

Inventors

NOVEMBER 2016 Volume 32 Issue 11

DIGEST

TV SHOW GADGETS

GOING WHERE NONE
HAD GONE BEFORE

KNOW YOUR ODDS

ASSESS RISK FOR
YOUR INVENTION IDEA

THANKS FOR THEIR GIVING

COMPANIES, NONPROFITS
THAT HELP OTHERS

SCOOTER DAD

CREATION ADDS
SPARK TO FAMILY FUN

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Still Starring: The Independent Inventor

On the day before Independence Day 1985, Volume 1, Issue 1 of *Inventors' Digest* (with an apostrophe back then) was relatively fresh from the typewriter. Future *ID* editor and publisher Joanne Hayes-Rines, this month's cover subject, has a bound copy of the primitive-looking newsletter that was published by Affiliated Inventors Foundation.

The cover of the eight-page publication announced its new name—it had been *Inventors Voice* in a previous, semi-regular incarnation about two years earlier—and informed readers of the start of this quarterly paper. Cover headlines involved a silicon chip that was copyrighted, as well as a list of prospective/experienced inventors who were making progress with their patents.

Some of these innovators doubtless took note when the movie "Back to the Future" premiered in theaters on July 3. Although the movie was a thinly disguised attempt to capitalize on the phenomenal popularity of Michael J. Fox as Alex P. Keaton on the TV sitcom blockbuster "Family Ties," it introduced a slew of futuristic inventions that were as impossible as they were ingenious.

Thirty-one years later, that's only half accurate. Many of the outrageous dream-tech creations that co-starred in the

adventures of Marty McFly are now part of everyday life, with others not far away.

Websites ranging from time.com to popcrunch.com to EMGN.com hang out a laundry line of these inventions: video conferencing; 3D movies; huge, wall-mounted TVs; flying cars; hoverboards; motion-controlled video games; tablets; retractable gardens, and more. Some of these were at least partially the creations of small inventors—among them William Van Doren Kelley, who long ago invented the Prizma color technique that led to 3D films; and Greg Henderson, inventor of the Hendo hoverboard that appeared in a Kickstarter video last year.

By the time "Back to the Future II" came out in November 1989, Joanne Hayes-Rines had been at the helm of this publication for two years. A layered understanding of inventing and the role of the independent inventor was taking root, building a level of commitment and advocacy that remained steadfast for her 20 years as an industry leader.

Maybe this is the stuff of which movies are made; maybe not. But it will have a long run of its own.

—Reid





Whether you have a conceptual idea, stick-figure diagram, full-scale prototype or market-ready product, we want to hear about it.



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photo by mattconti.com

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Focus on the Fun and Fascinating

BRIGHT IDEAS

Ecomio

BOTTLE THAT TESTS, FILTERS WATER

ecomio.io

The Ecomio Smart Bottle represents some big-picture goals pertaining to health and the environment, with a stated goal of clean water for everyone and minimizing the usage of plastic bottles. In addition, users may choose to contribute to the company's water quality data map (without revealing any privacy) as part of the effort to protect public health and the environment. Ecomio is said to save about 228 plastic disposable water bottles within three months.

Fill the bottle with water anywhere, anytime, then shake it to test for contaminants. The bottle's 3-in-1 filtration system can remove most major contaminants, such

as pesticides, petrochemical products, bacteria and most heavy metals. It's also compatible with Apple Watch and FitBit.

Ecomio keeps water hot for 12 hours and keeps it cold for 24 hours. It comes with a wearable activity tracker that computes your hydration needs, tracks your intake and alerts you about bad water quality.

At last report, Ecomio had almost tripled its original \$50,000 crowdfunding goal with 38 days left in the campaign. Estimated delivery is March, retailing for \$229.



Kryo Sleep Performance System

COOLING MATTRESS TOPPER

indiegogo.com/projects/kryo-sleep-performance-system#

Kryo is a water-based, app-controlled cooling mattress topper that actively cools to 60 degrees Fahrenheit (15.5 degrees Celsius), improving REM and deep sleep by as much as 20 percent. REM sleep, which accounts for 20 percent to 25 percent of sleep time in adults, is an important component of our sleep patterns. (Newborns may spend up to 80 percent of their sleep in the REM stage.)

Kryo integrates with leading sleep tracking devices, including Fitbit, Jawbone UP

and Misfit. The warm awake feature helps you drift from drowsy dreams to a more natural awakening instead of an abrupt alarm. The mattress topper comes with a control unit that fits under your bed or next to your nightstand.

A Wi-Fi-enabled smartphone platform allows you to control your Kryo directly from your phone. You can set a weekly schedule to ensure your mattress stays at



the perfect temperature and program temperature changes during the night based on the timing of your sleep cycles.

The product is scheduled to ship in May. Retail price: \$299.

Phantom Air

TUNABLE WIRELESS EARBUDS

trinityaudioengineering.com



Billed as the world's first tunable wireless earbuds, each pair comes with tuning filters that let you tune the bass and higher frequencies for your preferred sound signature. They unscrew and can easily be swapped in and out.

Recharge on the go by placing the earbuds into the charging case: 45 minutes for a 75 percent to 80 percent charge and an hour until fully charged. The pocket charger can recharge the earbuds up to 10 additional times, giving you up to 30

hours' use. You get three to four hours' use per charge.

The earbuds can be paired to any device capable of transmitting Bluetooth audio. The Phantom Air uses an industry-leading CSR Bluetooth v4.2 chip (also compatible with Bluetooth 3.0.), specifically designed for micro wireless applications. A unique double antenna—one inside and another hidden in the outer shell—cures most signal drop.

Estimated delivery is January, retailing at £150 (about \$180 U.S.).

PIN Genie

PEEP-PROOF SMART DOOR LOCK

pin-genie.com

PIN Genie Smart Lock features a patent-pending touchscreen pad that shortens your 10-digit passcode into four numbers for usability. Every time you use the PIN Genie, the numbers reshuffle to thwart peepers and hidden cameras.

The lock communicates with your smartphone through BTLE (Low energy Bluetooth). Designed for DIY installation, it fits all standard door sizes. The Safe Home Mode feature allows you to easily turn off the touchscreen pad when you're home so no one has the opportunity to type in your PIN code. This prevents anyone from opening the door from



outside without a physical key. Set the alarm according to your needs.

PIN Genie Smart Lock has surpassed the international home security standard and passed the toughest security test of BHMA A156. Apps are available for iOS and Android smart devices.

Estimated delivery is December, with a retail price of \$159.



Forever O.G. Pants

LIFETIME GUARANTEE

wonderous.com

These pants feature a 3-ply, 4-way stretch fabric infused with silver that repel odor and come with a lifetime guarantee. They never stain and are resistant to any liquid. The pants' 3-ply yarn is 10 times stronger than what's typically used in the industry because of the yarn is first spun and twisted with three yarn strands.

The company also has a size guarantee; if your size changes, mail your pants back and get them back in the right size for free. Size options include Classic Fit and Tailor Slim Fit.

Forever O.G.'s Kickstarter campaign raised well over \$300,000, far surpassing its funding goal of \$20,000. The expected retail price is \$128, with a planned December shipping.

"Inventions are not solely the making of material things; inventions are also the mental unleashing of ideas by a genius with a sixth sense."

—MICHAEL BASSEY JOHNSON, AUTHOR OF "TRIALS OF A DAMSEL"

TV SHOW INVENTIONS

THESE GADGETS
BOLDLY WENT WHERE
NONE HAD GONE BEFORE

BY FRANK LAUGHLIN

Television shows have been a rich source of inventions, both real and fantasy. At any moment in an episode, the main characters can introduce an existing device or invent a new one.

Cartoons, fictional characters and real scientists all have created new gadgets that are used to fight evil, escape from harrowing situations, bust a myth or just prove a point. Remakes and extensions prove the staying power of these shows, some of which include:



MacGyver

“MacGyver” (original show 1985-92) features a man working for a fictional Phoenix Foundation. He goes on missions, such as rescuing captives or gathering information. MacGyver is well known for the Swiss Army knife he always carries in his pocket, but the show became popular in part due to the number of gadgets

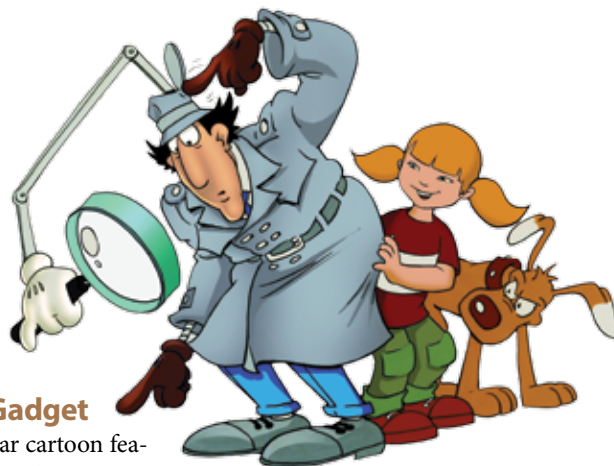
he created out of everyday objects: household chemicals, rope, and metal objects in the vicinity.

The show’s producers tried to base his inventions on science whenever possible. Details about explosions created to escape from evil were vague; they did not want fans to reproduce these chemical reactions at home because of the obvious dangers. The MacGyver franchise expanded into movies, as well as a new series on CBS that premiered in late September.

Richie Rich

Richie Rich is best known as a comic book character who first appeared in 1953 and got his own title in 1960. His affinity for inventions is such that there’s currently a monthly Harvey comic book called “Richie Rich Inventions.” He moved to TV with an animated Saturday morning series on ABC in 1980-84 in which he’s slightly older than the child in the comics; was the subject of the 1994 non-animated movie “Richie Rich,” starring Macaulay Culkin; and was the name of a Netflix Original Series starring Jake Brennan that debuted last year.

Richie’s a single child with lots of gadgets because his parents are wealthy. The gadgets can do just about anything on an as-needed basis—which comes in handy with thieves always trying to steal from his estate. They’re conceived by Professor Keenbean, the family’s personal scientist. A human-sized robot maid named Irona maintains



Inspector Gadget

Another popular cartoon featuring inventions (1983-86, in syndication into the late 1990s), Inspector Gadget is a thin character in a hat and trench coat. Voiced by Don Adams—who played Maxwell Smart in another gadget-related series, “Get Smart”—he conjures up whatever he wants by saying “Go Go Gadget.” For example, if he wants a helicopter, he says, “Go Go Gadget helicopter.” The contraption then springs out of the top of his hat with handlebars.

His talking car, the Gadget-Mobile, also has some unique capabilities. Most of the time his sidekick is his daughter, Penny, who tends to be the brains of the two.

Inspector Gadget has a tendency to over-complicate situations. His abstract reasoning usually leads to an incorrect gadget appearing. For example, he could say “Go Go Gadget water” with intentions of putting out a fire, but gasoline sprays out instead. Many variants of Inspector Gadget have aired on television and in movies.

Junkyard Wars

This show (1998-2009) consisted of teams building functional items from scrap parts. Team members consist of people from different walks of life, such as engineers and mechanics.

Every episode began with teams learning what they’re supposed to build. Team members then went out to the junkyard and stole parts from existing items. For example, if a task included building a boat, they might have used an actual boat hull or patched one together from metal pieces. The boat engine could originate from a motorcycle or lawnmower. The propeller attached to the engine might be the radiator fan from a car.

At the end of an episode, the teams competed on an obstacle course. In the case of a boat, they navigated a course either against the clock or the other team’s boat.

An international version featured teams that all originated from the same country and competed against other countries.

Mythbusters

Recently ended on Discovery Channel after a 14-year run, “MythBusters” featured Jamie Hyneman and Adam Savage. They would review myths from the internet and television shows (including MacGyver) to determine if there’s any truth.

One task included putting a rocket on a car, driving it at high speeds, and jumping off a ramp to see how far it could fly. Another revisited myth involved having several people hold up mirrors to reflect the sun’s rays. The goal was to determine if they could start a fire.



Every episode involved having to invent a new gadget or technique to test their theories. The rocket-powered car was too dangerous to drive by even the best stunt driver, so they created a remote-controlled vehicle system that allowed control of steering, acceleration and brakes from a safe distance.

In the end, they determined whether a myth is “busted,” “plausible” or “confirmed.”

Frank Laughlin is the creator of ideas2apply.com. He’s committed to inspiring ideas, sparking creativity and encouraging problem-solving.



Richie’s mansion and serves as a bodyguard. She can convert her body into various modes, including changing her body into a jet plane when Richie calls on her.

In the 1994 movie, Professor Keenbean invents the Smellmaster 9000, which translates smell into sound for a spin in an effort to find some chocolate hidden among the presents. Other inventions by the professor include an acidic mixture called Hydrochloricdioxynucleocarbonium that eats through almost anything; a molecular reorganizer that turns garbage into anything that’s typed in on a computer control panel; and a spray that makes any fabric bulletproof. In the Netflix series, Richie earns a trillion dollars by turning vegetables into green energy.

In the ABC cartoon series, the good professor tops everyone—including himself—in the episode that originally aired on Dec. 20, 1980: He invents a machine to invent inventions.

We were so excited about Frank Laughlin's story that a couple of our regular writers joined in with their own contributions, from a few shows even farther back. Editor Reid Creager remembers "Get Smart" and Mr. Peabody from the Rocky and Bullwinkle cartoons; Eye on Washington writer Gene Quinn discusses innovations from "Star Trek." See his post on the 50th anniversary of the show and industry insiders' observations at www.ipwatchdog.com/2016/09/08/star-trek-celebrates-50-years/id=72587.



