Ventors

SEPTEMBER 2018 Volume 34 Issue 09

DIGEST

Talking

The Art of Inspiration

SPEAKERS SHARE STORIES, TECHNIQUES

Seniors' Inventing Impact

A GROWING PRESENCE

Selling on Social Media

HOW TO BUILD TRUST

Protecting Ideas

SAY HELLO TO INNOVATION

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To Properly Inspire, It's About Time

"Got a few minutes?"

This innocuous question can often elicit a negative response—or at least an exasperated sigh—in the instant-messaging, Twitter-obsessed, head-looking-down-at-our-laps-and-pressing-little-keys-during-meals-with-loved-ones world in which we live. There is an increased premium on brevity as we fill our days with escalating and often excessive multi-tasking.

Even independent of our self-tethered lives: How many of us have sat down for a church sermon or speech at a ceremony and laughed at a humorous opening anecdote or compelling story, only to drift away mentally because the speaker goes on for just a little (or a lot) too long?

The people who created TED (Technology, Entertainment and Design) talks understand the concept of short and sweet. As this month's *Inventors Digest* main feature subject John Rizvi notes, talks can't exceed 18 minutes. In a LinkedIn post by author and columnist Carmine Gallo, TED curator Chris Anderson explains why that duration was deemed ideal:

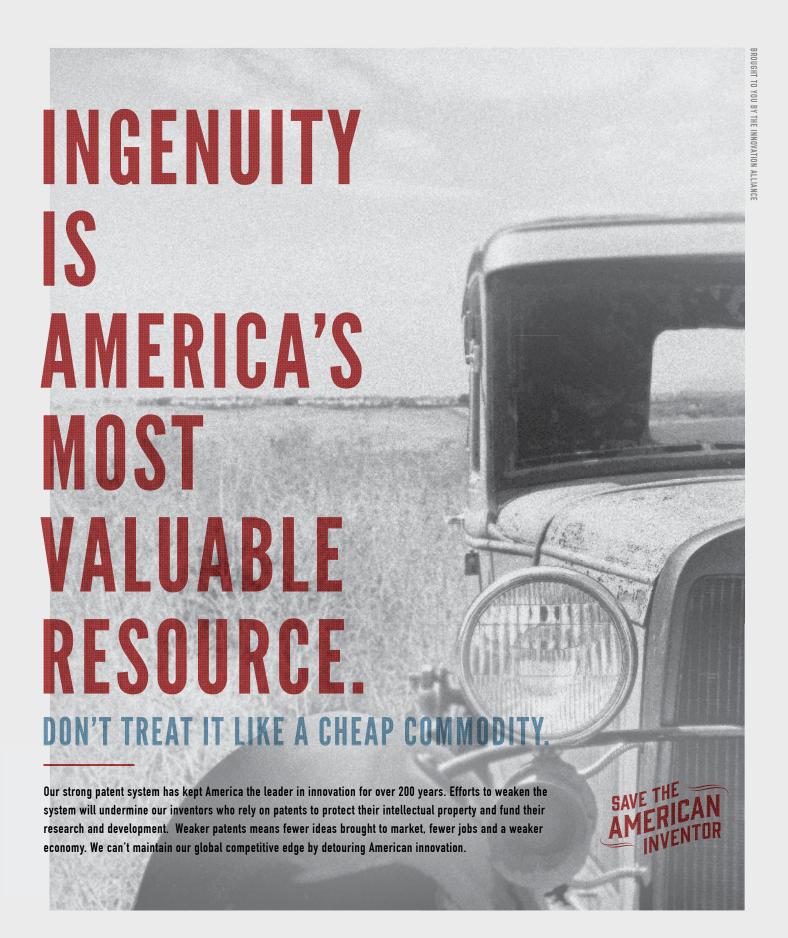
"It is long enough to be serious and short enough to hold people's attention. It turns out that this length also works incredibly well online. It's the length of a coffee break. So, you watch a great talk, and forward the link to two or three people. It can go viral, very easily.

"The 18-minute length also works much like the way Twitter forces people to be disciplined in what they write. By forcing speakers who are used to going on for 45 minutes to bring it down to 18, you get them to really think about what they want to say. What is the key point they want to communicate? It has a clarifying effect. It brings discipline."

