biggest challenge.

II: Would you go down the path of inventing again? Do you have other ideas?

BP: Yes—too many. The world is unfortunately fraught with opportunity for improvement, and I think that innovation is a crucial practice for Americans in particular. It's what our economy is becoming more and more built upon, so I think it's important for us to innovate as a society. Now that I have some experience with the process, it's much less intimidating in some regards and much more intimidating in others, but I have ideas almost every week.

Innovator Insights is IPOEF's forum for inventors and other IP stakeholders to discuss their work and the role IP plays for them, and to help educate the public on the link between strong IP protection and robust innovation. Read more at www.ipoef.org.

THINK CAUSE BEFORE CASH

BRYAN PATE PROVIDES INSIGHT FOR INVENTORS AND ENTREPRENEURS:

First—it's hard. One of the most helpful phrases I learned in the Marines is that "Easy things are hard, and hard things are impossible." It's true; nothing is easy when it comes to bringing a new concept to market. At the same time, it's way better to put your energy into something you're really passionate about rather than showing up at work every day to spend time dedicated to something you don't care about. If you're so inclined to go down a path like this, where you're trying to build a successful business around something innovative that has never been done before, number one, you should be very, very personally committed to the item you're trying to bring into the world, and very compelled to bring it into the world for more reasons than just to get rich. Getting rich should be one of the least motivating factors.

I think you need to look at it almost like a cause rather than a business opportunity. If you're really trying to do something revolutionary, it's going to take a very long time for it to be successful and it might not be successful, so all you'll be left with is the question of whether you did something good for the world, and did you get the psychological benefits of helping other people? The days that stuff goes wrong are going to be even harder if you can't see the palpable benefits you're delivering to individuals you care about. If you know that people are better off if you sell just one of these things, that in and of itself can be a success and can get you through the hard parts of getting something off the ground.

About IPO Education Foundation

Intellectual Property Owners Education Foundation is a nonprofit organization devoted to educational and charitable activities designed to improve intellectual property rights. The Foundation conducts programs to:

- Broaden public understanding of systems for protecting intellectual property,
- Sponsor awards for the purpose of recognizing outstanding achievement in the fields of invention, creativity and IP rights, and
- Publish reports dealing with legal, economic and other aspects of intellectual property.

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Trade Show Highs and Lows

REWARDS, RISKS CAN BE GREAT FOR INVENTORS **BY DON DEBELAK**

Trade shows geared to retail or business buyers can be a perfect opportunity for inventors—so long as they understand the potential for both the right and wrong kind of exposure.

These shows can allow inventors to expose products to their target customers; find distributors and sales reps; and even potentially find a company to license their product. Shows such as the Global Pet Expo, the International Housewares Show or ABC Kids Expo target retail store buyers and industry distributors, and work well for inventors of consumer products. Shows such as WEFTEC, which highlights water treatment solutions for clean water projects, seek to attract municipal and industrial buyers and are the ticket for inventors with products targeting those buyers.

On the other hand, inventors must be aware of the pitfalls of exhibiting products with patent pending status, which can lead to knock-off attempts by other suppliers. Two inventor stories illustrate these points. The first involves Loren Kulesus, who had great success at the Global Pet Expo; the second chronicles Donna Ramere's problems with knock-offs that began at the New York City Toy Fair.

A shot in the dark

Loren Kulesus and three partners started a company to introduce the Dr. Catsby, a new ergonomically designed bowl for feeding cats that avoids touching the cat's whiskers while it's feeding. After some initial social network marketing, Kulesus decided to take out a booth plus space in the New Products Showcase display at the Global Pet Expo in Orlando, Fla., this past March. He was stunned by the positive response, with retailers and distributors from the U.S. and around the world stepping up to order. After only a few months, he's talking about becoming a vendor for some of the bigger pet retailers.

Inspiration and design

One of Kulesus's three cats was a bully that would eat the top third of his cat food, along with the top third of the food in the other two cats' dishes. He tried isolating the bullying cat, and found the cat still only ate the top third of his food before crying for more food. When Kulesus investigated, he learned that many cats' whiskers are sensitive to the touch and even discovered a term for this: "whisker fatigue." He found that cats' long whiskers detect vibrations and are sensitive to the lightest touches. So it was likely that his bullying cat wasn't a bully after all; he just didn't like having his whiskers touching the side of the bowl.

Kulesus's day job was as a partner in 9999—which does product and package design—so the company did modeling work on designing an ergonomic bowl that would eliminate the need for a cat's whiskers to touch it. He did 3D modeling to perfect the bowl design, which ended up as a low, shallow configuration that could handle whiskers up to 80mm long. Kulesus designed the bowl in stainless steel for a high-tech look that also added extra protection from bacteria that plastic doesn't provide.

Early marketing

Kulesus coordinated his 3D modeling with a 3D printer to make some initial prototypes of the Dr. Catsby product. He then started testing the product with fellow cat lovers and found that cats with behaviors that indicated whisker fatigue—such as not eating all of the food in the bowl or spilling food onto the floor—took to the Dr. Catsby. He also found that cats that could tolerate standard cat food bowls preferred the Dr. Catsby when set up with a side-by-side test. Kulesus had been offering information about his product on his Facebook page during the testing process and had generated enough interest and support to decide he was ready to move ahead.

The Dr. Catsby went on sale in early November 2015. Kulesus launched the product online, with a heavy emphasis on Facebook. He also set up the Dr. Catsby website, www.drcatsby.com, put up some photos on Pinterest and set up Shopify—an online site for

ABOVE: Inventor Loren Kulesus pauses with Mimi The Cat.

OPPOSITE PAGE: Dr. Catsby's Whisker Relief Food Bowl eases pain and stress on a cat's whiskers.

ordering products—for order fulfillment. Although sales were coming in through the online efforts on Facebook and a few other online sites, Kulesus wanted to sell to brick-and-mortar stores. He decided to attend the next big pet show, the Global Pet Expo.

Attending the trade show

Kulesus went to the show because he "wanted to see how the product was received by people in the industry." He purchased a 10-by-10 booth and a 2-by-2 display in the New Products Showcase area. Partially because the Showcase was in the hallway that everyone walked through in order to get into the show, Dr. Catsby proved to be a big hit.

"There were always people around the booth," Kulesus said. "We had retailers big and small, distributors from around the world all talking to us. Our booth was never without several visitors. We were able to line up sales in the U.S. and abroad, with distributors from Japan and other countries ordering products."

In fact, he soon learned that he wasn't set up to handle the new sales level and had to quickly adjust. Neither Shopify nor Amazon Vendor Express are set up to handle large overseas shipments, and the fee Shopify charges for unit sales is prohibitive for large orders. Kulesus was able to set up a fulfillment house (a company that specializes in packing and shipping orders for others) to handle shipments to both for individuals who order from the internet, U.S. and Canadian retailers, and orders for shipment overseas.

Kulesus said he "had no idea at all what to expect at the show, and we were just overwhelmed by the positive experience."

PLAN BEFORE YOU GO

Patent pending: are you really ready?