Get Smart

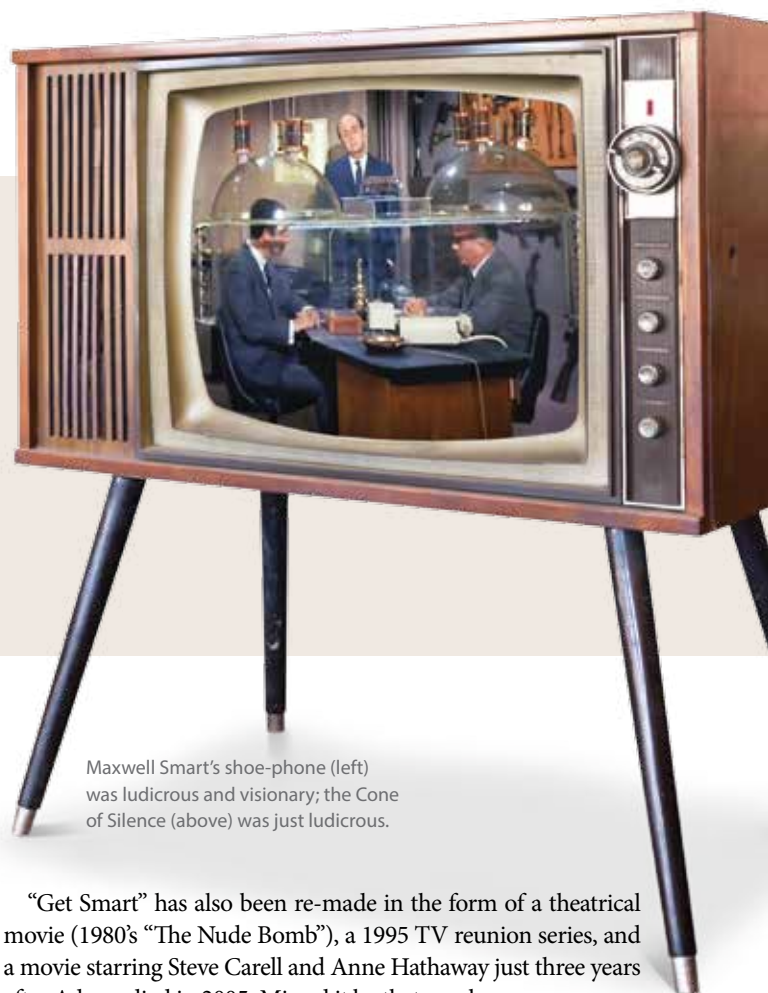
Originally written by comedic geniuses Mel Brooks and Buck Henry, this classic 1965-70 James Bond spoof was a crafty blend of satire and sight gags—the latter including the famous shoe-phone and Cone of Silence.

The Emmy-lavished "Get Smart" was hardly a pioneer when it came to TV spy inventions. "The Man From U.N.C.L.E." (1964-68) featured many gadgets, most

notably a fountain pen communicator with an extending aerial and distinctive transmission sound. But the two main "Get Smart" inventions are more memorable because of their outlandish aspects.

The notion of taking off one's shoe to dial a phone was both ludicrous and visionary. Some call the gag-prop revolutionary because it popularized the idea of a portable phone; a 2008 Wall Street Journal article was titled "How Maxwell Smart and His Shoe-Phone Changed TV."

Entertainment website The A.V. Club says the Cone of Silence is "one of the best TV visual jokes of all time." Don Adams as Smart (Agent 86) insisted on having the large plexiglass bubble slowly drop down from the ceiling for classified conversations with the Chief. But the cone, which covered the Chief's desk area, often malfunctioned—and no one could hear the other when it did work, which meant they had to use flash cards to communicate. Barbara Feldon as Agent 99 (her character never had a real name in the show) didn't get to use the Cone of Silence during the series' five-year run but finally got the chance in the 1989 TV movie "Get Smart, Again!"



Maxwell Smart's shoe-phone (left) was ludicrous and visionary; the Cone of Silence (above) was just ludicrous.

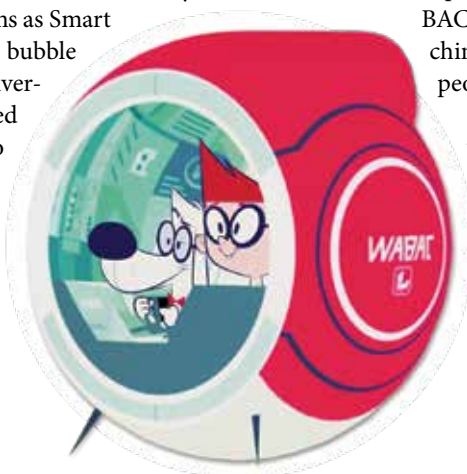
"Get Smart" has also been re-made in the form of a theatrical movie (1980's "The Nude Bomb"), a 1995 TV reunion series, and a movie starring Steve Carell and Anne Hathaway just three years after Adams died in 2005. Missed it by that much.

Mr. Peabody

"Peabody's Improbable History," the adventures of the cartoon dog Mr. Peabody and his "human" "son" Sherman, began as a filler interlude during "The Rocky and Bullwinkle Show" (1959-64). After saving the geeky Sherman from bullies in an alley, Peabody adopts the boy following a court appearance and talking with the president.

Peabody, voiced by Bill Scott, invents the WABAC time machine (pronounced "way back") as a birthday gift for Sherman, and they go back in time to see a Roman speaking in Latin. Peabody adds a translator circuit to the WABAC so everyone seems to speak English. Their next trip is to see Benjamin Franklin flying his kite and discovering electricity, only to learn they can't interact with the past. So Peabody turns the WABAC into a "should-have-been machine"—although it causes famous people to behave out of character.

The original Jay Ward cartoons were known for their smart dialogue and (usually) artful puns; subsequent Peabody and Sherman efforts, including a 2014 movie, generally have been dogs. Oh, for a trip in the WABAC machine to relive the real thing.





A real-life transporter (above) and food replicator were among the then-imagined technologies that may soon become reality.



Star Trek

The iconic show, which originally ran from 1966 to 1969, has inspired generations of scientists and engineers who continue to attempt to bring into being the gadgets and technology written into the storyline.

For example, several years ago the United States Patent and Trademark Office issued a patent on the first cloaking device; last year, scientists at the U.S. Naval Research Laboratory created transparent aluminum; IBM's omnipotent computer known as Watson can easily be likened to the all-knowing Star Trek computer; and a real-life food replicator can prepare a meal in 30 seconds.

Countless scientists have theorized about the possibility of a real-life transporter, described as the holy grail of Star Trek technologies. Just a few months ago Russia embarked upon a path to achieve transporter technology within the next 20 years, and researchers believe through the use of quantum mechanics they can create a transporter-like device for data. 📡

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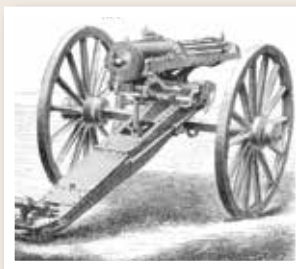
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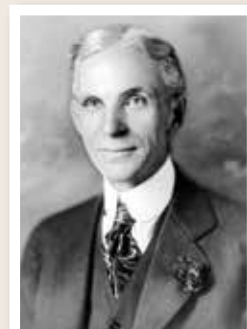
NOVEMBER 4, 1862

Dr. Richard Gatling received a patent for the Gatling gun—a hand-driven, six-barreled machine gun that fired 200 rounds per minute. Though he had designed the gun (Patent No. 2,849,921) a year earlier after the start of the

Civil War, Gatling actually hoped the weapon's potential for carnage would discourage large-scale battles, reduce armies, and show the folly of war.

NOVEMBER 5, 1901

Henry Ford was granted a patent for a motor carriage. Patent No. 686,046 cites "an improvement in the vehicle itself"—including the reach rod, and connections between the reach rods and axles, to change the direction of the progressive motion of the vehicle. His first car design was the quadricycle, the first horseless carriage, built five years earlier.



Know Your Odds, and Your Baggage

MAKE YOUR OWN LUCK BY
OBJECTIVELY ASSESSING AN
INVENTION'S RISK FACTORS

BY JACK LANDER



I recall a very successful TV pitchman saying that one of his secrets for success was practicing his sincerity. I hope he was joking, because his statement is self-contradictory. You're either inherently and spontaneously sincere, or you're not sincere at all.

That kind of contradiction applies to luck as well. If you make your own luck, it is no longer luck. It's the result of handling the things we can shape and control, and respecting the odds that apply to those things that we can't control. The person who consistently wins at poker isn't merely lucky, even though the cards he or she is dealt largely determine the outcome of any single deal. It's his skill in controlling those aspects of the game that don't depend on the cards he is dealt that determine his long-range success.

One reason that success eludes us is that we inventors tend to dream up solutions to annoyances, problems or needs that we stumble upon. That's certainly one valid approach to inventing. But the exciting and self-satisfying "stumbled-upon" solutions that pop into our heads seduce us away from what has the much greater influence on our success: investigating and evaluating the invention's baggage in order to decide whether to further pursue our solution.

Now, if the success rate for the stumbling approach were, let's say, 50-50 or even 40-60, I'd say, "Keep on stumbling." But the success rate is shockingly low. In his well-respected book, "Entrepreneurship: Theory and Practice," Donald Kuratko tells us that the probability of commercial success for inventions developed by independent inventors is about 6 percent. The majority of other writers estimate the rate to be even lower. But most of us would respond, "OK, but I know that there's a big market out there just waiting for my invention."

Rely on what is true

So, the first step for "making our own luck" is to admit that the odds quoted by experts are probably more accurate than our own estimates. Robert Ringer, an author of several down-to-earth books on success, says, "Rather than loving truth, people try to make true that which they love." It's not easy to admit that our inventions may not be exceptional, and that in the end the chances for their success will most likely fit the 6 percent statistics. A realistic perspective is essential to success because, as those odds suggest, it usually takes several tries before we hit the jackpot, and we can't afford to be devastated by our failures. Winston Churchill said that the secret to his success was going from one failure to another without losing his enthusiasm.

Armed with a healthy respect for the odds, how do we beat them? How do we significantly improve our chances of success? We start by separating the two basic components of every invention quest: the baggage it comes with, and the remainder, which we can control.

BAGGAGE CONSISTS OF:

- How the annoyance, problem or need was solved or handled in the immediate past.
- The number of persons or businesses presently encountering the annoyance, problem or need.
- The prior art that determines if you will be violating an existing patent—and if not, if you can get a meaningful patent.

The baggage is what it is. We don't determine it; we work with it, and around it.

Suppose that you invented a fluid that removes the sticky adhesive that remains on so many products after we remove their label (although such a product already exists). And you say to yourself that all you need are the fluid, bottles and labels, and you're in business. You figure that department stores will welcome such a product because a vast amount of what they sell causes the problem and the annoyance and the need.

But how did people solve the label residue problem before? One household hint was to apply a bit of cooking oil with a paper towel, and rub like heck. But no commercial product existed. Good news so far.

Then, you estimate the number of times your family has removed labels in the past year—at least five times. And your Google search tells you that there are about 116 million U.S. households. That's got to be a market of nearly 600 million. Even allowing for excessive optimism and big errors, there's still a huge market.

sales may take years to reach a satisfying level. Let's say you decide to market through a large chain like Kmart. You meet the buyer, he/she tells you that there is no demand for such a product, and his company is not in the business of gambling on products that don't have a sales history. You scratch your head and ask yourself how the market for any product ever gets started.

Seek comparable histories

The point is that without present sales of an existing solution, there is no compelling proof that your invention will attract buyers. Before the existence of Goo Gone®, most of us had little more than our fingernails and patience in order to deal with residual label adhesive. There was nothing in the product stream devoted to solving easy removal of the adhesive. And without an existing competitive product flow to carry you along, you may have to abandon your quest.

Then you remember an *Inventors Digest* article on selling to catalogs, and how catalogs thrive on novel products that are not sold in stores. Your quest is saved!

“Stumbled-upon” solutions that pop into our heads seduce us away from what has the much greater influence on our success: investigating and evaluating the invention’s baggage in order to decide whether to further pursue our solution.

Next, you need to know if it is already patented, and if not, your chances of getting a patent. This means having a patent agent or patent attorney conduct a patent search and provide a patentability opinion. Chances are that because your fluid is formulated from solvents, and the use of a solvent is obvious, the invention can't be patented. But let's say that you discovered an unusual additive to water that somehow removes the sticky residue. Your patent attorney tells you that she thinks she can get you a strong patent.

You proceed to develop and prototype your invention. And you're wondering whether to quit your day job and devote full time to this sensational opportunity.

Hold on. If no commercial solution presently exists, then no favorable market inertia exists for your invention. This means that you or your licensee will have to create the market in addition to proving and producing the invention. Many inventions fall neatly into the product line of the licensee, and the licensee can wait out the slow climb of impulse sales until the product becomes more generally known. The licensee can also advertise to stimulate early demand, but that's a luxury that most small startups can't afford.

Similar challenges apply if you intend to produce and market on your own. If you will have to depend on impulse sales because the market has not been established by an existing solution, your

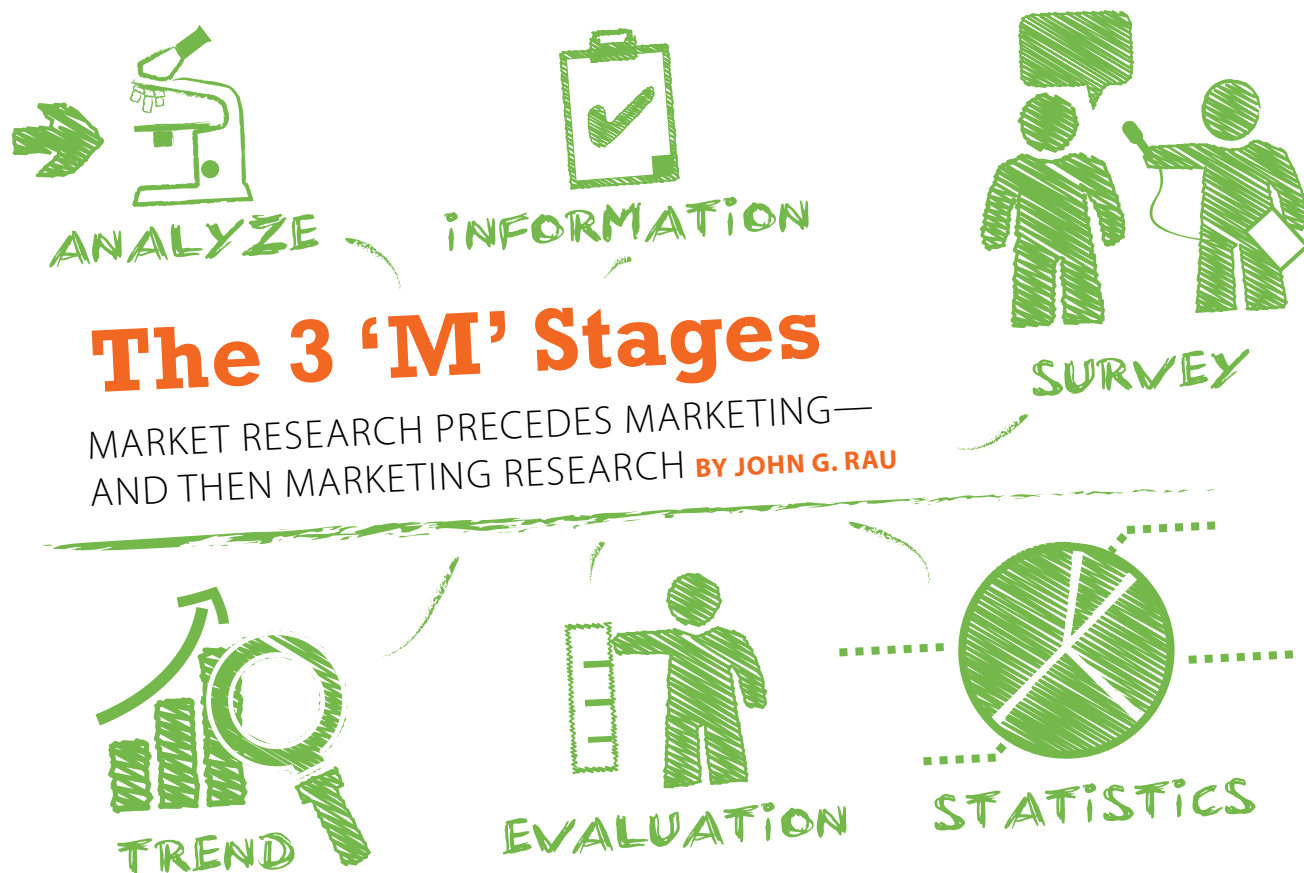
Of course, this is just an example of creating your own luck—of greatly improving your odds—by properly assessing the market and your prospect for patent protection. Hopefully, you see the wisdom of taking such actions before you devote a lot of effort to the fun part: developing your invention.