Deciding whether to attend a trade show with only patent pending status is not easy. A patent application typically doesn't even get a patent office response for a year or more. Rarely does a patent get approval without the patent examiner voicing some objections, so it could be two years or more before a patent is issued. Waiting two years or more to introduce your product is a long wait, but the risks of introducing a product at a trade show with patent pending status can be high.

I personally have introduced products at trade shows with patent pending status. To cut your risks, first don't tell people which features you have patented. That only helps them start thinking about how to get around a potential patent. Second, tell the patent office not to publish your patent application, which you can do when you send in your original application. The third-party submission program normally allows people to submit a response to an application. Not having your application published lowers the risk of a third-party submission.

Neither waiting for a patent to issue nor showing your product with patent pending status are ideal action plans The simpler your product's technology, the greater the risk of exhibiting with patent pending status. Patent pending status at trade shows is especially dangerous when you have a product, such as the Pumponator, that can be introduced quickly by someone else. After all, knock-off companies might have 12 to 24 months to sell their version before the inventor's patent is even issued. Inventors can't sue to collect royalties on the infringer's sales when their patent is pending.

How to find the right trade show

Find the right trade magazine for your product by looking in the Gale Directory of Publications and Broadcast Media at larger libraries, or search on the internet for your product category or industry and the term "trade magazines." For example, in a search for kitchenware retailers' trade shows, you could find Gourmet Insider magazine; if you looked at the International Housewares site (which comes up on the kitchenware retailers' trade show search), you would find Kitchenware News magazine. You can look at associations, whose sites will typically have a link somewhere to trade magazines for that industry. These trade magazines list and cover the best trade shows in their industry. You can also check www.tsnn.com.

Before attending the show

Before attending the show as an exhibitor, try to get a copy of last year's exhibitors list, call some of the companies that had just one booth, and ask to speak to their show manager. Ask about the company's show experience and whether it can offer any tips. Be sure to find out about the quality of the booths (ask for a picture of the company's booth if possible), whether it needed samples, how much display product it needed and how much literature it used.

(Continued on page 31)

Knock-offs hurt product success

Donna Ramere was excited in 2010 when she attended the Toy Fair in New York and received orders for over four containers of the Pumponator, a product created by her granddaughter Lexi Glenn, to quickly fill water balloons. But only two months after the toy fair, a company with a knock-off of the Pumponator was on the shelf of Walmart in Canada. Ramere's Pumponator patent pending status didn't stop the knock-off, and her patent never issued after someone filed protests under the Patent Office's third-party submission program before the patent issued.

All is not gloom and doom, however. Ramere's company, Pumponator Fun, Inc., sells over $1 million per year to more than 2,000 accounts. But by Ramere's count, the original knock-off company and a second that entered the market in 2012 have sold $31 million of Pumponator knock-offs since 2010.

Inspiration and design

Ramere's granddaughter enjoyed water balloon fights with the neighborhood kids in the back yard. But there weren't enough hoses to fill the balloons, and they were a little tricky to fill. So when she started using a pump spray bottle to fill her balloon, she filled her balloons much faster than her friends. However, the flow from the spray bottle was too fast, making it difficult to fill the balloon unless she pumped very slowly.

Because Ramere spent a number of years married to an engineer, she knew the difference between laminar flow (very hard and fast) and turbulent flow (much slower). She got a recommendation for a design firm that created the working turbulent flow nozzle on the first try. To design the spray bottle, Ramere started collecting every spray bottle she could in the surrounding area. She took them all apart and evaluated which components worked best. Spray bottles have springs, triggers, the nozzle holder and the tube going down. Ramere decided which configuration she wanted for each component and ordered the bottle she wanted from a sprayer factory in China.

Lexi Glenn, inventor of the Pumponator, displays product at a Greenville, S.C., toy store in 2010.

Early efforts

Ramere's granddaughter stayed with her in summer 2009 and they started selling the Pumponator at summer festivals in South Carolina, near Ramere's home. They had amazing results at festivals and started getting publicity, including some TV exposure. Ramere then started looking for a rep group in the toy industry by using internet searches. She talked to the firms about their success at the summer festivals and the publicity she had generated.

The rep group that was willing to carry her product had a large booth at the New York City Toy Fair, the toy industry's major showcase, and invited Ramere to feature the Pumponator in its booth. She had applied for a patent and felt she was ready for public display to the industry.

Attending the trade show

The Pumponator had great sales at the show, selling four containers of product and setting up the success that has the product selling today in 15-20 middle mass-market stores—including Nordstrom and Urban Outfitters among a total of more than 2,000 accounts. But the show created interest that had some troubling consequences.

Early in the show, a man came to the booth and introduced himself to Ramere. She said he then told her he was going to be her "worst nightmare" because he was going to knock off her product. Two months later, he had the product in Walmart in Canada—and before long in Walmart stores throughout the United States. Two years later, a second knock-off appeared. The two knock-off suppliers dominated low-cost retailers such as Walmart and Family Dollar.

But what about that patent pending status? Ramere didn't realize it, but a patent pending doesn't offer an inventor any rights to sue someone selling a product that infringes on his or her design. Only an issued patent does that. Even worse for Ramere, the United States Patent and Trademark Office has a third-party submission program (http://www.uspto.gov/patent/initiatives/third-party-preissuance-submissions) that allows anonymous comments from individuals or companies challenging a patent application. Her application received third-party submission comments, one claiming that the patent didn't even cover her product's current nozzle design. Ramere has never been able to get a patent and has given up trying.

Today, she and granddaughter Glenn are working on a new product. Sales march on. But Ramere can't help being a little bitter about what might have been. When she consults other inventors now, she always tells them to wait until they have a patent before going out.

Don Debelak is the founder of One Stop Invention Shop, which offers marketing and patenting assistance to inventors. Debelak is also the author of several marketing books, including Entrepreneur magazine's Bringing Your Product to Market. He can be reached at (612) 414-4118 or dondebelak34@msn.com.

(Continued from page 29)

Check to see if the company offered show specials or would offer show specials the next time it attends. Also see if it was satisfied with the results from the show and how many sales it made, or reps it signed up. I've found that people are more than willing to talk to you if you explain you are a new inventor and are trying to prepare for the show.

You have an idea, but not a product

I recommend that you try to go to the show as an attendee before you spend too much money by going as an exhibitor, or even before committing to production. You'll have a chance to talk to people at booths, at tables where people eat lunch and drink coffee, and at the show hotels. Always be at the show the first two hours it's open and the two hours before it closes. The show is typically not busy then, so many reps and others working booths may be happy to talk to you.

Bring a one-page, simple non-disclosure document (unless you have a patent, in which case a non-disclosure document is not needed) and a sales flyer for your product. When you approach someone at the show, ask how the show is going, what the product line is and how long that person has been with the company. You will almost always be asked what you do; say you're considering introducing a new product and ask if the person would be willing to look at it for you.