In the end, it's still a risky business. Dean Kamen, who invented the Segway human transporter and the stair-climbing wheelchair, says: “I'm a risk taker. I get up in the morning knowing that I'm either going to have a spectacular win or loss that is going to be exciting. I prefer the former, but either is more appealing than the warm death of mediocrity.”

Go forth and invent. Stumble onto your opportunities, if that's your style. But don't lose sight of the typical odds of success and the baggage that you must deal with upfront. 📦

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.





If you have an idea for a new product that you want to convert to an invention, two key activities you may be involved in are market research and marketing. They are distinctively different activities, largely due to their timing in the invention development process.

Initial market research is generally performed at the “I’ve got an idea” stage, to see if there is any product like or potentially similar to yours that is in the marketplace. This is typically done by going to stores that might sell products like yours, reviewing product catalogs, going to trade shows and conducting an internet search. You may also want to conduct (or have conducted for you) an initial patent search to see whether any like or similar product has been patented because you want to avoid possible patent infringement.

2 types of research

There are basically two types of market research—primary and secondary. Primary research involves customized data gathering such as interviews, surveys, questionnaires, focus groups (sampling potential customers and getting direct feedback).

In secondary research, the focus is on data that have been published: newspaper articles, magazines, trade publications, published industry surveys, books and periodicals typically found at the library. Be aware that relying on the published work of others doesn’t necessarily give you the full picture. It can be a great place to start, but the information you get from secondary research can be outdated. If your new invention product is in a previously untapped market, there is no substitute for primary market research.

Should you find nothing like or similar to your new invention and an initial patent search suggests no potential patent infringement, the next step in your market research is to “dig deeper” to make an assessment of whether your new invention idea is worth developing. This involves defining the problem your new invention will solve; how this problem is being solved today; how much of an improvement your new invention might provide; who has or cares about this problem, and assessing how much of a demand there may be for solving this problem.

If not enough people appear to care about solving this problem, drop the idea. But if it appears that your new invention may have some unique features or discriminators for which there is a demand, you must decide how to move forward. Recognize that up to this point, you have only performed market research, not marketing; market research is a prelude to marketing.

If your initial research indicates that your new invention appears to be worth pursuing, the next step is to secure some form of protection for your idea via filing for a provisional patent application or an actual non-provisional patent application. Before you commence any type of marketing activities and start telling people about your new idea, you want it protected.

Decision time

At this point, you need to decide how to move forward with your new product. There are basically three choices: 1) license it, 2) sell it outright to investors, or 3) manufacture, distribute and sell your new product yourself. Now you will be more involved in marketing activities. Depending on your choice, some of these may include additional market research efforts.

To interest licensing candidates (licensees) or prospective buyers of your new invention, you should prepare marketing materials or brochures such as a sell sheet describing your overall value proposition, with the following information:

- What your product does
- What problem(s) it solves and why it is better than existing solutions
- Estimates of the market size for products of this type, as well as growth rates and trends
- Who the potential competitors are, and how your problem solution compares to theirs

You will also have to conduct additional market research to identify who your prospective licensing candidates are, such as companies that produce similar types of products or have product lines relative to which your product might be a good fit.

If you decide to manufacture, distribute and sell your new product invention yourself, you will have to further consider the market for your invention in terms of realistic sales and profits. You must specifically focus on who will use the product, how many people will buy it, how much would it cost to make, and the selling price.

If you have to perform additional market research to find manufacturers, suppliers and distributors to support your activities, you may find yourself involved in marketing research.

You also have to decide the most effective way to market your new product and how will you sell it—i.e., through distributors, directly to consumers, internet advertising, major retailers, infomercials, etc. You don't have to worry about any of this if you license or sell your invention to investors.

You may also have to perform additional market research to find manufacturers, suppliers and distributors to support your activities. In this situation, you may find yourself involved in a new activity, marketing research—which is distinct from market research and marketing. Marketing research involves a much broader range of activities but typically includes various types of market research. Investigating the above-identified issues is typically an integral part of marketing research.

So, selling your invention is an entrepreneurial process in which you generally start by performing market research, then marketing and marketing research. All are key activities in the invention development process. 📞

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.



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INVENTING FOR THE BOOMING PERSONAL CARE INDUSTRY Part 2

The Journey to a 'Shower in Your Pocket'

ARMY PHYSICIAN'S EPIC WIPES
A MISSION OF PERFECTIONISM

BY EDITH G. TOLCHIN

Last month we interviewed Army veteran and father of two Bill Massey, whose Restroom Kit® was a hit at June's INPEX, America's largest invention trade show. This month we spoke with Dr. Aeneas Janze, inventor of Epic Wipes—towel-sized wet wipes called “a shower in your pocket.” His Kickstarter campaign raised \$35,000 in June, more than tripling his \$10,000 goal with more than 800 backers.

Inventions like the Pee Pocket (*Inventors Digest*, January 2016), last month's Restroom Kit and Epic Wipes underscore how the personal care industry is flourishing.

Edith G Tolchin: Please tell how your background and family tie in with your invention.

Aeneas Janze: I am an active-duty Army physician. Rose and I are parents to a year-old boy, Sebastian. I came up with the idea of these wipes while deployed in Afghanistan in 2011. Many combat outposts don't have showers and even in the largest forward-operating bases, showers are frequently down for maintenance. Wet wipe showers are commonplace; however, “bathing” with standard-sized wet wipes is not very effective. Poor hygiene results in poor health, which has a real cost in terms of battle readiness. I set out to make something better.

EGT: Where did the name come from? Is it patented?

AJ: Epic Wipes are towel-sized wet wipes, large enough to clean your whole body but small enough to fit in your pocket. In the beginning, we were going to call them “Guerilla Wipes.” Then came “Epic Wipes,” which was the name for about a year. Then I came up with the worst idea imaginable, to name them “Towl.” Thankfully I came to my senses and we went back to Epic Wipes. James Haugland, a writer and our current collaborator, started riffing one day on this idea of “Epic life? Epic Wipes.” He envisioned



Dr. Aeneas Janze focused on intricate details in every aspect of Epic Wipes, which were used at the Mud Factor 5K obstacle run in Sacramento, California, this March (left).



people leading these very active, adventurous, epic lifestyles and getting sweaty and dirty as a consequence. That became the real starting point for the branding. We have a copyright on all the packaging design work, and a provisional patent.

EGT: Have you done market research on the personal care/personal hygiene industry?

AJ: Plenty, in the wipe industry! I think I must have bought every wipe that Amazon carries. I wanted to see what kinds of textures and formulas felt good against my skin and which ones didn't. I probably spent time on certain details that some people will never notice, but when something's your baby you really want it to be perfect. This went into every element of the design, from selecting the formula ingredients to getting the texture of the wipe just right, to all the elements of the packaging design. I spent more than six months working on the formula, for example. Getting the concentration of soap just right was also tricky. Too much soap, and it left a film. Too little, and it didn't clean well.

Getting the design to look masculine was one of the hardest parts, but I think we actually managed. That's why it took us three years to arrive at the current product. When you take a wipe out of its package, you can immediately tell that a lot of work went into it.

PHOTOS COURTESY OF AENEAS JANZE

EGT: What is the product made from, and where is it manufactured? Are you looking to license Epic Wipes, or run the business by yourself?

AJ: Epic Wipes are made from 100 percent bamboo viscose, which is fully biodegradable. Even in landfill conditions, our wipes will be gone within 45 days. This was important to us. We also used all non-toxic ingredients so that people could feel good about slathering these wipes all over their bodies day after day if they needed to.

The wipes are manufactured in China. We spent months trying to find a U.S. manufacturer, but it's difficult finding a manufacturer anywhere in the world to make a wipe as large as ours. Most of the places we contacted in the United States said that they'd have to purchase special machinery to do it and wanted us to foot the bill. Since this whole project was funded on my military income alone, that wasn't possible. It took us quite a while to find our current Chinese manufacturer. We've only been with them for the past year, but they do an amazing job.

In terms of running the business, we'd like to give it a go ourselves. We think this product answers a huge need that has thus far gone unrecognized. Luckily, we're the first ones to make a pocketable wipe that can substitute for a shower. If we make a big enough splash in the beginning, there's no telling how far this product can go.

Are we completely opposed to licensing? Not at all, and I'm sure some day we will. But for now, we're having fun and still have more ideas for spin-off wipe products that we think would be just as popular as the original, if not more.

EGT: Tell us about your Kick-starter campaign.

AJ: It launched May 24 and ended June 23. It was wildly successful. We feel that a write-up by gizmag.com three weeks into the campaign was really helpful. Then USA Today wrote about us, New York magazine, and a dozen other smaller media outlets. A couple days later, we received a lot of UK press. In less than 72 hours we'd gone from being a complete unknown to having this global audience. We've seen articles written about us in Thai, Chinese, Hebrew, Albanian, Turkish, Czech, Slovak and Spanish.

EGT: Have you had any obstacles in developing your product?

AJ: Tons. Money issues, mostly. You have to be extremely strategic on how you spend your money if you're not well off. If you make a mistake, it sometimes takes months to recover.

EGT: Any advice for the novice inventor?

AJ: A good idea is a necessary first step, but it's the execution that really matters. There have been many attempts at the big wet wipe idea in the past, and they've all failed. For one, they didn't make them pocket-sized. Many were bundled as two or three wipes per pack. We actually tried that initially (three). But the hole to pull the wipes out was too small for such a big wipe, and it kept ripping. Resealing the sticker was a pain. Wipes would dry out. Also, who wanted to carry around this half-pound package of wipes that could fit nowhere but your backpack or your glove box?

We were thinking of ways to make the packaging a little more user friendly when another collaborator, Kriszanne Napalan, said: "If we individually wrap these wipes, there won't be any more sticker problems. Plus, one wipe will be so much easier to carry around. And they should be small enough to fit in your pocket." It was by far the most insightful thing anyone had said since the project's inception. But we had already completed the packaging design based on a three-wipes-per-pack concept, so it meant starting over again. Having individually wrapped wipes also meant that we needed to design a box to put them in, which delayed our launch by over a year. But without that insight, I think the product would have been a dud. So putting your ego aside and listening to your collaborators is a big part of this. 🍷

Details: epicwipes.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.





Jee Kim (left) and Kristen Min show off their Packin' SMART stackable containers and Aquaheat products (inset).

MOMS' MISSION

INNOBABY OFFERS SOLUTIONS FOR PARENTS **BY JEREMY LOSAW**

As mothers of newborns with disruptive health issues, Jee Kim and Kristen Min decided they would rather go smart than go crazy.

Both suburban Chicago women had their first child within a couple years after meeting through their husbands in 2000. Kim left her career in investment management, Min in financial services, for motherhood. Soon they were spending a lot of time at play dates discussing their parenting challenges.

Those challenges were substantial. In addition to the sleepless nights, diaper changes and crying fits that stress the parents

of virtually all babies, Min's child had severe eczema that required changing the crib sheet many times a day and often in the middle of the night. Kim's child had a sensitive stomach and could not be breastfed—and the food containers she used for her baby's special formula were not keeping the precise mix separated from other compartments.

Their innovative solutions for these and other challenges led them to form their company, Innobaby, and share their unique products with other parents. "Like two workaholics, we got bored at home watching the kids," said Kim, a mother of two.



PHOTOS COURTESY OF INNOBABY

"The most fun part is interacting with other moms and hearing what they have to say," Min, a mother of three, told the suburban Chicago Daily Herald.

Baby steps

The moms' challenges with the crib sheets and food containers ultimately led to the launch of Innobaby's first two products in 2006: the Sleepin' SMART Crib Sheet Topper and Packin' SMART stackable containers.

Because crib sheets are notoriously hard to change—they wrap under the crib mattress to prevent the child from getting tangled in them—Min designed the Sleepin' SMART crib sheet with a built-in waterproof mattress and ties at each corner to facilitate easy changes. She made the first prototypes and taught herself how to sew on a borrowed sewing machine.

Though the two mothers worked together, Kim took the lead on Packin' SMART. Her challenge to transport a special formula that required a precise mix was exacerbated by her frequent traveling with her child back and forth to South Korea, in support of the import/export business she started after leaving her day job. She was seeing a lot of stackable container solutions on her travels to Asia but could not find anything comparable in the States for food and small item storage.

Kim used inspiration from the designs she saw in Korea and made key improvements, such as changing from a screw-on design to a snap lid. The two women invested \$5,000 to get 200 of each product made for a consumer event. When they sold out in the first six hours of the event and took orders for the rest of the show, they knew they had hit on something with parents.