Trade Shows

WITH NEW PRODUCT SHOWCASES

Outdoor Retailer
August 3-6, 2016
January 10-12, 2017
Salt Palace Convention Center
Salt Lake City
outdoorretailer.com

SuperZoo
August 2-4, 2016
Mandalay Bay Event Center
Las Vegas
.superzoo.org

NACS Show 2016
October 18-21, 2016
Georgia World Congress Center
Atlanta
nacsonline.com

National Hardware Show
April 24-26, 2017
Las Vegas Convention Center
nationalhardwareshow.com

ABC Kids Expo
October 18-21, 2016
Las Vegas Convention Center
theabcshow.com

PGA Merchandise Show
January 24-27, 2017
Orange County
Convention Center
Orlando, Fla.
pgashow.com

International Housewares
March 18-21, 2017
McCormick Place Expo Center,
Chicago
housewares.org

Global Pet Expo
March 22-24, 2017
Orange County Convention
Center, Orlando, Fla.
globalpetexpo.org

Doing the prototype FOUR-STEP

HOW EDISON NATION TAKES A PRODUCT FROM CONCEPT MODEL TO FINAL PACKAGING

BY JEREMY LOSAW

A concept model of the Sock Sync matcher and sorter tests how socks fold up through the cups. This model used oriented strand board, Dixie cups and hot glue.

Just as anthropologist Franz Boas claimed the Eskimos have 50 different words to describe snow, the Edison Nation team has a language of its own to describe the different types of prototypes it makes during the course of a project.

To bring a product to the marketplace, you'll invariably need some prototypes first. It's necessary for validating a product's form and function. In the same way that the needs of children change as they get older, the goals and style of prototyping evolve, too.

In the early stages, prototypes are made to test the core technical concepts that create the product's DNA. Later-stage prototypes test functional features and integration of the whole product, as well as aesthetic elements. Here are the different types of prototypes Edison Nation makes, and how that helps get a product to market.

1 Concept model

Concept models are early-stage prototypes that test the product's core functionality. It's where most of the discovery and new technology is developed—one of my favorite phases of product development. Our tagline about concept models is that they are "too big, too heavy and too ugly." However, they work, and most of the patentable features are based on learnings from these prototypes.

Concept models are often "Frankensteined" together from parts harvested from existing products and easy-to-form materials. Plywood, PVC, empty soda bottles and other scrap materials are some of our favorites. The goal is to quickly combine the elements of the idea to see whether it will work, without factoring in aesthetics. We often don't make any computer models of the parts unless we need to cut a part on a laser or water jet cutter, so that we don't get too time-invested in computer-aided design (CAD). We make as many concept models as necessary to answer as many questions as we can before proceeding with development.

2 Form model

Form models are used to test the aesthetics, size or touchpoints of a product. They are usually made in the early and middle stages of development if it's necessary to get a read on how the outer surfaces of a design function before devoting time to working out details of the interior features. This is especially important for products that have a need for good ergonomics, such as handheld devices.

Our favorite way to make form models is to print them on our powder-based 3D printer, the 3D Systems ProJet 660. It prints fast; the material is inexpensive; and it can print colors, which can be helpful for some prototypes. The prints are usually heavier than the final product, but it is useful to test how a product fits in your hand and get an early sense of color choice. Or they can be made by carving high-density foam to the desired shape, which can save time at the CAD terminal.

3 Looks like/works like

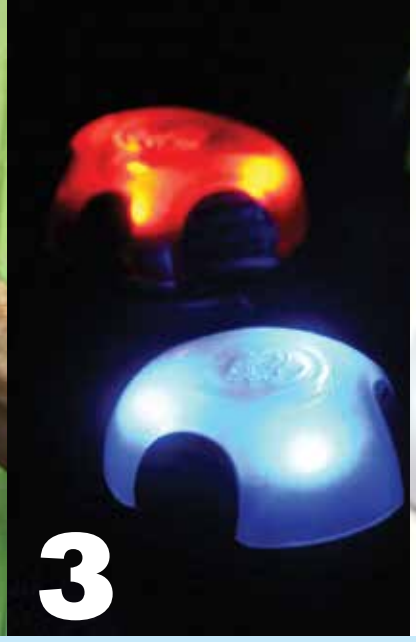
As the product matures, looks like/works like (LLWL) prototypes become important. These are used to test the total package of the product in a form that's ready to manufacture. As the name suggests, they have both the aesthetics of a final product and working internal components.

LLWLs provide valuable data to the engineering team that can catch design flaws before manufacturing. They can also be used for marketing in the form of focus groups, or can be used to launch a crowdfunding campaign. Most products require at least two rounds of LLWL prototypes before the transfer to manufacturing to work out all of the bugs.

PHOTOS BY JEREMY LOSAW

2

This form model was made to test the hand feel and early color scheme of the Wine Shark.



3

These are LLWL prototypes of the Rigel LED light, designed for Dublin Dog.

4

In this T1 sample of the Collar Perfect travel iron, note the different shades of white on the base and the nose of the product.

An LLWL model takes a lot of time and work. It requires the creation of a fully detailed CAD model, with all of the components and circuit boards. This allows the design to be evaluated and tweaked in a virtual environment and is a great way to catch mistakes before making parts. Once the CAD files have been reviewed and approved, parts are made using the fastest and most inexpensive method, and from a material that's as close as possible to what will be used in manufacturing. Though it's common to have 3D-printed parts, machined parts are also used. If the product has electronics inside, a quick-turn printed circuit board (PCB) house can design and fabricate a circuit board that can be hand assembled in the lab.

The completed LLWL prototype is evaluated for function and assembly—the first chance for the product's performance to be measured and compared to the desired performance metrics at the project's outset. The prototypes are tested in a representative environment to ensure they perform well, and are also assessed for ease of assembly and parts fitting. This can be tricky with 3D-printed parts, which are built in layers and can't always be built to a tight tolerance.

Once the prototype has been evaluated for the "works like" part of the equation, it's made to "look like" a final product. This usually involves paint and decals. Painting can be time consuming, but the results are worth it. 3D-printed parts have to be sanded smooth, using fine-grit sandpaper, before being painted with primer and then the desired color. Lacquer-based automotive paint is preferred because it dries quickly and bonds well to plastics and metal. Depending on the desired surface finish, a gloss or matte clear coat is applied over the colored base to protect the finish. If the final product has graphics such as a pad-printed logo, these are printed on waterslide decal paper because it's very thin and is a good simulation of the process.