With additional orders looming, they decided to manufacture their products in South Korea largely because Kim is from there, knows the language and has a family member there to help deal with the factories face to face. It is a more expensive place to source product than some other Asian countries, but they have worked to mitigate that disadvantage.

"Our challenge was with higher manufacturing costs with South Korea," Kim said. "We were able to overcome those challenges over the years with increased volume and maintaining healthy relationships with them."

More invention heats up

The company's primary products are in food preparation and dinnerware. It also makes teething rings and is working to bring back a line of crib sheets.

Innobaby's most recent product is the Aquaheat food and bottle warmer, which uses a specially formulated heat pack that sits inside of a warming pod. The heat pack can warm to 185 degrees Fahrenheit and transfer heat to the specially designed stainless steel baby bottle to warm milk without needing an additional appliance or power outlet. The product has been

lighting up mommy blogs and was featured on the entrepreneur show "Hatched."

Patents are a big part of Innobaby's innovative strategy. Kim feels they are important to protect the innovations and for the validity of the brand in the marketplace. Kim and Min always start by filing provisional patents, which afford them a year to do more market research and ensure the innovation is marketable before converting to a full utility patent.

The success of the original products has allowed them to expand their product line with distribution worldwide. For the first three years, they worked out of their homes; eventually, they moved into an office in Chicago and were fortunate to have had enough revenue and consumer enthusiasm to get them through the recession. They are also working on a bath product to be released this fall, as well as the relaunch of the improved Sleepin' SMART crib mattress.



The Sleepin' SMART Crib Sheet Topper and Packin' SMART stackable containers started it all.

"Our challenge was with higher manufacturing costs with South Korea. We were able to overcome those challenges over the years with increased volume and maintaining healthy relationships with them." —JEE KIM

For Min and Kim, it's not just about striving to solve parenting problems with novel products, or even the revenue that's generated. They have constantly strived to create a positive and family-friendly workplace for their employees.

"We wanted to create a job place where local moms can come in and contribute and build the professional side of their lives," Kim said. "A lot of intelligent women give up their jobs when they have kids, just like we did." ☺

Details: innobaby.com

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/.



Scooter Puts a Charge in Family Fun

CALIFORNIA DAD'S CYCLEBOARD
HARNESSES BATTERY POWER **BY JEREMY LOSAW**

Phil LaBonty just wanted a better way to have more fun outdoors with his kids. A father of three from Southern California, he found that his 3-year-old did not have the stamina to ride a bike for very long and that bike trailers created a disconnect between him and his children.

"I thought, 'There has got to be a better way to bring the kids along with us on family outings ... that is fun and safe and a shared experience,'" says LaBonty, who studied physiology and ran a financial services company. The result: CycleBoard, a battery-powered, three-wheeled electric scooter that seeks to diversify the transportation market.

LaBonty's invention leverages the increasing capabilities of batteries which, as they become more powerful and lightweight, open the door for new products and redesigns of existing products. Tesla is pushing boundaries of electric car design. Lightweight drones are filling the sky. Powerful electric tools that were once plugged in are now battery powered.

CycleBoard has a distance range of up to 20 miles and a top speed of about 20 mph. Its skateboard-esque platform has three wheels, two in the front and one in the rear. The rear wheel is driven by an electric motor that is mounted inside the hub.

Throttle and brakes are controlled by levers on the handle; steering is done by pivoting the handle and the board. The control system features five different drive modes to limit the top speed for younger or inexperienced riders. The deck is interchangeable to create a custom look, and there is a smart phone mount and USB charging port.



Phil LaBonty, shown with son Lincoln, created a better way to have fun outdoors with his kids.

Early changes, challenges

The initial concept for CycleBoard was to make a bike-towed apparatus. LaBonty had some old bikes and bike trailers and set to work building a prototype, even commandeering parts from an old shovel. The result was a skateboard that attached to the back of a bike that a child could stand on and ride. But after several months of refining, the concept was abandoned due to safety concerns.

This could have been the end of the road for CycleBoard, but LaBonty knew the DNA of the product was sound. He decided to scavenge the unique steering mechanism, remove the bike attachment and make it a standalone electric vehicle.

Making the product electric expanded the user demographic to adults but also introduced some engineering challenges. With adult riders, it had to hold much more weight than before. Testing was done with different motors, batteries and tires to get a good

PHOTOS COURTESY OF PHIL LABONTY

balance of speed, handling and run time. Fortunately, LaBonty found a design firm, Idea House & Co. in La Verne, California, that could help do the detailed design work to get the product to work well.

After months of work, the result was a design that included a custom-sized LG lithium battery pack, an electric motor mounted in a custom hub gear box and custom tires for better grip. Adjustments to the feel of the turning yielded a platform that is stable but also allows the rider to aggressively carve turns.

Patents pending

CycleBoard has three pending patents and a fourth on the way. LaBonty used a web-based legal service to file the initial provisional and used an attorney to file the full utility patents: “I quickly realized I needed a greater level of (legal) expertise.”

At first glance, the product looked like a new type of Segway personal transporter, and he thought it would be difficult to work around those patents. However, CycleBoard does not have any of the gyroscopic controls and has a totally different layout, so it was not an issue. LaBonty feels his speed to market and branding will help in sales of the product.

Although CycleBoard was launched this year, the first manufactured product is expected to ship before year’s end. Fortunately, Idea House had an established relationship with an overseas manufacturer; having that in place shaved months off the normal product development timeline.

As the buzz around CycleBoard continues to build, the team will be at the Los Angeles Auto Show as one of the exhibitors in the first year of the electric ride on showcase. Further plans include the Consumer Electronics Show as well as an invitation to attend the Deloitte Technology Garden. LaBonty is also working on a new version of the CycleBoard that is lighter, has more aggressive steering, and will have a changeable battery. 📱

*Details:
CycleBoard.com*

CycleBoard’s Kickstarter campaign raised \$147,404—more than twice the initial \$70,000 goal.

Once the design was complete, he took CycleBoard to Kickstarter. He wanted help from the community to fund the manufacturing, but he was also after social proof and market feedback to validate the product. Understanding the immense challenge of crowdfunding, he turned to the marketing firm Command Partners in Charlotte, North Carolina, for help. Their staff of marketing specialists helped build awareness for the campaign, which ran for 30 days and raised \$147,404—more than twice the initial \$70,000 goal. This supported the product’s market viability and was crucial in helping LaBonty raise an additional \$400,000 from private investors.

CycleBoard’s throttle and brakes are controlled by levers on the handle; steering is done by pivoting the handle and the board. The platform is stable but also allows the rider to aggressively carve turns.



LASTING IMPRINT

★ LONGTIME *INVENTORS DIGEST* EDITOR FOUGHT FOR THE SMALL INVENTOR BY REID CREAGER ★

Joanne Hayes knew it was a longshot when she applied for a \$10-an-hour job as editor with Affiliated Inventors Foundation, a company that published a fledgling invention publication in early 1987. She also knew she had the heart, determination and work ethic of an inventor.

Without those attributes, she may not have survived the previous three years as a supervisor for a group of 7-Eleven stores in Colorado Springs, Colorado. “Eight stores. It was like having eight kids and 68 grandkids,” she says now with a laugh. “After that, I know I’m going straight to heaven.”

Having worked on a Johnson & Johnson employee magazine in New Jersey and a businesswoman’s magazine out of Kansas City, she was confident about her qualifications but faced heavy competition: “I think about 100 people applied for that job. I was fortunate to get it.”

AIF, headquartered in Colorado Springs, sent prospective inventors a packet of free information about the first steps to determine whether their invention idea was viable. *Inventors’ Digest*, a newsletter-style insert, was included in the mailings.

She joined the company that spring for her first issue as editor. Twenty years later, publisher Joanne Hayes-Rines sold the magazine—but not before leaving an enduring impact on American invention and the magazine you are reading.

Learning and advocating

Volume 1, Issue 1 of *Inventors’ Digest* (the apostrophe was dropped from the title in recent years) appeared in spring 1985. The eight-page newsletter, typeset using an electric typewriter, was the brainchild of AIF’s founder and president, John Farady. Its first editor was Adrienne Walker.

Hayes-Rines recalls that pre-internet, AIF “advertised in Yellow Pages all over the country. People could call an 800 number and get information about the invention process. The company also offered patent searches and, if warranted, patent applications. They dealt with hundreds of people every month, working out of a little office. Then I came on, and we started selling subscriptions to the newsletter.”

The publication was printed using old-school, pre-electronic composition called cold type. “It demanded a whole lot more accuracy than digital printing because anytime you sent in something with a misspelling or error, the printer literally had to pick up the erroneous piece of type and move it.” Eventually, she bought the magazine part of the business—though it was more a bulletin than a magazine for the first five years.

Initially, her learning curve was steep: “At speaking engagements, I always said I got the job as editor because of my writing and editing skills,” she says. “But although I knew how to spell the word ‘patent,’ I had never heard the term ‘intellectual property.’ Then you start to meet enough inventors and IP professionals and go to enough conferences, and you learn.”



PHOTO COURTESY OF JOANNE HAYES-RINES

Joanne and her husband, Robert Rines, enjoy the scenery at Loch Ness, Scotland, on Aug. 30, 2005—his birthday. Pursuit of the Loch Ness monster was a passion for Rines, a prolific inventor who was also a physicist, lawyer, composer and musician.

“For decades to come, the U.S. patent system will bear the indelible stamp of Robert and Joanne Rines.” —FORTUNE SMALL BUSINESS MAGAZINE, APRIL 2000

By the early 1990s, patent legislation was at a crossroads. Corporate behemoths, weary of delays and anxious about competition from other countries, wanted a faster patent process with less litigation. Some patent holders were sued by inventors who had used patent office regulations to keep their patent applications submerged for many years in the office’s archives. When these so-called “submarine patents” finally surfaced, they preempted existing patents, which became the subject of lawsuits.

Meanwhile, grassroots inventors and small businesses feared changes in legislation would focus too much on corporate interests and cost them important safeguards. With its editor leading the charge, *Inventors’ Digest* became a champion for protecting the rights of the independent inventor.

Hayes-Rines looks back on that as the magazine’s biggest impact during her tenure. “That was really huge because at the time, the U.S. patent laws were unique to the rest of the world. Only the United States and the Philippines had the first-to-invent law. Because the major corporations in the United States did not operate under that law internationally, they wanted to change our laws to be like the European system, the first-to-file system.

“When you think about it, any major international corporation could see competitors’ patent applications when they were filed. They would become public—whereas, in the United States, inventors could have their patent applications kept in secrecy for 18 months.”

She also challenged the hypocrisy of the larger companies. “On the one hand, Corporate America would poo-hoo independent inventors as a bunch of wild-eyed dreamers and crazy people,” she says. “However, they fought like hell to get to see those crazy inventions, because that is where so many major breakthroughs and successful products really come from.”

Her conversations with international inventors troubled her. She worried that fear was threatening the innovative spirit. “They couldn’t take their concept to have it prototyped without fear that someone would take their idea. Internationally, a patent applicant did not have to sign an oath that he or she was the inventor. In America, when you filed a patent application you swore in an affidavit that you were the inventor. In the rest of the world, the patent applicant was just a filer.”

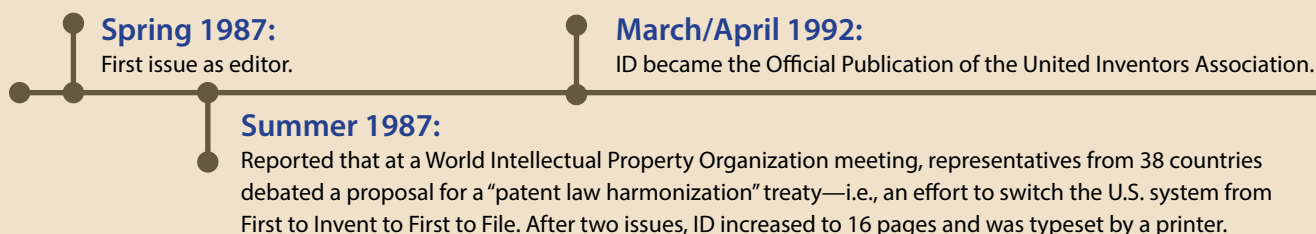
Making history

While attending a St. Louis Inventors Association conference on patent reform in 1993, she met keynote speaker Robert H. Rines. Three years later, they began an exciting marriage as one of the most persistent and potent 1-2 punches to tighten the collar of corporate America.

When Rines died in 2009, he held more than 40 U.S. patents and hundreds of international patents and was a 1994 inductee into the National Inventors Hall of Fame. He was a pioneer in imaging radar, sonar and ultrasound technology; much of his

MILESTONE DATES

Some of Joanne Hayes-Rines’ benchmarks during her two decades at the helm of *Inventors Digest*:



work still supports some of the military's early-warning attack systems. He wrote music for Broadway and off-Broadway shows and played a violin duet with Albert Einstein as an 11-year-old. He started the Franklin Pierce Law Center and helped the People's Republic of China regularize its patent process. His insatiable appetite for learning drove his relentless pursuit of the Loch Ness monster, resulting in compelling photo evidence he produced.

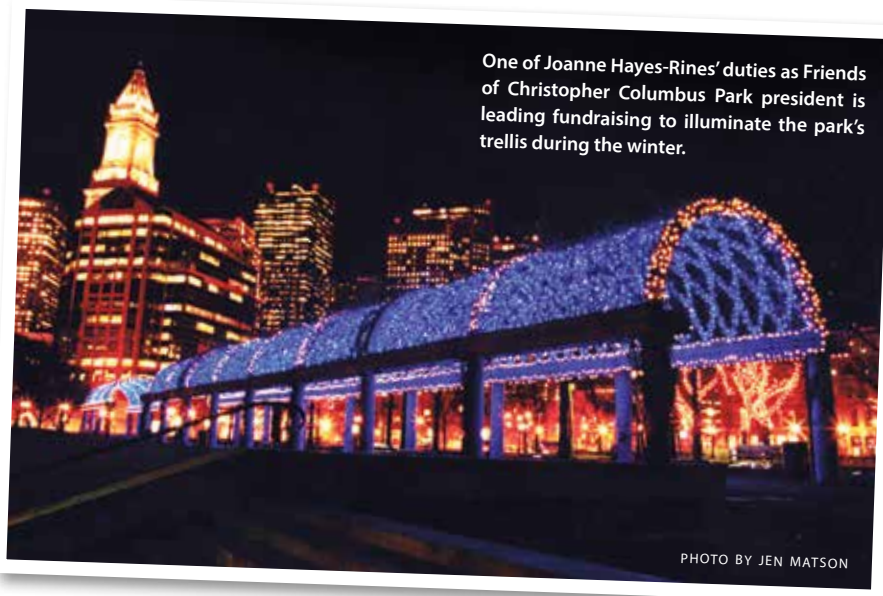
"He was called a Renaissance man, and it was true," says Hayes-Rines. "He was a physicist yet had the discipline of the law. He was so adventurous and inquisitive, and was very involved internationally with the patent system and international students. His commitment took a lot of passion. Everybody who makes the impossible come true does so because of their passion.