4 Factory sample

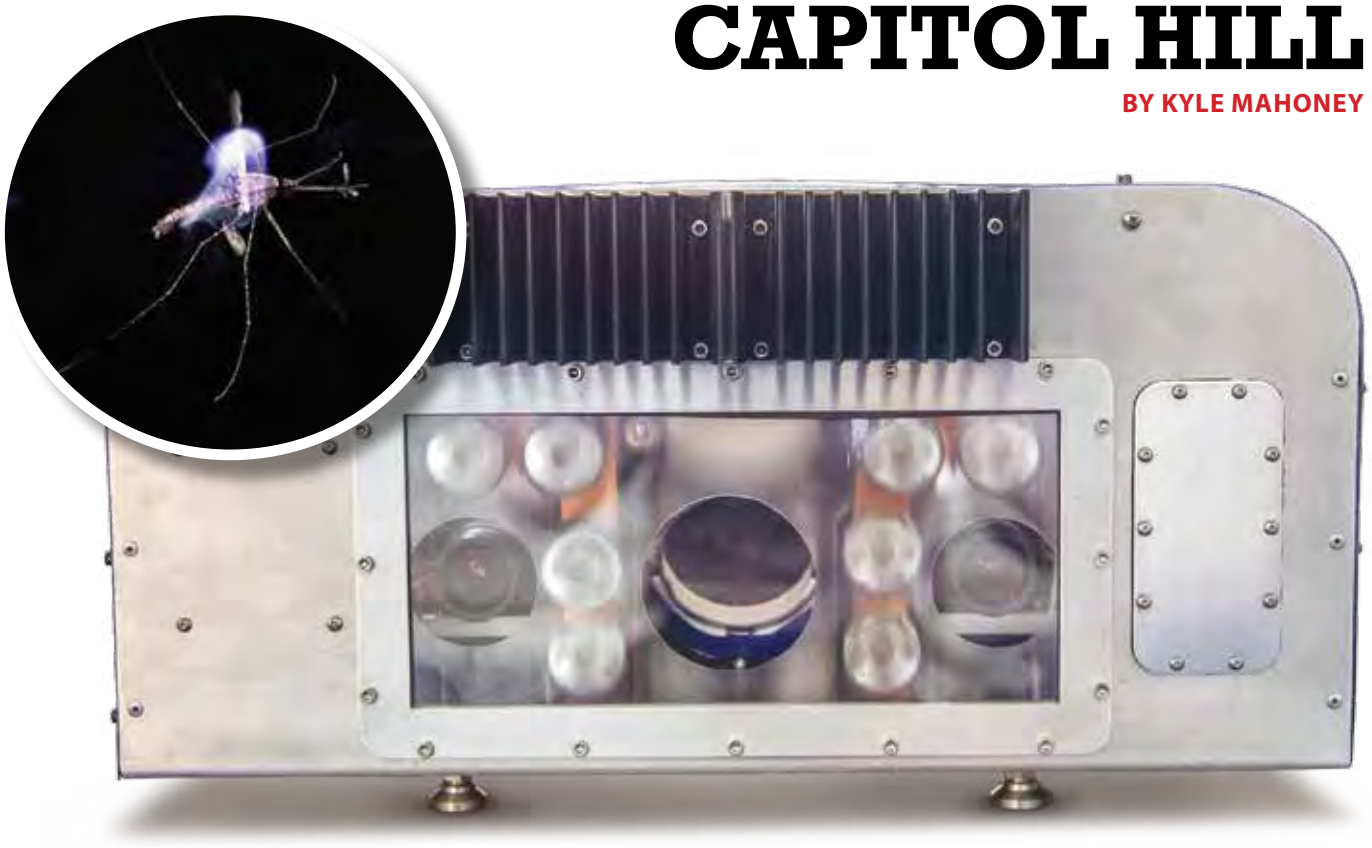
The final prototyping stage is the factory sample. These are the first attempts by the factory to create the product, using the same processes and materials as the mass-produced product. The potentially numerous rounds of factory samples are often denoted with a prefix "T" and the round of sampling. The first samples are called "T1" samples, and so on. Sampling rounds continue until all of the issues are worked out and the factory and the customer are happy with the final specification.

Because the first factory samples are the first step in mass production, completing them can be time consuming and costly. The factory has to create the tooling, order the material, create fixtures and set up the assembly area to produce the product. A deposit must be made for all tooling and setup costs before work can begin. Depending on the number and complexity of the components, it can take 6-12 weeks or more to get the first samples.

The T1 samples often aren't aesthetically pleasing, but it's the first chance to evaluate the product in its molded form with all of the right materials and components. Plastic molded parts are usually shot with a raw color plastic, the mold surfaces are left unpolished and the machining marks show up in the parts. Molded parts are evaluated for their fit and integrity and examined for any mold irregularities such as sink marks, flashing or odd flow marks. A document is created that notes all of the issues with photos and callouts, and the sample is sent back to the factory for evaluation. Each sample improves in quality as the issues are fixed. The final samples are molded in the correct colors and finishes, and shipped in their final packaging.

Intellectual Ventures Technology Expo WOWS CAPITOL HILL

BY KYLE MAHONEY



A mosquito (inset) is shot out of the air by the Photonic Fence (above), which targets the insects and uses lasers to zap them.

As crowds viewed exhibits at the Intellectual Ventures technology expo in Washington, D.C., it was hard to determine which was more diverse—the innovations or their impacts.

Front and center at the May 19 event on Capitol Hill was one of IV's most renowned inventions, the Photonic Fence.

The device is the innovation of Global Good, a collaboration between IV and Bill Gates that aims to solve invention challenges in the developing world. The Photonic Fence is a space-age approach to eliminating disease-carrying mosquitos. Using off-the-shelf parts and custom software, the fence targets mosquitoes and uses lasers to zap them.

The fence was invented as a pesticide-free defense against the spread of malaria, a parasite that kills more than 600,000 people a year. The device is also being considered as a way to battle agricultural pests.

Though attendees didn't see a live demonstration of the Photonic Fence, a video with the display got the message across. Hundreds of policymakers and staffers got a firsthand view of IV's latest technologies that also included an ultra-efficient, advanced nuclear reactor; a next-generation satellite antenna that will simplify satellite connections for broadband internet on the go; and a vaccine storage device that could make Ebola vaccine trials possible in Sierra Leone and Guinea, according to the World Health Organization and the Centers for Disease Control and Prevention.

IV, based in Bellevue, Wash., brought some of its lab innovations across the country for the showcase in honor of National Inventors Month. With 87,000 feet of custom lab space in the Seattle suburb, the IV Lab works with 11 of America's top 50 inventors—including the two most prolific American inventors

PHOTOS BY LEONARD POTEAT LLC

LEFT: Nick Touran, Ph.D, of Terrapower shows off a scale model traveling wave reactor.

ABOVE: A holographic display dazzled spectators with a demonstration of metamaterials antenna technology.

in history, Dr. Lowell Wood (most patents granted) and Dr. Rod Hyde.

Using equipment to study photonics, nanotechnology, chemistry, biology and more, IV's researchers are granted hundreds of patents each year. Technologies invented in the lab have been used as the foundation for five new venture-backed startup companies. IV has infused more than $2.3 billion into the economy since 2000, with more than half of that ($1.35 billion) paid to independent inventors, startups/subject matter experts and to universities and governments.

"Intellectual Ventures helps create a world in which invention can thrive through the shared commitment to research, collaboration, investment and defense of inventors' rights," said Russ Merbeth, Intellectual Ventures chief policy counsel. "From IV's inception in 2000, the ultimate goal was to build a scalable invention company that supports, nurtures and champions inventors, undertaking the hard work of creating breakthroughs, and these technologies are some of the fruits of that vision."

Members of Congress attending included U.S. House Science, Space and Technology Committee Chairman Lamar Smith, R-Texas, who saw how his support for a strong patent system has enabled the United States to remain in a leadership role for global innovation. Ph.D. physicist and patent holder Bill Foster, D-Ill., addressed the crowd and reinforced the strong importance of protecting intellectual property for the success of U.S. technology companies.

Representatives from IV spin-out company TerraPower, IV's Global Good and the IV Lab team were on hand to illustrate that a commitment to invention can revolutionize how the world innovates when we create smart policies that protect inventors and enable companies to commercialize world-changing technologies that improve communities on a global scale.

Kyle Mahoney is government relations manager for Intellectual Ventures.

"Intellectual Ventures helps create a world in which invention can thrive through the shared commitment to research, collaboration, investment and defense of inventors' rights."

— RUSS MERBETH, INTELLECTUAL VENTURES CHIEF POLICY COUNSEL

New Win for Software Patent Eligibility

FEDERAL RULING ON *ENFISH* BUILDS ON EARLIER DECISION

BY GENE QUINN

The United States Court of Appeals for the Federal Circuit recently shook up the software world with its decision in *Enfish, LLC v. Microsoft Corp.* The ruling doubles the total number of federal circuit cases in which claims to a software patent were deemed patent eligible, at least since the Supreme Court issued its decision in *Alice v. CLS Bank* in June 2014. In other words, the Dec. 2014 ruling on *DDR Holdings v. Hotels.com* is no longer the only point of hope for innovators and patent owners in the software space.

The patents at issue explain that the claimed invention is an improvement, which the federal circuit would make a great deal about in its patent eligibility analysis. The fact that the claimed invention improved computer functionality was, in fact, why the circuit ultimately found the invention to be patent-eligible subject matter.

The patents teach that multiple benefits flow from this design. First, the patents disclose an indexing technique that allows for faster searching of data than would be possible with the relational model. Second, the patents teach that the self-referential model allows for more effective storage of data other than structured text, such as images and unstructured text. Finally, the patents teach that the self-referential model allows more flexibility in configuring the database.

The federal circuit also explicitly put a nail in the coffin of the argument that software shouldn't be patent eligible if it could run on a general-purpose computer.

Patent eligibility

The major issue in this decision relates to patent eligibility under U.S. Section 101.

So many in the patent community who represent innovators seeking patents, and innovators themselves, have long complained that the Supreme Court has never given a definition of what constitutes an "abstract idea." Rather than fight this unfortunate reality, the federal circuit embraced it—recognizing that the U.S. Supreme Court has steadfastly refused to define the critical term, even expressly saying that such a definition is unnecessary because all that is required is comparison to other inventions that have either been deemed patent eligible or patent ineligible and then working backwards.

The federal circuit went on to say that because the Supreme Court has never found it necessary to define what is or what is not an "abstract idea," it was unnecessary for the circuit to provide a definition. Instead, the circuit explained all that was required was for it to subjectively determine whether this claimed invention seemed more like those that have been held patent eligible in the past, or more like those that have been held patent ineligible in the past. The court explained that this game of comparison has been accepted and even employed by the

Supreme Court. After employing this subjective test, the panel found the claims to be more like those cases in which inventions have been found to be patent eligible.

In reaching the ruling, the federal circuit explained along the way that the claims at issue plainly focus on improvements to computer functionality. This led the panel to unanimously conclude: "The claims at issue in this appeal are not directed to an abstract idea within the meaning of *Alice*. Rather, they are directed to a specific improvement to the way computers operate, embodied in the self-referential table." That said, it was not necessary for the federal circuit to address the second step of *Mayo v. Prometheus/Alice*, which asks whether there is substantially more than an abstract idea being claimed.

Argument put to rest

The federal circuit also explicitly put a nail in the coffin of the argument that software shouldn't be patent eligible if it could run on a general-purpose computer. The circuit explained: "We are not persuaded that the invention's ability to run on a general-purpose computer dooms the claims." Some jurists have long claimed that if software can run on a general-purpose computer it cannot be patented—utterly asinine given that software is most useful when it can run, regardless of the platform selected. This statement, as correct as it is profound, will no doubt lead those in the anti-patent community to fly into an apoplectic fit.

The federal circuit also explained that physical elements are not a prerequisite for a claim to be patent eligible. To rule otherwise, the circuit explained, would be to ignore the Supreme Court's holding in *Bilski v. Kappos*, which expressly overruled the so-called machine-or-transformation test that specifically required software patent claims to be tethered to a machine in all cases in order to be patent eligible.

There will be much more written about this case. If I had to guess, I'd say I expect Microsoft will file a petition for en banc rehearing (before all judges of the court) and ultimately probably file a petition for certiorari (a writ or order by which a higher court reviews a lower-court decision) to the Supreme Court. Meanwhile, this case will cheer those who have been long frustrated by what had seemingly become a de facto rule that software was not patent eligible in the United States.

Gene Quinn is a patent attorney, founder of IPWatchdog.com and a principal lecturer in the top patent bar review course in the nation. Strategic patent consulting, patent application drafting and patent prosecution are his specialties. Quinn also works with independent inventors and start-up businesses in the technology field.

Will *Enfish* Have Broader Implications for Data Storage Patents?

BY GENE QUINN AND AUDREY OGURCHAK

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It is no secret that those in the patent world have struggled with the U.S. Supreme Court's decision in *Alice* since it was issued in 2014. However, the U.S. Court of Appeals for the Federal Circuit's decision in *Enfish, LLC v. Microsoft Corp.*, issued May 12 of this year, may bring much-needed guidance to patent owners and applicants in the software space.

The *Enfish* decision marks the first time 17 months, since the court's ruling in *DDR Holdings v. Hotels.com*, that the federal circuit has found software patent claims to be patent eligible. In Enfish, the circuit reversed the district court's finding of patent ineligibility, even finding that the patent claims were not abstract.

The disputed patent in *Enfish* is directed toward a self-referential database that allowed for faster searching of data using a specialized indexing technique. The federal circuit rejected the district court's conclusion that the claims were directed to an abstract idea of "storing, organizing and retrieving memory in a logical table," finding that the claims are not simply directed to any form of storing tabular data but instead are specifically directed to a self-referential table for a computer database. The federal circuit also explained that the district court oversimplified the self-referential component of the claims and downplayed the invention's benefits.

Overall, the circuit found the claimed invention is not one where general-purpose computer components are added to a fundamental economic practice or mathematical equation but rather are directed to the software arts and, therefore, are patent eligible.

The *Infomatica* tie

Days before this ruling, the Patent Trial and Appeal Board issued its decision for *Informatica Corp. v. Protegrity Corp.* The patent at issue in this case is directed to a database management system that includes an operative database and an information

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USPTO Gives Examiner Guidance After *Enfish* Ruling

MEMO COULD BOOST SOFTWARE PATENT ALLOWANCE RATE

BY GENE QUINN

The United States Patent and Trademark Office recently sent a memo to the Examining Corps with information and instructions relating to the U.S. Court of Appeals for the Federal Circuit's patent eligibility ruling in *Enfish, LLC v. Microsoft Corp.*

The memo, authored by USPTO Deputy Commissioner for Patent Examination Policy Robert Bahr, explains the importance of the *Enfish* ruling by explaining that examiners "may determine that a claim direct to improvements in computer-related technology is not direct to an abstract idea under Step 2A of the subject matter eligibility examination guidelines (and is thus patent eligible), without the need to analyze the additional elements under Step 2B." Bahr adds that a claim that is "directed to an improvement to computer-related technology (e.g., computer functionality) is likely not similar to claims that have been previously identified as abstract by the courts."