"That's why we were so effective as a team, fighting for the rights of independent inventors. We were both passionate about it."

The team's most public impact came in late July 1999, when a bill filled with provisions that would have hurt the independent inventor came up for a vote in Congress. U.S. Rep. Donald Manzullo (R-Ill.) managed to stall the vote and called the Rineses, enlisting their help.

This political challenge was heightened by the fact that the bill got unanimous support from the House Judiciary Committee chaired by Rep. Henry Hyde (R-Ill.), who wanted its fast approval. After the couple flew to the nation's capital, they discovered there was already a two-thirds majority in favor of the bill. A parliamentary procedure would not allow its debate.

So the debate soon took place in Hyde's chambers. The 7-Elevens in Colorado Springs were far, far away. Hayes-Rines recalls the intensity—particularly between her husband and Mitchell Glazier, the legal counselor to the Judiciary subcommittee on intellectual property. Rines cited a prior use provision in the bill that would have let any company secretly using a technological or manufacturing process—and without a patent—to be immune from a lawsuit if another inventor came along and patented that process. This was certain to thwart innovation, he argued.



Glazier disagreed as the debate intensified. Then, a turning point: "There was a letter from the AIPLA (American Intellectual Property Law Association) in support of the change in patent legislation that Bob and I were opposing," Hayes-Rines recalls. "One of the signatories was Glazier." This could have the appearance of a conflict of interest.

"Manzullo was able to push a copy of the letter across the table to Henry Hyde—who looked at the signatures, looked at the chief of staff and then looked at Bob and said, 'Fix this legislation.'"

With only 48 hours to do it, Rines, Manzullo and Glazier worked with the coalition's lobbyists, Rines reworking the bill to restrict companies' prior use protections. He also added a clause that prevented companies from attempting to get patent cases retried in federal court that they had lost in the patent office, in the name of protecting inventors from added legal fees.

(Continued on page 44)

July/August 1994:

First issue as publisher.

Jan/Feb/March 2007:

Last issue as publisher.





Rus Wadia is a friendly looking sort, but at one point during a recent interview with *Inventors Digest* his expression grew serious. He leaned closer. He meant business, and in a good kind of way.

"We want people to hold us accountable," he said. "I know there will be times when business imperatives will kind of try to nudge us in a slightly different direction. Our commitment to social responsibility is at our company's core, so that's reflected in our name: **Helping Hands Innovations**."

In 2011 Wadia and his wife, Farida, founded HHI, a Charlotte philanthropic entrepreneurship that partners with not-for-profit **InReach** (inreachnc.org) in the same city. For 42 years, InReach has worked with people who have intellectual and developmental disabilities. InReach assembles all of the components of Hangeroo (hangeroo.com), a simple, eco-friendly invention made in the USA that facilitates quick and precise hanging of a wired picture frame or mirror onto a common picture hook. A donation is made to InReach for every Hangeroo kit sold.

"So far, the record has not been stellar in terms of employing people with those kinds of disabilities as part of the manufacturing process," said Rus Wadia, who was a Boy

Scout while growing up in India. "We want to change that."

Wadia's long-term goal for HHI is "to continue to work with nonprofits as we grow and expand our commitment to them"—part of the LLC's mission to "do well by doing good."

Janice Chandler, chief human resources officer at InReach, has worked with Wadia since 2013. "He's given us the opportunity for the job to fit the person, rather than the person to fit the job," she said. "It's neat that this is an invention, it's local, and it's fun."

Of course, HHI is among many entrepreneurial organizations associated with the partial donation of proceeds and/or time to help others. On the larger end of the scale, Bellevue, Washington-based **Intellectual Ventures** (intellectualventures.com)—one of the top five holders of U.S. patents—supports numerous invention-related foundations, programs, competitions, exhibitions and initiatives with a primary focus on invention, STEM education and the IP industry.

That got us thinking about other entities—namely, nonprofits—that innovate for the less fortunate or work to promote a greater good, such as inventing. In this season of giving thanks, here are some innovation-related nonprofits that help drive the cycle of giving back. —Reid Creager

Keaton Weimer beams with mischievous pride as the Magic Wheelchair creation “How to Train Your Dragon” dazzles with bug-eyed ferocity. Magic Wheelchair is a nonprofit that invents and builds custom costumes for kids in wheelchairs.



PHOTO COURTESY OF MAGIC WHEELCHAIR

“Kids didn’t hesitate to come up to him and talk to him. People were finally seeing my son the way I saw him, just as a really cool kid. Other families, they need to have that experience.” — RYAN WEIMER

Helping those with physical disabilities

When you’re building costumes as elaborate, creative and as loving as these, Halloween is a year-round event. **Magic Wheelchair** (magicwheelchair.org), a nonprofit that builds custom “costumes” for children in wheelchairs, was founded by Ryan and Lana Weimer of Keizer, Oregon in 2014. Three of their five children were born with spinal muscular atrophy, meaning they will need wheelchairs for their entire lives.

Program guidelines call for kids—with their parents’ permission—to submit a 1-3-minute video telling them what costume they want for Halloween (or a parade, celebration, or another event) and why they should be selected for this year’s Magic

Wheelchair Build. Magic Wheelchair reviews the submissions and selects at least five children, who work with designers and builders to create the ultimate wheelchair costume in time for their event.

The concept began when Ryan Weimer asked his son, Keaton—diagnosed with SMA at 9 months old—what he wanted to be for Halloween 2008. Keaton said he wanted to be a pirate, and his dad’s imagination went into overdrive. “I didn’t know how I was going to do it, but we ended up building a pretty cool pirate ship around his chair,” he says.

Weimer was gratified not only by his son’s response but the responses of others. “It changed people’s perspective in how they

Immediate right: Ryan and Lana Weimer relax with three of their children, Thatcher, Bryce and Keaton. Concepts for Nathan Smith's Mario Kart costume (far right) led to this fun go-round with brother Foster in his Bowser Airship Mario Kart (bottom).

saw him. That barrier we had at first was gone, people not knowing whether they could come up and say hi. People now saw my son before they saw the wheelchair. Kids didn't hesitate to come up to him and talk to him. People were finally seeing my son the way I saw him, just as a really cool kid. Other families, they need to have that experience."

Ryan and Lana are aided by a growing army of volunteer builders but are always looking for more. Especially in the organization's initial stages, "it was like being Santa Claus and having one elf in the shop," he says. The organization now has 21 build teams in various numbers throughout the country, up from six teams a year ago. Their creations have been featured on diverse media ranging from NBC News to The Huffington Post to MTV.

This year's costume reveals for Halloween include a Mickey Mouse train; a mermaid riding a sea turtle; a couple of Batmobiles; even a kitchenette for a young man who wants to be a cook, "with a stovetop and everything, for him to cruise around in." Weimer says his goal for the not-too-distant future is "to be the Make-A-Wish of wheelchairs."

Asked how he and his wife find time for this massive project while caring for their own five kids—three with special needs—he pauses and says: "I don't know. I'll sleep when I'm dead, I guess. ... You want to do as much as you can for them because we don't have the luxury of watching our kids grow old."



The **Beacon Visionary Plus Challenge** (visionarychallenge.co.uk) is a competition launched by Beacon Centre for the Blind (www.beaconvision.org) based in Wolverhampton in the West Midlands, England. The event aims to inspire businesses, groups and individuals to develop products and services to improve the well-being of all people with sensory impairments.

Helen Brown, communications development manager for Beacon Centre, said these solutions "can be major projects involving, say, Bluetooth technology to more modest but equally helpful ideas."

Nick Comley, head of social finance, said: "We believe there are lots of inventors out there who have great ideas who don't call themselves inventors. They may be careworkers or people who had a flash of inspiration that they put on the side. We want to accelerate those ideas. We've all seen fantastic things that are in research and development, but they can take 20 years to become usable products."

The purpose of the prize (about \$25,000 in U.S. dollars) is to help people turn their ideas into prototypes and have them viability tested. Those ideas will go to a panel that will look at them and judge them on their possible financial returns and the difference they can make for people with sensory impairment. ☛



PHOTOS COURTESY OF MAGIC WHEELCHAIR

Inventors Digest Inventor Groups

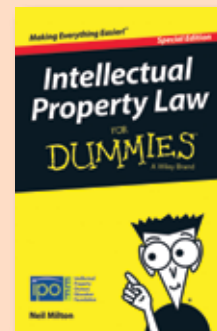
Inventors Digest's state-by-state listing of inventor groups can be found at inventorsdigest.com, under Resources. (The list includes only the names and contacts of inventor groups certified with the United Inventors Association. To have your group listed, visit www.uiausa.org and become a UIA member.)

As vice president of the recently formed **Edison Innovators Association** (edisoninnovatorsassociation.org) in Fort Myers, Florida, Cathy Solich relishes the importance of contacts nearby and in other states. Before traveling to other states, she would routinely check *Inventors Digest* for clubs. "By attending other groups, I made new contacts as well as took notes to bring back to our board on how other groups operated," she said.

"As an inventor with two patents under my belt, I am proud to say that my products went from an idea to production and into big-box stores without a deal from a shark. . . . Without the moral support, the contacts I made and what I learned from other members who shared their experiences, I could not have done it without the inventors group."

Inventor-Oriented Nonprofits

The Washington, D.C.-based **Intellectual Property Owners Education Foundation** (ipoef.org) is a nonprofit organization devoted to educational and charitable activities designed to improve intellectual property rights. It recently collaborated with writer Neil Milton on "Intellectual Property Law for Dummies" (ip-for-dummies.com), a handy guide to all basics of IP law that serves as an excellent marketing, education or outreach tool.



Innovation Alliance (innovationalliance.net), also based in Washington, is a coalition of research and development-based technology companies representing innovators, patent owners, and stakeholders from a diverse range of industries that believe in the critical importance of maintaining a strong patent system that supports innovative enterprises of all sizes. Its savetheinventor.com urges people to take action against harmful patent legislation that can threaten U.S. innovation. Innovation Alliance's position: "Changes to our patent laws should be narrowly focused and crafted in such a way that they preserve the role of an independent judiciary and are not overly burdensome on stakeholders."

The National Inventors Hall of Fame (invent.org) says it is "committed to honoring visionaries, inspiring inventions and challenging the next generation. Our incomparable archives celebrate the life-changing achievements of U.S. patent holders, and our innovative programs cultivate the emerging inventor in every student." Its Hall of Fame selections, inducted each May, are among the most influential contributors to society in any number of disciplines. The Hall of Fame is located within the United States Patent and Trademark Office in Alexandria, Virginia, near Washington, D.C. The Hall of Fame also operates the Collegiate Inventors Competition; Invention Project for youths; and Camp Invention.

The United Inventors Association of America (uiausa.org) empowers inventors through education, access and advocacy. The **National Congress of Inventor Organizations** (inventionconvention.com/ncio/index.html) features free articles, information and resources.

LegalCORPS (legalcorps.org), which connects volunteer lawyers with small businesses and nonprofit organizations in Minnesota, has come up with the Inventor Assistance Program—said to be the first program in the United States to provide free legal representation to low-income inventors seeking to patent their innovations with the USPTO.

San Francisco-based **Invention Hub** (inventionhub.co) is part nonprofit workspace, incubator of socially good businesses, corporate brainstorming hub, and a job creation program. Among its projects: Not for Sale, a nonprofit that fights human trafficking and is creating a training program for survivors.

5 Steps for Finding Licensing Contacts

TARGET MARKETING AND SALES MANAGERS;
RANDOM SENDS RARELY WORK

BY DON DEBELAK

Once you've completed the early steps of your invention—the idea, the research, the prototype, filing a patent—you have to decide how you want to sell it. You can try to sell it yourself; you can sell the rights to a person or company to make and sell your invention; or you can license a person to make or sell your invention.

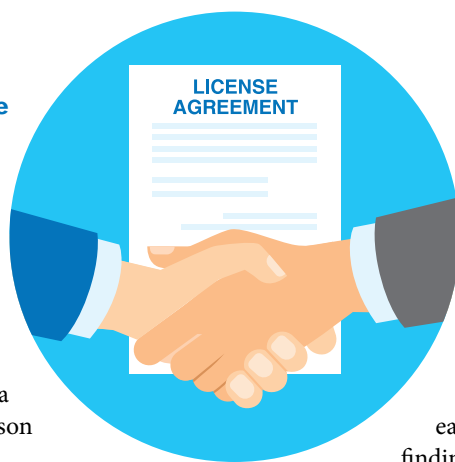
The key to licensing is approaching a key contact at a target company. That person is often the marketing or sales manager.

Marketing and sales managers are always interested in new exciting products, and they will push your idea if they like it. Research and development directors and engineering managers are typically not the best starting point; they have their own ideas they want to introduce and don't generally like to license products.

Just sending a licensing package to a company without a contact will rarely get you anywhere. So how do you get those key target contacts and their email addresses? Follow this plan. You won't find every possible licensing candidate or necessarily the best one, but this process has always produced a number of licensing contacts for me.

1 Decide which types of companies might want your product. Don't limit yourself to companies with competitive products to yours; simply look for companies with products that serve the same target customers. Try to find companies that don't have the top market share, as well as companies with products that could be combined with your product to give the company a more complete package.

2 Locate target companies by looking at trade shows, trade magazines and trade directories to find companies that are in your target market. Trade show exhibitor lists are typically the best way to find target companies. If the key industry trade shows are near you, make sure you go. It's the best way to find licensing contacts. If you can't find trade magazines or trade shows on the internet, go to the library and use Gale's Source of Publication and Broadcast Media to locate



the trade magazines for your industry. If you have trouble locating the right trade shows, visit the site of Trade Show News, tssn.com, to find shows for your target licensing contacts.