Robert Bahr, USPTO deputy commissioner for Patent Examination Policy

Bahr concludes the USPTO memo as follows: "In summary, when performing an analysis of whether a claim is direct to an abstract idea (Step 2A), examiners are to continue to determine if the claim recites (i.e., sets forth or describes) a concept that is similar to concepts previously found abstract by the courts. The fact that a claim is directed to an improvement in computer-related technology can demonstrate that the claim does not recite a concept to previously identified abstract ideas."

It is also noteworthy that earlier in the memo, Bahr specifically cautions examiners "against describing a claim at a high level of abstraction untethered from the language for the claim when determining the focus of the claimed invention." If nothing comes from this memo other than a modicum of revision in how examiners characterize the abstraction they claim they see, the memo will lead to an increase in the allowance rate. I'm not going to hold my breath, but I am hopeful.

Though the *Enfish* decision and this memo should be helpful in many respects to patent applicants seeking patent claims on computer-related innovations, I unfortunately expect at least some recalcitrant examiners (i.e., those who have not allowed a patent in years) will simply choose to ignore the *Enfish* decision and selectively read this memo in extraordinarily strained ways. I have no doubt that the senior-level career managers at the patent office would like patent examiners to issue patents when they are deserved, but it seems that some examiners in the software technology space simply do not issue patents and seek any excuse to deny applicants. I doubt this memo will have any impact for those examiners.

Will *Enfish* Have Broader Implications for Data Storage Patents? *(cont. from page 37)*

assets manager database. According to the patent, an "object of the present invention is to provide an improved method for processing information, by means of which it is possible to increase the protection against unauthorised access to sensitive information."

The operative database contains data that are to be protected, while the information assets manager database contains a data element protection catalogue with protection attributes for such element types that are associated with data element values in records in the operative database. In utilizing the Broadest Reasonable Interpretation (BRI) standard of claim construction, the board found that the claimed invention is directed to the abstract idea of determining whether access to data should be granted based on whether one or more rules are satisfied.

After *Enfish*, it appears that the PTAB's construction of the invention in *Informatica* could also be an oversimplification of the claimed invention and a downplaying of the invention's benefits. It is conceivable that the board erred by pushing past the initial *Mayo v. Prometheus/Alice* question and finding that these claims, which cover a data storage innovation of the kind found in *Enfish*, may have been erroneous. The invention in question in the '281 patent does seem to provide improvements, which would mean—at least, according to *Enfish*—that the proper first inquiry in the *Mayo/Alice* framework is not simply to ask whether the claim covers an abstract idea.

Given the ruling in *Enfish* and the fact that the claimed invention in that case provided an improvement, which was so important to the overall inquiry of the panel, it seems that the claims in *Informatica* deserve a second look to determine whether or not the claimed invention is patent eligible. Whether the improvement to processing that better protects sensitive information will be sufficient to make the '281 patent more like the one at issue in *Enfish* remains to be seen.

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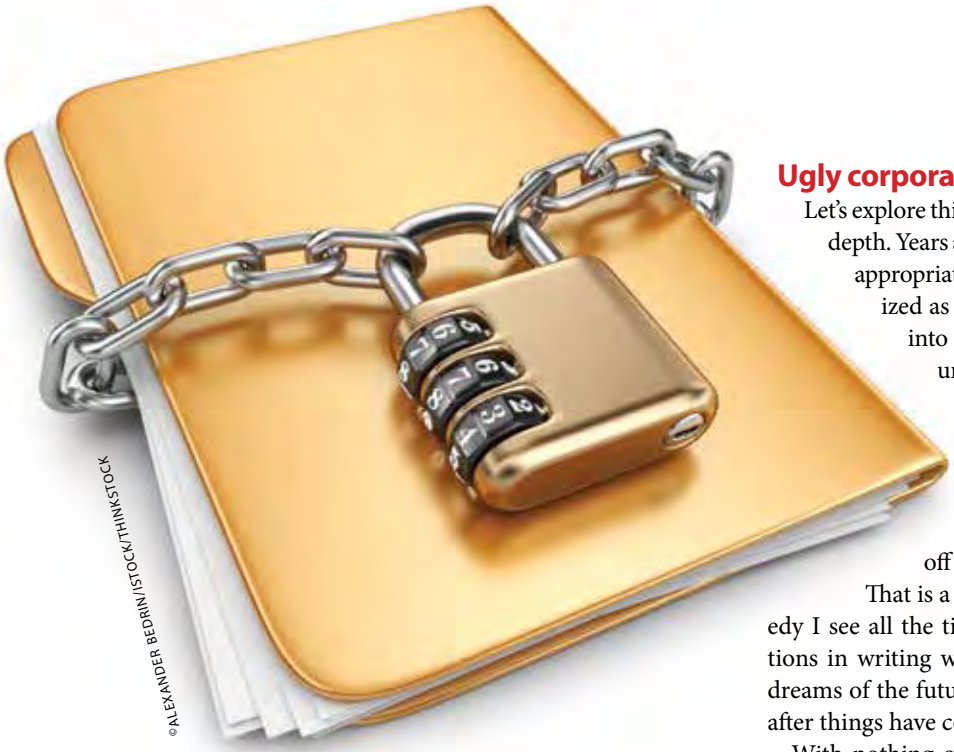

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Trade Secrets, and How to Protect Them

IGNORING POTENTIAL PROBLEMS CAN BE DISASTROUS

BY GENE QUINN

The first rule of trade secrets: Do something. A trade secret can be any valuable business information that derives its value because it is secret. Trade secrets are easy to protect, at least in theory, because all the law requires is that the owner of the trade secret take reasonable precautions to keep that valuable business information a secret (i.e., not known by the general public). What is reasonable will vary depending on the value of the business information, but keeping things such as customer lists in a filing cabinet in a locked office and stamping the file "Confidential" are relatively low-cost efforts and should be employed by everyone seeking to protect information as a trade secret. Any other efforts you take are certainly helpful.

Trade secrets can be easy to protect, but you must do something. If you do nothing to protect information as a secret, it will be exceptionally difficult—perhaps virtually impossible—to convince a judge or jury that you even had a trade secret to begin with. Unfortunately, much protectable and valuable business information isn't protected as a trade secret because even minimal steps, such as stamping a document "Confidential," are not undertaken.

Ugly corporate divorce

Let's explore this point about doing something in a little more depth. Years ago, I represented a party in a trade secret misappropriation matter in what would best be characterized as a corporate divorce. A group of friends went into business together and everything was fine—until the moment nothing was fine. Of course, being friends, little or nothing was written on paper to commemorate a business deal. So there was no contract to envision what would happen if the company dissolved or one or more of the friends went off on their own.

That is a topic for a different day perhaps, and a tragedy I see all the time. It is always better to establish expectations in writing when things are happy and there are shared dreams of the future than trying to divide rights and property after things have completely fallen apart.

With nothing on paper, the rights to the inventions created were in question. Lawsuits were filed. It was a real mess. For those unfamiliar with lawyer-speak, when I say it was a "real mess," you should read that as "unnecessarily expensive for the parties because they didn't follow sound business practices when setting up the business."

This kind of a "real mess" winds up being great for the lawyers involved. Fighting begets more fighting, and everything becomes personal. When you are in business, nothing should be personal, and you absolutely need to engage your business dealings in a way that is not good for the lawyers but good for the business. That means thinking ahead, anticipating possible problems and having appropriate written agreements. In any event, this dispute of which I speak was sadly typical, and with no resolution in sight.

The party opposite my clients argued that my clients had misappropriated trade secrets that they rightfully owned. During the litigation of the dispute, we went through discovery, which is the process of uncovering information from the other side. Time and time again, we asked for information relative to how they protected the alleged trade secret. At the end of the day, I was convinced they hadn't protected it and filed motions with the court arguing that in order for it to be a trade secret, they had to engage in reasonable measures to maintain secrecy and they couldn't point to a single protection measure they had undertaken: no passwords, locked office rooms, locked file cabinets or files stamped "Confidential." There were no employment agreements or confidentiality agreements.

At the hearing, the other side protested. I turned to them and said, "Reasonable protections necessarily means at least one protection. Can you articulate a single precaution implemented to protect the secrecy?" There was silence. I made my point. The case settled before the court ruled on my motion, which was hardly surprising.

(Continued on page 44)

Design Patents, or Trade Dress?

DISTINCTIONS, SIMILARITIES, CHALLENGES RISE TO SUPREME COURT

BY JULIE HOPKINS

Though the terms "design patents" and "trade dress" are bandied around frequently and sometimes interchangeably, many people don't comprehend their unique functions.

The two do have many similarities. A design patent protects a product's appearance and aesthetic features, just like trade dress. Both are enforceable against infringers as a reward for the efforts and investment of inventors and owners. Further, design patents and trade dress have similar infringement remedies.

However, among the differences between the two types of intellectual property protections are length of protection and ease of enforcement. This can be confusing to inventor clients at first glance—until a closer look highlights these significant distinctions.

Design patents

Design patents cover visual, nonfunctional characteristics that are included in or applied to an article of manufacture. They may relate to the configuration or shape of an article, the surface ornamentation applied to it, or a combination of the two. Ultimately, a design patent protects only the appearance of the article and not its structure or functionality.

To determine whether a design is ornamental and not functional, courts and the U.S. Patent and Trademark Office scrutinize whether there are multiple design alternatives. If a particular design is essential to the function of the article, it cannot be the subject of a design patent.

A design is considered functional if dictated by the way it works or operates. If the design includes elements dictated by function, they are not excluded from the infringement analysis and the ornamental aspects of the functional elements become the focus. To be protectable by a design patent, the design must be an article of manufacture, be ornamental, new, and not obvious over existing prior art designs.

Trade dress

Trade dress is a type of trademark that refers to a product's image and overall appearance. Trademarks protect brands and the goodwill associated with the brand. They are used to identify the source of goods or services, and to distinguish the goods and services of one seller or provider from another.

Trade dress must serve as a source identifier, be distinctive in the marketplace, be used in commerce, and be primarily nonfunctional. A functional feature is one that is likely to be shared by different producers of the same product and therefore cannot identify a particular producer.

Factors considered when determining functionality include whether the design yields a utilitarian advantage, whether alternative designs are available, whether advertising discusses the utilitarian advantages of the design, and whether the design results from a comparatively simple or inexpensive method of manufacture. For trade dress to be deemed "distinctive," it must be determined that consumers associate the design with the source of the product.

The nonfunctionality requirement for trade dress is more strictly applied by the courts than for design patents because its protection exists for as long as the trade dress is being used in commerce. Conversely, in design patents there is no existing obligation that the holder even be practicing the patent in any past or present product.

Infringement disputes

Tests for infringement of trade dress and design patents are distinguishable. For trade dress, courts look to whether consumers are likely to be confused as to the source of the goods when comparing the designs. Design patent infringement, on the other hand, is determined if the defendant's design is substantially similar to the patented design from the perception of a hypothetical ordinary observer.

For trade dress, the goods must be considered as they would in the market—how they would be encountered on a shelf, for example. This is not the case for design patents. The infringing product is compared exclusively to the patent itself.

Design patents were created to spur innovation by providing a 15-year term of exclusivity in which to get a jump on competitors. Although trade dress also protects a property right—the goodwill associated with it—trademark law as a whole serves to reduce consumer confusion regarding the source of a product or service. By contrast, trade dress is protectable, with caveats, for as long as it is being used in commerce by the owner as a source identifier.

Dispute remedies

Remedies for design patent infringement include injunctions, monetary damages and in exceptional cases, attorneys' fees. There is additional remedy available against infringers of design patents and not available against infringers of utility patents—the infringer's total profits. 35 U.S.C. 289 states that during the term of a patent for a design, whoever applies the patented design to any article of manufacture for the purpose of sale or sells any article of manufacture to which such design has been applied without license of the owner shall be liable to the owner to the extent of his total profit. The interpretation of this provision has come under intense scrutiny as to how it applies to modern products that may contain any number of design patents.

Similarly, if trade dress is infringed upon by another, statutory remedies include injunctions, damages and in exceptional cases, reasonable attorneys' fees. Owners of trade dress are eligible to recover the defendant's profits, any damages sustained by the plaintiff, and the costs of the action.

High-profile case

In the 2012 *Apple v. Samsung* federal court decision, the jury awarded the total profits from Samsung's phones for infringement of Apple's design patents—more than $1 billion. On appeal, Samsung argued that apportionment or a causality analysis relating to the profits should be limited to the infringement or infringing article of manufacture, but the court upheld the ruling. The court applied a strict reading of 35 U.S.C. §289 that an infringer of a design patent shall be liable to the owner to the extent of his total profit without a showing of causation or apportionment.

This March, the Supreme Court accepted a petition for review of the decision, with arguments expected during the fall session. In its appeal to the Supreme Court, Samsung is questioning the disgorgement of its total profits for infringing devices despite these patents only covering specific design features of that product.

As Samsung mentioned in the petition, the Supreme Court has not reviewed a design patent case in more than 120 years. The cases the high court heard in the 1800s related to patented designs on spoons and carpets, for example, in which the patented design was the essential feature of the product. But today, unlike when 35 U.S.C. §289 was written, products include smartphones, computers and other multifaceted technology-based products that feature many inventions, features and designs.

The Supreme Court will review the 2012 *Apple v. Samsung* federal court decision, in which a jury awarded more than $1 billion in the total profits from Samsung's phones for infringement of Apple's design patents.

As pointed out in an amicus brief signed by a group of 50 intellectual property professors, "design patent infringers, unlike infringers of copyrights, trademarks, or utility patents on technical inventions, are liable for their entire profits from an infringing product, even if the patented design is only a minor feature of that product."

In the modern era, it is unreasonable for a design patent holder to be awarded total profits that include profits not attributable to the specific design covered by the patent. The stakes are high. The Supreme Court should reverse the lower court's ruling and set a fair and modern precedent for how design patent infringement awards are determined going forward.

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How to Tell a Good Patent from a Bad One

CAN AN ORDINARY PERSON UNDERSTAND IT?