3 Start looking for a marketing director by seeing whether the exhibitor lists from the trade show includes one, or a sales director. That is the

easiest way to get names of contacts. Or, try finding the marketing director via searches on

LinkedIn or Google.

4 If you can't get a contact name, call the company. Some companies will give out this information; others won't. You will not be able to get the name of every company you'd like to target but should get enough names to give you a chance at licensing your idea.

5 The trick to generating interest is finding the email addresses of your marketing director contacts. Often you need to simply go through a variety of email choices to see which ones go through to the right contact. The email type addresses I use are first name@, first initial last name@, first and last name@ and first name.last name@. I send the email with the subject as licensing: "My email says I have a product that I believe your company might be interested in. Are you the right person to contact?" You will get a lot of bouncebacks doing this, but more than half the time you will eventually find the email format the person uses.

Once you have the name, you are in a position to send out a licensing package. 📧

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.



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Stretching the Utility of RUBBER

A LOOK AT THE DIFFERENT
TYPES, PROPERTIES, AND HOW
TO PROTOTYPE WITH THEM

BY JEREMY LOSAW

During my career in NASCAR, rubber was worshipped in the form of the beautiful black doughnuts with “Goodyear” emblazoned on the side. The tires cost \$400 each, lasted about 20 minutes, and were the only connection between the grainy asphalt of Darlington and Daytona and the 3,400 lbs. of carefully crafted steel, aluminum and carbon that sat on top of them.

Every week at the track, tires were measured for circumference and ranked by their spring rate in order to create harmonious four-tire sets. This information was inputted into a carefully designed data base, like food and religious preferences in eHarmony, in hopes they would work well together under the stresses of speed and 2.5gs of cornering force.

Each team has a dedicated specialist assigned to care for the rubber. The tire specialist on my team was named Glen, but everyone called him Doogie—like the savant doctor from the low-definition television show of the early 1990s—and his job was just as important. He set the pressure inside the tires to one-tenth of a psi (pounds per square inch) and monitored them throughout the day. He would set them at high pressure and place them into the sun in hopes of getting them to stretch and grow to help the car’s handling. They were purged with nitrogen to limit their pressure buildup before getting bolted to the car. Upon returning to the pit, the tires’ temperature and pressure were recorded in hopes of determining how to tune the suspension for even greater performance.

Many consumer products are made, in whole or in part, with rubber or rubber components. The elastic and insulating properties of rubber and its family members provide helpful properties to a product. Dog toys, balls, cooking

Passenger car tires are made with natural rubber that is vulcanized.

PROTOTYPING

products, O-rings and high-grip surfaces, are all made from different types of rubber.

There are as many different formulations of rubber as there are snowflakes on the peak of Cotopaxi. Here is an overview of the different types of rubber and their properties, and how to prototype with them. We will focus on a few major groups that are used for the bulk of commercially available products.

Natural rubber

Natural rubber is tapped like maple syrup from the Para tree. The latex compound comes out of the tree as a gooey white sap. It is of little value in this form and needs to be vulcanized (treated with additional compounds at high temperature and pressure) to get useful properties. Natural rubber has good elasticity but relatively poor chemical resistance. It is often used in tires, rubber gloves and compression hosiery.

There are as many different formulations of rubber as there are snowflakes on the peak of Cotopaxi.

Silicone rubber

This is a type of synthetic rubber that requires a chemical reaction to solidify. Single-part silicones are formulated to cure under specific environmental conditions such as moisture, heat or UV light. Two-part silicones have the reactive ingredients segregated into a Part A and a Part B and cure when they are mixed together. Silicone formulations are high strength; many have extreme heat resistance. They are also inert in many different chemical environments. They are used for products such as pot holders and oven mitts, as well as dog toys and the “soft touch” overmold on some products.



A sample kit of different TPE formulations from a TPE manufacturer.

TPE

Short for thermoplastic elastomer, TPE is a broad group of rubber compounds. These compounds get soft and flow under heat like cheese, unlike natural rubber or silicone that hardens under heat like an egg. They are stretchy and very resilient. They have a marked manufacturing advantage, as they set up quickly and can be injection molded with short cycle times. They are used in consumer products such as athletic shoes, handles for bikes and knives, and baby products.

Properties

When looking at a data sheet for a specific type of rubber, there is a laundry list of properties to describe it. Words like modulus, durometer, specific gravity and viscosity are just some of the ways a rubber is characterized. Despite all of the technical jargon, there are a couple of properties that will help you understand different rubber types without needing an engineering degree.

One of the most important properties is the rubber's hardness, given as a number on the durometer scale. The lower the number, the softer the rubber. A pencil eraser is a 40 durometer on the shore A scale, often shortened to 40A. The tricky part about durometer is that there are many different scales, and they are

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You can test the durometer of silicone rubber with a thumbnail.

represented by different letters. The 40A pencil eraser is an 80 durometer on the shore OO scale.

Low-durometer rubber is soft and stretchy but more prone to wearing out or tearing. Getting a proper durometer rating requires a special gauge. However, it is possible to get a rough idea of the difference between the durometer of different rubbers by pressing your thumbnail into the surface. The further it penetrates, the lower the durometer.

Another important parameter to know when exploring different rubber options is the tensile strength, a measure of how strong the rubber is if you try to pull it apart. It is usually quoted in psi. So a chunk of rubber that has a cross section of 1 square inch with a 500 psi tensile modulus will require 500 lbs. before it breaks. Note that different durometer rubbers can have similar tensile strength; however, lower-durometer materials will stretch a lot farther before they break.

Prototyping

Many types of rubber require special molding equipment to make production parts. However, there are some convenient ways to prototype them. The easiest is to find flat sheets of rubber and cut them into the desired shape. Supply houses like



The Enventys molding station shows a silicone mold, digital scale, vacuum chamber and mold kits.

McMaster-Carr (mcmaster.com) have a wide variety of sheet rubber in different styles, durometers and thicknesses. Thin sheet can be cut with scissors or a hobby knife, and they can also be cut with a laser cutter to make more precise shapes.

For parts that require a 3D shape, there are a couple of options. If you have a CAD file, there are 3D printing bureaus that can print in rubber. Because of the layering of the 3D process, these tend to be less strong, less durable, and have less elongation than a molded rubber. However, it is a great way to get a dimensionally accurate part without molding. Both Shapeways (shapeways.com) and Stratasys Direct (stratasysdirect.com) offer rubber 3D prints.

Another way to get three-dimensional rubber parts is to mold them. Room-temperature vulcanized or RTV rubbers are easy to work with and do not require expensive equipment. There are many types of urethanes and silicones with different strength, stretch and durometer. Because urethane and silicone do not stick to each other, it is common to pour a silicone mold first, then inject urethane into the silicone tool to form the parts. It is also possible to 3D print a mold in hard plastic and then pour urethane or silicone into it to mold parts. Smooth-On (smooth-on.com) is a urethane and silicone supplier that has many different types of rubbers and a library of educational materials to help prototypers. ☎

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IN A FIRST-TO-FILE SYSTEM,
SECOND IN LINE ISN'T GOOD ENOUGH

BY KEVIN PRINCE



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A **patent client** recently sent our company a fairly detailed invention disclosure and some drawings. I asked him if he had filed this package as a provisional patent application, and he seemed surprised. He said, “Should I?”

“Yes, absolutely!” I told him. “File it today!”

I see the opposite advice given to inventors all the time, to “let the professionals handle it” and that the inventor is “not qualified to write a patent.” It usually comes with a bunch of scary scenarios about what could go wrong if you file your own patent application.

True, you may not be qualified to write what eventually will become your granted U.S. patent. But that doesn’t mean you shouldn’t put a stake in the ground as soon as possible. A PPA can help you establish an early patent application filing date (called a “priority date”) at the United States Patent and Trademark Office. The earlier your priority date, the less likely some intervening application filed by a third party will cause you problems.

I would rather have a possibly inadequate PPA filed before a problematic prior art reference was published than a beautiful, professionally written patent application filed after such a prior art reference is published. It could make the difference between being first in line at the PTO or not—and since we are on a first-to-file system in the United States as of March 2013, it’s critical not to be second in line.

Execute the basics well

Make sure your PPA includes some basic elements. First, the PPA must fully explain how to build your invention and how to use it. It helps to make a list of parts and then describe each part, what it’s made from, and how it’s assembled to the next part. Your disclosure should include drawings, sketches or photos that are clear and easy to read that aid in the understanding of what your product is and does. These drawings or photos do not have to be professionally created, but they must be clear so that later

(in court, for example) you can easily differentiate the parts of the invention.

When discussing a particular part of your invention in the text of the application (called the specification), you should reference that part with the reference number you used in the drawings. If you can, discuss some different ways you might make or use the product. At this point, do not discuss why your invention is better than the prior art or other products that attempt to solve the same problem. Stay focused on the structure of your product, how it's used, and the benefits.

It's beyond the scope of this article to teach you how to write a provisional application, but there are several resources to help you with this. One is IP Watchdog's Invent + Patent System™ at <http://www.ipwatchdog.com/patent/invent-patent-system/>. There's also Nolo's book, "Patent Pending in 24 Hours," which you can get at Amazon for about \$25. The more detailed and thorough, the better. But don't let that cause you to get writer's block while the days tick by.

For the time that you spend on writing and creating drawings for your PPA, and a mere \$130 government filing fee (or \$65 if you qualify as a "micro-entity" to the USPTO), once filed you are then legally able to indicate your product is "patent pending." That alone might open doors for you that would not otherwise be open when trying to commercialize your product.

Heed this warning

Now here's my warning: (You knew this was coming, right?) While it's good to file your own PPA as quickly as possible, don't rely on it! You have a stake in the ground (a priority date), but you're not a professional patent practitioner and you don't really know if what you've written will hold up in court if it ever gets tested. That PPA, while allowing you to claim "patent pending" status, is at this point a vulnerability and possibly even a liability.

So once you file your own PPA, as quickly as possible show a copy of what you've filed to your patent agent or patent attorney and get him or her started on the real deal. It might take 6-12 weeks to prepare a professionally written PPA or non-provisional application (NPA) and prepare the formal patent drawings, but meanwhile you're patent pending and have an early priority date that might help you down the road if it's needed.

Since you have to prepare some kind of disclosure to give to your patent practitioner anyway, you might as well make it also suitable for filing as a PPA to get an early priority date. Why wouldn't you? If your patent practitioner freaks out about what

you wrote in your PPA, remember that you don't have to claim it when you file your NPA. Let your patent practitioner weigh in on this. If the PPA you wrote and filed could do more damage than the advantage of having an earlier filing date, don't claim benefit to it. That first PPA will expire after one year, and then it will be as though it was never filed. Now if you've publicly disclosed the product before filing your next professionally written application, you may lose your foreign filing rights by doing this. So be sure to ask your patent practitioner about this, and remember that it's usually best to keep your invention a secret as long as possible.

Ask about timing issues

There are a couple of one-year timers that are important to know about when you disclose your product publicly or file a PPA. The first has to do with filing your NPA, and the second has to do with filing any foreign patents if you're interested in foreign protection. Again, ask your patent practitioner if you have any questions as to the timing of your PPA filing and your first public disclosure.

A PPA can help you establish an early patent application filing date (called a "priority date") at the United States Patent and Trademark Office. The earlier your priority date, the less likely some intervening application filed by a third party will cause you problems.

Finally, if you show your patent practitioner your PPA and he or she is impressed enough to indicate that you can rely on it as an enabling disclosure that has no apparent liability or downside, consider writing all of your own PPAs from now on. That will allow you to get the earliest possible patent filing dates and result in a document that you can then pass along to your patent practitioner as a disclosure.

Bottom line: Don't be afraid to file your own PPA, but don't be overly enamored of it, either. This strategy will help you get the earliest possible filing date while taking steps to ensure your patent applications are adequate to the task and will serve to help, not hinder, your position in the market down the road. ☛



Kevin Prince is an inventor, UC Berkeley engineer, author of "The Art of the Patent" (artofthepatent.com), and a registered patent agent with QuickPatents in Henderson, Nevada. He can be reached at QuickPatents.com.



How Not to Respond to an Office Action

'HISTORIC' TIRADE
UNDERCUT SOME
COMPELLING POINTS

BY GENE QUINN



On Sept. 19, a pro-se inventor filed a Response to Office Action that will go down in United States Patent and Trademark Office history—along with the “Are You Drunk?” response filed several years ago.

The Remarks section of the response starts much as you might expect but quickly gets confrontational. The inventor did not like being told that his claims would violate the laws of physics, which led to a two-page discussion about the ambiguity of the term.

Interestingly, the inventor took issue with something that would have been a compelling argument. Apparently, if the inventor is correct, there is an International Search Authority opinion that the claims cover an industrial application. The inventor wanted to know how and why an *Alice* rejection could be given if that is the case. (The landmark *Alice v. CLS Bank* Supreme Court ruling in 2014 said that certain claims were invalid because they were drawn to an abstract idea.)

The inventor asked the examiner to explain why there was total disagreement with the ISA and closed with this thought: “Or is it the Examiner did not bother reading said opinion?”

This may seem like a harsh question, but it also may have been compelling had the inventor not ultimately gone off the rails. Though the overwhelming majority of examiners at the patent office take their jobs very seriously, at times it can feel like they are either not paying attention, not reading or just pushing garbage out the door of the office.

What this inventor did is not the solution. There are avenues to pursue at the office when a patent examiner may be ignoring the rules and law, and all kinds of strategies to maneuver applications around inside the office to more friendly examiners in art units who actually work for the Patent Granting Authority.

Telling off the examiner as if you are arguing with a New York taxi driver who just side-swiped you is not a winning strategy.

R-rated remarks

Whatever one might think of patent examination quality, there is no call for using foul language to berate examiners in a Response to Office Action, as in these remarks:

“You and your f*****, a***** boss cost me thousands of dollars in unnecessary legal costs due to your gross negligence, willful misconduct, failure to obey the law and failure to follow USPTO reviewer’s guidelines, which lead (sic) to me having to end any legal support in fighting against you pieces of s*** as well as putting me in a gigantic finance hole that has taken me two and one-half years to dig out from. I am hereby demanding the following be carried out immediately whether you f***** like it or not dip s****!