BY RUSS KRAJEC

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If you can't understand a patent application, neither can the patent examiner, the infringer, nor anyone who will buy the company.

Sometimes, the technology is very complicated and the patent application will reflect that. But when the document is virtually unintelligible, the value is severely discounted.

Unintelligible patents are the hallmark of patents written by someone who does not understand the invention or by someone who wants to make the patent so obtuse that it requires going to court. In either case, the patent does not have much value. Many inventors boast that they did not understand their patent application because their attorney used "legalese." Some even joke that it was so dense that they did not even know whether their invention was in there.

Master the basics

Make no mistake: A good patent is easy to read. It is difficult to write a clear description. It takes ingenuity, thoughtfulness and a big effort (read: motivation) to fully understand the invention, digest it to its essence and write a clear description.

The key to good writing comes from sixth-grade book reports: clear topic sentences for every paragraph, clear and simple sentence structure, and direct, active voice whenever possible.

The first and foremost way that a badly written patent is damaging is that the attorney did not understand the invention and probably made omissions or errors in describing the invention—not to mention problems with examination and assertion. Other risk factors for badly written patents include a higher possibility of Inter Partes Reexamination (IPR) reversal, difficulty of licensing or selling the patent, and general uncertainty about what the patent actually means. A badly written patent may have no value whatsoever.

Many people might say they are not a technical or legal expert, so they incorrectly assume they should not understand the patent. This is not true. Patents are business documents that are read and understood by real people, not attorneys. When the patent is litigated, the patent is read by a judge and jury—ordinary people. If a normal person cannot understand the patent, neither can they.

References cited

The best way to show that a patent has value is to have the examiner consider lots of prior art during the examination. In the United States, we have the opportunity to send a list of patents, websites, scientific papers and other documents for them to consider.

A patent with five references cited, all of which were found by the examiner, is a patent that is very weak and has a higher likelihood of being overturned by IPR. A patent with 20, 40 or even 100 patents and prior art cited is a patent that "feels" strong.

One of the easiest ways for infringers to challenge an issued patent is through the IPR process. To successfully challenge a patent, someone has to produce a prior art document that would have changed the examiner's mind. This prior art can come from anywhere, such as a dusty master's degree thesis that sits on a dusty shelf of some foreign university.

The toolset used by examiners includes incredibly powerful search systems. These are understandably focused on patent prior art and much less on scientific papers and websites, although these types of prior art are cited from time to time.

Beat Inter Partes

The best way to make a patent immune to IPR is to get as much relevant prior art in front of the examiner and let him or her consider all of it. If a patent may be challenged by someone in the market based on his or her existing products, make sure the examiner has documentation about that product. One reason people don't do this is they are afraid their patent would not be granted if the examiner looked at all of the prior art.

A badly written patent can result in omissions or errors in describing the invention, as well as other major problems.

A startup *wants* the patent challenged as much as possible through the examination period. The more prior art considered by the examiner, the stronger that patent will be—and the less likely it will be challenged by IPR.

When patent due diligence includes analyses of competing products and potential licensees, use that information to find documentation about competing products and send those to the examiner. One quick way to assess patent quality is to look at the list of cited prior art for an issued patent. If there are only four or five references, all with little stars indicating that they were cited by the examiner, there is a good chance that a searcher could find something to challenge the patent for an IPR proceeding. If there are lots of references, especially non-patent references that show competitors' products, the patent is probably very strong.

Note that there are ways to game the system. Some people cite lots and lots of useless and irrelevant references in their cases. Even if the references are irrelevant, the resulting patent is much more impressive with the references and will score higher in the automated scoring systems that some big companies use to assess patent value.

This is an excerpt from "Investing in Patents," by Russ Krajec. He is CEO and founder of BlueIron IP, an investment company that finances patents for startup companies.

Ruschke named PTAB chief judge

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The United States Patent and Trademark Office recently announced the appointment of **David P. Ruschke** as the next chief judge for the Patent Trial and Appeal Board. Ruschke took the helm on May 23.

Ruschke comes to the USPTO after serving as chief patent counsel of medical device maker Medtronic in Santa Rosa, Calif., where he managed a team of 15 attorneys, agents and paralegals. Before taking the position of chief patent counsel, Ruschke worked at the company's world headquarters in Minneapolis, where he supported the company's Corporate Science and Technology division.

His appointment allows Nathan Kelley to return to his position in the USPTO's Office of the Solicitor to serve as deputy general counsel for intellectual property law and solicitor. Kelley had been the PTAB's acting chief judge for 10 months.

Halo decision overrules test on damage awards

On June 13, days before we went to publication with this issue, the Supreme Court issued a unanimous decision delivered by Chief Justice John Roberts in *Halo Electronics, Inv. v. Pulse Electronics, Inc.* As the patent world expected, the court overruled the federal circuit's "unduly rigid" test for the awarding of enhanced damages for willful damages put in place by *In re Seagate Technology, LLC*.

Under *Seagate*, for a patent owner to be entitled to receive enhanced damages of up to three times the original damages award, the patent owner had to "show by clear and convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent." Then, the patentee had to show convincingly that the risk of infringement" was either known or so obvious that it should have been known to the accused infringer." The Supreme Court ruled that this test was not consistent with the express language of 35 U.S.C. §284, explaining under the express terms of the statute that district courts have discretion to award enhanced damages.

The Supreme Court concluded that although district courts have discretion to award enhanced damages, "such damages are generally reserved for egregious cases of culpable behavior."

—Gene Quinn

(cont. from page 39)

Some drawbacks

So what is the downside of trade secret protection? As with many things that are easy to acquire, they are easy to lose. As soon as the trade secret is no longer a secret, you have lost all protection! Those familiar with the law know this is a bit of an exaggeration, but not by much. Yes, in some cases there will be the ability for a court to issue orders of protection to keep a lid on a trade secret infraction, but those are only available if you act immediately and are not granted as a matter of course.

Once a secret is out, the court will not issue an order of protection in an effort to keep a lid on the disclosure in situations where it would be impractical to regain the secrecy. When something is disclosed on the internet, even if you remove it from the server the digital footprint continues on, so you cannot un-ring that bell in all but the rarest of cases. Therefore, you really need to operate as if the loss of secrecy will result in the trade secret being destroyed—because that is what will happen in at least 99.9 percent of all cases.

Trade secrets can be easy to protect, but you must do something.

Trade secrets are indeed fragile. Though you can and should keep trade secrets, you should take reasonable efforts to keep the information protected. If other forms of intellectual property are available, you should at least consider them—such as patent protection, given the subject matter of the trade secret. Patents can be expensive, so running to file a patent application may not make the best sense unless the business information is particularly valuable.

Businesses and inventors make decisions every day on whether to pursue a patent or keep a trade secret. Many others fail to make the decision because they have already lost any potential trade secret rights or don't realize that they might have something that could be patented. As with any business endeavor, the more you know, the better the decisions you will make. The old saying about a penny of prevention being worth a pound of cure comes to mind. Engaging professionals on the front end to help you set up your business, to create a trade secret protection protocol and to alert you to the pitfalls that lie ahead is a cost-effective way to stay out of trouble and maximize business returns.

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