- a. You and your (f/a) boss are to recuse yourself from the review of this application immediately.
- b. Given the above remarks, which show you and your (f/a) boss to be incompetent, incapable, have zero character or integrity, and are fraudsters, you and your (f/s***hole) boss are to immediately issue a Notice of Allowance on patent application 13/835,937.
- c. You and your (f/a) boss are to immediately provide me with those states you qualified for the bar, so I can move to have your law license revoked and any other retribution I deem necessary!
- d. A grievance and complaint will be filed with the USPTO Commissioner’s Office demanding you and your (f/a) boss be terminated, forfeit any and all pensions and benefits as well as claw back 5 years of your salary.

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- e. Under no circumstances should you and your (f/a) boss contact me, I will considerate it a threat against my person and an act of harassment, which will result in the notification of appropriate authorities.
- f. I will not address the remaining claim rejections until you and your (f/a) boss are removed from reviewing or having anything to do, in any way, shape or form with this application.”

Some patent examiners can and do inspire this level of hatred. Whatever the wrong perpetrated by the examiner ceases to matter, however, when a response like this is filed. No one who could have helped will lift a finger, and this inventor is finished at the office.

Interestingly, the application cited by the inventor—13/835,937—is not the application where this response was filed. This response was filed in Application No. 14/390,168. Application No.

13/835,937 was to the same inventor, but that case was abandoned on April 2, 2015, for failure to timely respond to a Final Rejection.

(If you look for this response, you will not find it in Public PAIR. It was removed shortly after its posting. The patent office has the authority to refuse entry of filings that are disparaging, which this one obviously is.) ☛

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.



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In April 2013, a patent attorney filed a response to an office action on behalf of a client. Unlike the typical response, this response was so degrading and humiliating that it was first posted to Public PAIR, then removed from Public PAIR, then posted again briefly before being ultimately removed forever.

The patent attorney (who for purposes of this article will remain nameless) filed a response that read, in part:

“Are you drunk? No, seriously... are you drinking scotch and whiskey with a side of crack cocaine while you ‘examine’ patent applications? (Heavy emphasis on the quotes.) Do you just mail merge rejection letters from your home? Is that what taxpayers are getting in exchange for your services? Have you even read the patent application? I’m curious. Because you either haven’t read the patent application or are... (I don’t want to say the ‘R’ word) ‘Special.’

“Numerous examples abound in terms of this particular Examiner not following the law. Clearly, the combination of references

PATENT ATTORNEY ASKS EXAMINER:

‘Are You Drunk?’

would render the final product to be inoperable for its intended use. However, for this Special Needs Examiner, logic just doesn’t cut it. It is manifestly clear that this Examiner has a huge financial incentive to reject patent applications so he gets a nice Christmas bonus at the end of the year. When in doubt, reject right?

“Since when did the USPTO become a post World War II jobs program? What’s the point of hiring 2,000 additional examiners when 2,000 rubber stamps would suffice just fine? So, tell me something Corky...what would it take for a patent application to be approved? Do we have to write patent applications in crayon? Does a patent application have to come with some sort of pop-up book? Do you have to be a family member or some big law firm who incentivizes you with some other special deal? What does it take Corky?”

Despite being offensive, politically incorrect and hardly calculated to lead to a Notice of Allowance, this inappropriate reaction may strike a nerve with some patent practitioners, inventors and patent applicants who wonder why patents are not issued when they ought to be. Still, we should all be able to agree that this is not the way to handle even the most recalcitrant patent examiner. Professional decorum must be maintained at all times.

The nameless patent attorney was suspended. This was not the first time this patent attorney had pulled a stunt like this. Administrative Law Judge Alexander Fernandez took a very dim view of these antics, finding that the remarks were not only offensive to patent examiners but disrespectful of those with mental disabilities.



Ruling is Another Win for Software Patents

IS TIDE TURNING?
FEDERAL CIRCUIT SAYS
LIP SYNCHRONIZATION
NOT ABSTRACT

BY GENE QUINN



The United States Court of Appeals for the Federal Circuit has issued a decision in the much anticipated case *McRo, Inc. v. Bandai Namco Games America*, which found that the software patent claims at issue were not directed to an abstract idea and therefore are patent-eligible subject matter under 35 U.S.C. 101.

This case reached the federal circuit from the United States District Court for the Central District of California (having been transferred from Delaware and consolidated). After holding a Markman hearing—a pretrial U.S. District Court hearing in which a judge considers evidence on the appropriate meanings of key words used in a patent claim in a patent infringement case—the district court granted the defendants’ motion on the pleadings that all asserted claims were unpatentable. The district court said that the claims, on their face, do not seem to be directed to an abstract idea, but ultimately determined that the claims were too broad and not limited to a specific set of rules, which in the mind of the court meant they were abstract ideas. Ultimately, the court found that while the claims do not preempt the field of lip synchronization for computer-generated 3D animation, the claims did preempt lip synchronization using a rules-based morph target approach.

The federal circuit panel of Judges Jimmie V. Reyna, Richard G. Taranto and Kara Fernandez Stoll reversed. Judge Reyna delivered the opinion for the panel.

The invention

The patents in question relate to automating a part of a 3D animation method. Essentially, the patents cover lip synchronization of animated characters so that the lips of the animated character move in a normal fashion to the point where the animated character’s lips can be read.

In the prior art, to animate the character as it speaks, the method morphs the character’s expression between models—for example, with the “neutral model” that of the resting, neutral facial expression of an animated character. The other models of the character’s face are known as “morph targets,” and each one represents that face as it makes a certain sound (i.e., pronounces a phoneme). The patents at issue criticize the preexisting approaches as tedious and time consuming, as well as inaccurate.

The invention covered in the patents in question aims to automate a 3-D animator’s tasks. Automation is accomplished through rules applied to the timed transcript to determine the morph weight outputs. The patents describe many exemplary rule sets that go beyond matching single phonemes from the timed transcript with the appropriate morph target. As a result, the rule aims to produce more realistic speech by taking into consideration the differences in mouth positions for similar phonemes based on context.

The decision

At the outset of the federal circuit discussion, Judge Reyna noted that in this case the claim construction carried out by the district court was “helpful to resolve the question of patent eligibility under Section 101.” This statement almost sounds out of place until you realize that most times, district courts do not engage in a claim construction analysis prior to determining whether the claims are patent eligible. It is astonishing that any court could even attempt to determine whether a claim is patent eligible because it merely covers an abstract idea without first engaging in a thorough analysis of what the claim actually covers. Merely looking at a claim on its face and pretending to be able to determine what is covered is the type of analysis one would expect from the uninformed, not something that ostensibly passes for justice.

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After going through a two-plus-page recitation of the law, Judge Reyna summarized the district court holding that the claims were drawn to an abstract idea of automating rules-based use of morph targets and delta sets for lip synchronization in 3D animation. Reyna explained that the federal circuit disagreed with that determination, reminding the district court that the circuit has cautioned courts to carefully “avoid oversimplifying the claims.” Reyna said these claims are specifically “limited to rules with specific characteristics.”

When addressing the rules’ specific limitations, the federal circuit in *McRo* did not cite to *Enfish v. Microsoft*, but did observe: “The specific, claimed features of these rules allow for the improvement realized by the invention.” Recall that the patents at issue in *Enfish* explained that the claimed invention in that case was an improvement, which the federal circuit would make a great deal about in its patent eligibility analysis. The circuit explained in *Enfish* that the claims at issue plainly focused on improvements to computer functionality. This led the *Enfish* panel to unanimously conclude, “the claims at issue in this appeal are not directed to an abstract idea within the meaning of *Alice* (the landmark 2014 case so damaging to software patents). Rather, they are directed to a specific improvement to the way computers operate, embodied in the self-referential table.”

It would seem that again, the fact the claims covered an improvement was to some extent pivotal in the circuit’s analysis. For example, Judge Reyna wrote: “As the specification confirms, the claimed improvement here is allowing computers to produce ‘accurate and realistic lip synchronization and facial expressions in animated characters’ that previously could only be produced by human animators.”

It is hard to ignore the fact that the federal circuit again noted the innovation at issue was an improvement.

Conclusion

There is no denying that rules at issue in the ‘576 patent claims being viewed as specific and limiting played an important role in the outcome of this case. However, it is hard to ignore the fact that the federal circuit again noted the innovation at issue was an improvement. This should give patent practitioners important clues into how to characterize software-related innovations so as to maximize the likelihood of prevailing in *Alice*-inspired challenges and rejections.

Hopefully, the United States Patent and Trademark Office will not ignore *McRo* and will issue guidance to patent examiners. Taking a “nothing to see here” approach to this case would be inexcusable. The tide seems to be turning relating to patent eligibility, and it is time for the patent office to both instruct patent examiners and demand that examiners follow the law. *Enfish*, *BASCOM*, *Rapid Litigation Management* and now *McRo* represent a trend. Examiners claiming these cases are an aberration and that they won’t be followed is unacceptable. ☹

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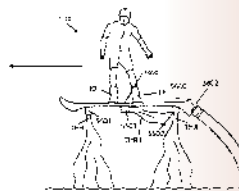
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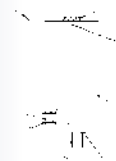
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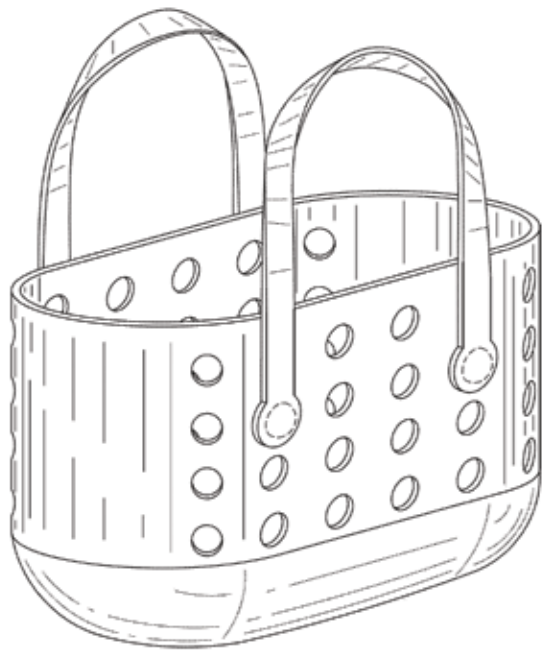


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Design Patents: Underutilized and Overlooked

THEY'RE EASY TO GET AND OFFER
KEY, BUT LIMITED, SAFEGUARDS

BY GENE QUINN

Once upon a time, one way you could differentiate scams from legitimate operators in the patent industry was to look at who was directing clients to get design patents. Design patents have always been easy to obtain—far easier than a utility patent. Of course, as with many things and with virtually everything in intellectual property law, the easier something is to obtain, the fewer rights are conveyed.

You can get a copyright for about \$30 if you prepare and file the application yourself, and you get tremendously long protection in terms of the number of years—generations, really. But the rights from a copyright are exceptionally weak.

To some extent with design patents, the general rule about the easier and cheaper the rights the less useful they are has been turned upside down in recent years. Unfortunately, not nearly enough inventors are seeking design patent protection. Automakers and shoe companies file design patent applications on virtually everything.

It's all in the appearance

A protectable design consists of the visual ornamental characteristics embodied in, or applied to, an article of manufacture. Consider an ordinary steak knife versus a butcher's knife. In any knife, there is typically a handle and cutting blade. A design patent would not protect the mechanical structure but rather the appearance. In this regard, it is possible for many different knives to get design protection even though the basic handle and blade configuration is well known. The question for design patentability is whether the presentation or appearance of the functional item is unique.

Because a design is manifested in appearance, the subject matter of a design patent application may relate to the configuration or shape of an article, to the surface ornamentation applied to an article, or to the combination of configuration and surface ornamentation. A design for surface ornamentation is inseparable from the article to which it is applied and cannot exist alone. It

must be a definite pattern of surface ornamentation, applied to an article of manufacture. In other words, a design patent will protect the way something looks, not the way it functions.

Typically, an inventor wants to protect the function of the invention when possible. This is because if you obtain a utility patent, you can prevent others from making, using, selling or importing into the United States any product that is functionally covered by the claims in the issued patent—regardless of whether the device looks anything like what you are making, or anything like the drawings in your patent application. For this reason, utility patents have been and always will be stronger, broader and far more desirable than design patents.

It can take three or more years, sometimes substantially longer, to obtain a utility patent; a design patent can in many instances be awarded in as few as six to nine months.

But what if you cannot get a utility patent because the underlying invention is not functionally unique? What if your invention just looks different? Then you are in the realm of the design patent. Also, what if you have something that is functionally unique but also has a unique visual presentation? Then you might be able to get both a utility patent to cover the function and a design patent to cover the unique physical characteristics that manifest in visual ornamentation.

Today, most of those who the industry would identify as scammers are not pushing design patents on inventors because of the historically negative view of those patents. True, design patents are weak and generally appropriate only as a part of a broader, well-considered patent strategy, but that doesn't mean you shouldn't have them and shouldn't get reputable advice.



If you obtain only one design patent, you will likely be extremely unsatisfied with the rights you get. But you'll get relative speed. It can take three or more years, sometimes substantially longer, to obtain a utility patent; a design patent can in many instances be awarded in six to nine months. Some patent is better than no patent, so inventors should ordinarily seek design patents as well as utility patents.

Good insurance

Design patents can also be a very useful tool in your intellectual property arsenal, particularly when attempting to create overlapping protection and thereby developing a true intellectual property portfolio. For example, I have seen situations in which one inventor possessed dozens of design patents on a particular product. In one case there were more than 40. The very old studies on design patents—too old to be relevant but often cited nonetheless—suggest that when litigated, seven out of 10 design patents are ultimately found invalid. The question is, which seven out of the 10? That would mean this fellow would still have 12 viable patents (30 percent of his original 40) to nail you with if you got too close. So design patents, although weak, can take on significant strength in numbers.

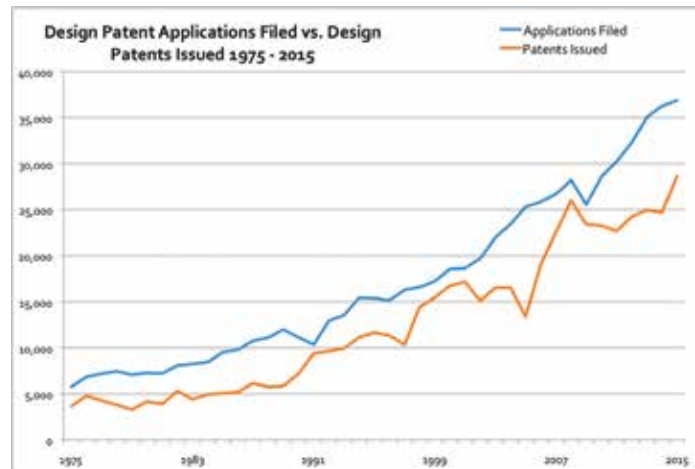
Design patents have also become stronger than ever over the last decade thanks to a decision by the United States Court of Appeals for the Federal Circuit (the chief patent law court in the United States) in *Egyptian Goddess v. Swisa*. In this case, the federal circuit significantly changed the design patent infringement test, choosing to adopt what is known as the “ordinary observer” test. This test is widely accepted as making design patents more valuable because it will be easier to prove infringement. The infringement test now asks the jury to look at the accused infringing product and then look at the design patent and determine whether the infringing product is a copy or not. Previously the jury was supposed to focus only on the point of novelty, not the totality of the drawings in the design patent.

Weapon against knock-offs

The patent figure shown with this article is taken from U.S. Design Patent No. 765,398, which issued on Sept. 6, 2016. This design patent covers a carrying case with a unique visual appearance. Let's say that some celebrity is spotted using this carrying case and his or her photograph with the case appears in *People* magazine. A product like this could quickly become a very popular item.

In addition to bringing the inventor great success, whenever there is this type of high-profile success there will be knock-offs that enter the market. Knock-offs exist because they look close enough to the original to be desirable. With a patent, even a design patent, you have a tool to prevent knock-offs from being sold and even imported into the United States.

As the chart demonstrates, design patent applications have risen since 1975, but still in fiscal year 2015 there were fewer than 37,000 design patent applications filed. Even though the number of design patent applications has substantially increased as a percentage over the years, the total number of design patent



applications filed strikes me as extraordinarily low, given that viable option.

Many patent professionals will refer to a design patent as a picture patent. This is helpful when understanding the limits of the protection: exactly what is shown in the drawings, nothing more. Those who know patent law realize I have just exaggerated a bit, but not by much.

Do not rely only on design patents to protect an invention! To protect the product's function, structure and interior workings, consider filing either a provisional patent application or a non-provisional patent application because ultimately you will need a utility patent. Likewise, do not rely on only a single-design patent and believe that variations in look are covered. It is best to assume that each unique variation, no matter how slight, should be covered in its own design patent application.

Design patents give you the ability to use the coveted terms “patent pending” and “patent issued,” as is appropriate. Many people are only interested in a design patent for this marketing purpose. Additionally, if you already have a patent or patent application covering the function of your invention, you might consider also protecting the exterior design to provide overlapping protection.

Final thoughts on design patents:

- Design patent applications are heavily leveraged on patent drawings. You cannot skimp on professional patent illustrations in a design patent application. Anticipate paying about \$600 for high-quality design patent drawings.
- The filing fee due to the patent office for a large entity is \$760, for small entities \$380. For micro-entities, the fee is cut in half again to \$190. If you are successful in obtaining a design patent, the large entity will pay \$560 for an issue fee. For small entities the issue fee will be \$280; micro-entities will pay \$140.
- For newly filed design patent applications the term is 15 years, and once the design patent has issued there are no other financial obligations necessary to keep the design patent pending for the full 15-year term. Conversely, utility patents have ever-increasing maintenance fees due at 3.5, 7.5 and 11.5 years after issuance in order to keep the patent alive and out of the public domain. 📌



Hearing on Examiner Fraud a Big, Fat Nothing Burger

WRITTEN COMMENTS ATTEMPT TO JUSTIFY TIME ABUSES

BY GENE QUINN



In mid-September, the House Judiciary Committee held what seemed like was going to be an oversight hearing to address allegations of financial fraud by patent examiners made in the inspector general's recent report detailing time abuses at the United States Patent and Trademark Office. Prepared statements released in advance of the hearing talked tough, but insofar as getting to the root of the problems the hearing was a big, fat nothing burger.

Sadly, it is hardly surprising to learn that some patent examiners are grossly exaggerating the number of hours they work. It is well known inside and outside the patent office that there are rogue patent examiners among the ranks of the 8,400. Some patent examiners proudly proclaim to applicants and attorneys that they refuse to follow precedent by the United States Court of Appeals for the Federal Circuit; some haven't issued a patent in years; decisions of the Patent Trial and Appeal Board are ignored, with prosecution systematically being reopened; new searches are conducted despite being explicitly against office policy; and some examiners play games by constantly pulling back applications on the brink of appeal, thereby preventing applicants from ever getting to the board. Given this widely known abuse of power by more than a few patent examiners, it can't shock anyone that the rogue nature of examiner behavior extends to financial fraud.

Some defense claims merited

Congressman Jerrold Nadler (D-N.Y.) defended the office in his prepared remarks, explaining that flaws with the methodology of the IG study made the conclusions unreliable. For example, it is entirely possible that patent examiners were working while they were not logged into the patent office computer systems. Of course, that at best means there is no way to know whether patent examiners are working or not, which is why the IG report recommended the sensible step of requiring patent examiners to log into the office computer systems whenever they work.

There is doubtless some merit to the claims that the methodology of the IG report was flawed in at least some ways. Nadler is correct to point out that it is possible for patent examiners to be working while not logged into the USPTO computer system. After all, examination is a job that requires a lot of reading and contemplation.

But how can any entity operate when it has no way of knowing whether its employees are working? As we learned during the "Examiner A" debacle, the USPTO is not capable of knowing when patent examiners are submitting fraudulent time records; Examiner A submitted 730 hours of time that was not worked. Astonishingly, Examiner A, who submitted 19 weeks of fraudulent time and was reprimanded nine times for low

examination quality, was not fired! He quit to protect his employment record.

Those who want to sweep the IG report under the rug or conclude that the methodology was flawed, which may well be true, are missing a much bigger picture: how at least some patent examiners are defending their actions.

Examiners admit to fraud

Some patent examiners who have commented on IPWatchdog.com, explaining that their actions are innocent, instead have actually admitted to committing fraud. These examiners have explained that because of their superior talents, they are capable of doing their work in a fraction of the time the office thinks it should require. Multiple examiners have said in comments on IPWatchdog.com that if they are, for example, allocated three hours to do a certain task and they can do it in two hours, there is nothing wrong with them claiming all three hours on their time sheet.

One examiner said that he/she is capable of doing work twice as fast—using an example in which the office allocates 20 hours to complete a task, presumably an entire application, but the examiner is able to do it in 10 hours. That examiner explained he/she is completely justified in claiming all 20 hours worked on the time sheet.

If this is happening, it is fraud. This type of billing has gotten attorneys disbarred in the past—not to mention charged with embezzlement. Unfortunately, this type of fraud is meaningless to a bloated government that promises to address fraud but turns a blind eye when evidence suggesting a problem is uncovered.

Some will be disgusted that examiners are overclaiming the hours they work and claiming overtime without working more than 40 hours. But what is worse is what this means for patent quality. In the patent sphere, like so many other areas of endeavor, it often follows that the more time you spend, the better your work product. Sure, there will come a point of diminishing returns, but the patent office has been pushing a patent quality initiative for several years in which the office's idea of quality is that applicants and patent attorneys need to do a better job. What about patent examiners?

Everyone in the industry knows that certain patent examiners produce extraordinarily low quality, and now it seems that at least some are spending a fraction of the time the office allocates to complete a task and claim the full allocated time on their

timesheet. Patent quality initiatives need a reset button. When the discussion of searching authorities is discussed at any conference, do you ever hear anyone suggesting that the best searches are performed by the USPTO? Does anyone in the industry say that the highest quality examinations take place in America?

Bureaucracy to blame

The House Judiciary Committee talked tough in written remarks but didn't seem interested in getting to the bottom of the matter during the hearing. USPTO Director Michelle Lee was allowed to explain away the very serious allegations contained in the IG report with little or no meaningful pushback.

Of course, it is at least a little unfair to blame Director Lee for the problems with recalcitrant patent examiners. Even if everyone in senior management were in complete agreement that certain patent examiners needed to be fired, it would be impossible to terminate anyone past their probationary period. It is more difficult to fire a federal government worker, particularly a federal government unionized worker, than firing a tenured professor at a university. For that we have the federal bureaucracy to blame. That means the office is largely left to operate hoping that those past their probationary period remain committed to their jobs.

Members of the House Judiciary Committee did ask Lee about low patent quality, but patent quality starts with patent examiners. It seems relatively clear that the office has on many levels lost institutional control of patent examiners.

I guess when the fraud is only 2 percent of the hours worked, that is seen as a moral victory and a sign of good government. Perhaps it's the best we can expect, but if you dig even one fraction of a level deeper within the IG report you will notice that almost 45 percent of those hours characterized as fraudulent were claimed by fewer than 5 percent of patent examiners. Of course, that begs further inquiry, but it doesn't seem like any further inquiry is forthcoming.

An objective conclusion is that there seems to be a small number of patent examiners who are engaging in abuse. At least some of the inmates are running the asylum at the USPTO, and it doesn't seem that will change soon.

We can talk about patent quality and how important innovation is for the U.S. economy, but that is nothing more than hot air until the USPTO regains control and the bad apples are removed. ☞

**How can any
entity operate
when it has no
way of knowing
whether its
employees are
working?**

Lasting Imprint

(cont. from page 25)

With Joanne Hayes-Rines' endorsement, the 1999 American Inventors Protection Act passed in the House and was signed into law that November. An April 2000 article in *Fortune* Small Business that chronicled the couple's patent reform efforts the previous summer declared: "For decades to come, the U.S. patent system will bear the indelible stamp of Robert and Joanne Rines."

Savoring her park place

She says she has never been an inventor, but she has always been inventive about finding worthwhile pursuits. Today, Hayes-Rines is active with the Academy of Applied Science, which supports STEM education in elementary and high schools. She is president of a nonprofit, volunteer organization, Friends of Christopher Columbus Park in Boston.

"It's a beautiful little park on the Boston harbor," she says. "I always say we put the whipped cream and cherry on top of what's already a beautiful piece of land. Our members raise the funds to enhance the park and we actively work in the park. We raise money to illuminate the beautiful trellis during the

winter; we have free events for kids and Sunday night movies; we do a great bit of horticulture work. We also just received a proclamation from the Massachusetts House of Representatives declaring the Friends of Christopher Columbus Park to be the best friends group in the city of Boston."

She stays current on developments in the invention community and urges the kind of ongoing commitment to grassroots inventors that marked her time at *Inventors Digest*. "I remember one of the many times Bob and I and inventors from around the country were in D.C. speaking out against an unfair patent law proposal, one of the legislative aides for a congressman said to us: 'The passion you all demonstrate is why this legislation hasn't gone anywhere. The corporate world, they send the guys in in their suits. We all know they're on expense accounts. We all know they didn't pay for their airline tickets.'"

"It's the same with today's independent inventors, especially those who are heading and nurturing inventors groups. They're not doing this for themselves. They're doing this for future generations. They're doing it for the cause." ☐

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They Sang

Now young Harry Hodgett loved making gadgets
"Life needs some new things" was his claim
Hope one or two things might bring fame
This is the last time you'll hear his name
Nobody mentions Harry's inventions
But do you think that got him down?

—"If You Stub Your Toe On the Moon"
 Frank Sinatra

Take the case of your automobiles
 Greatest invention since man discovered wheels
 Hydromatic overdrive four-on-the-floor
 Push-button windows, push-button doors
 Double-barreled carburetors rush you anyplace
 But you can never find a parking space
 Highly illogical.

—"Highly Illogical"
 Leonard Nimoy



WOOF.DOGGLES.COM

What IS that?

They're not just a fashion statement or a way to pick up—you know—female dogs. Doggles says its tinted glasses provide sun protection and are perfect for dogs with eyes that are dry, sensitive or allergy prone. Doggles Originalz stay on with two adjustable elastic straps and rubber wrap-around frames. By the way, Snoopy's alter ego Joe Cool says he's been there, done that.

Wunderkinds

A 16-year-old in Bloemfontein, Free State, South Africa recently invented a way to address the crucial need for water conservation in his country. It happened because he took a shower.

After turning on the shower one morning, **Driaan-Lou Kemp** realized how long it took for the water to reach a warm enough temperature—as it poured down the drain. He invented a device that connects to the shower and diverts water to a container outside, only releasing water from the shower head once it reaches the desired pre-set temperature. The water in the container can then be used for many things, including drinking. He won the South African Youth Water Prize and the right to represent the country at this year's Stockholm Junior Water Prize competition.

15%-20%

The percentage in royalties that Apple Corps—the Beatles' holding company controlled by Paul McCartney, Ringo Starr and the estates of John Lennon and George Harrison—receives on licensed Beatles products. In 2018, full rights to the Beatles' songs revert to McCartney and the Lennon estate. Michael Jackson outbid McCartney for the rights in 1985, paying nearly \$50 million.

WHAT DO YOU KNOW?

1 Which invention came first—the modern air conditioner, or the snow blower?

2 **True or false:** Al Green said he received more royalties for "Take Me to the River" from the Big Mouth Billy Bass singing fish than any other recording of the song.

3 **She said:** "I invented 'It's a good thing' before you were even born."

- | | |
|-------------------|-------------------|
| A) Mae West | C) Susan Sarandon |
| B) Martha Stewart | D) Oprah Winfrey |

4 Daylight Saving Time was invented centuries ago. Was this in the 1700s, or the 1800s?

5 Football coaching legend Paul Brown is credited with inventing:

- A) The modern facemask
- B) The playbook
- C) Game film for scouting
- D) The draw play
- E) All of the above



ANSWERS

1. The air conditioner was invented by Willis Carrier in 1902, the snow blower by Arthur Sicard in 1925. 2. True. How could we make that up? 3. B. 4. New Zealander George Vernon Hudson proposed the idea of DST in 1895 and is credited with inventing it, though Benjamin Franklin advocated changing sleep schedules in a satirical 1784 essay. 5. E.

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