In fact, some of the innovation-related TED speakers highlighted in this month's issue deliver their message in five or six minutes. More often than not, their messages are no less powerful and enduring than those who speak for three times as long.

While *Inventors Digest* prides itself on sparking ideas and inspiration for readers every month, there's an added dimension to seeing an expert's face and gestures and hearing his or her voice as the speaker makes a point. The ability to support the presentation with video onstage adds even more. Whether you are inspired to innovate and take risks by what you read or by what you see and hear, it's all good.

-Reid (reid.creager@inventorsdigest.com)



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Jorge Zegarra

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BRIGHTIDEAS

Origamei

FOLDABLE DRESSES origamei.com

Origamei Foldwear is a clutch that transforms into a dress, featuring three styles.

The clutch fits comfortably in a car's glove compartment, hangs on the strap of a beach bag, tucks inside your backpack or even in the side of your purse. It has a discreet keyring and accessories pocket.

The stylish dresses are made of wrinkle-resistant, durable, four-way stretch and breathable fabric, and include deep hand pockets that fit any size smartphone.

Origamei will retail for \$80. Plans are for shipping in January.



CHEF KNIFE COLLECTION

www.edgeofbelgravia.co.uk/collections/shiroi-hana

The stylish, high-end, extremely sharp six-piece set combines Japanese steel with a polished Damascus blade.

The set includes a paring knife; a utility knife with a rounded blade made for finely chopping ingredients; small chef knife; large chef knife; bread knife with serrations for easier cutting; and a slicing knife that has alternating scallops on either side. The large chef knife, bread knife and slicing knife are all 7.5 inches long.

Improvements made in this line of knives include a light floral pattern and reduced microscopic roughness on the blade, and a polished surface. The set will retail for \$600, with an estimated March 2019 delivery.



Coolbox

HIGH-TECH ENTERTAINMENT COOLER

coolboxcooler.com

In addition to keeping food and beverages cold in a portable way, Coolbox has an array of technological features that include powerful marinegrade Bluetooth speakers, two USB charging ports, an auxiliary port, a tablet/smartphone stand, LED clock display and 4-hour lithium ion battery.

A sturdy telescoping handle and durable wheels make transport easier; a bottle opener is attached under the cooler lid. Coolbox's outer shell is made of polypropylene, the inner foam material made of injected commercial-grade polyure-thane to keep food and drinks cold. Weight capacity is 60 lbs.

Coolbox has a planned retail price of \$299 and December shipping date.

"Exploration is the engine that drives innovation. Innovation drives economic growth. So let's all go exploring."

—EDITH WIDDER



Like Bike

FOLDING ELECTRIC BIKE

likebike.bike

During its crowdfunding campaign, Like Bike was billed as the world's most affordable electric bike.

Traveling up to 20 mph with a range of 55 miles on a 250-watt to 350-watt electric motor, it folds easily in seconds to fit into car trunks or on a bus or train. Just fold the frame and stern. The bike weighs just under 40 lbs., 25 percent lighter than other bikes of the same size.

You can remove the battery (hidden in the frame) to charge it, or plug the bike directly to a power outlet for a charge in two hours.

Retail prices will range from about \$1,190 to \$1,390 U.S., depending on the style of bike. The U.S.-Canada version will retail for \$1,325. Delivery is scheduled for December.

Impact?

Let Us Count the Ways

MICROCHIP TECHNOLOGY CHANGED THE WORLD, SPAWNED THE ELECTRONIC HANDHELD CALCULATOR BY REID CREAGER

ACK KILBY was excited to join Texas Instruments in 1958, although summer was a little lonely at work. The lab at TI's new Semiconductor Building in Dallas was largely empty as coworkers took vacation time—a privilege Kilby was yet to earn.

So the engineer with a dozen patents embarked on a project. Electronic devices had received a historic boost four years earlier with the invention of the silicon transistor, the beginning of the end for bulky electronics powered by vacuum tubes. Kilby sought to miniaturize electronic components.

By mid-September, he demonstrated to company executives a working integrated circuit built on one piece of semiconductor material. According to TI, it was all of 7/16"-by-1/16," a sliver of germanium with protruding wires glued to a glass slide. When Kilby pressed the switch, an unending sine curve undu-

lated across the oscilloscope screen. The first version of the microchip was

born. An electronics revolution was

under way that would affect all of our

daily lives via personal computers, cellphones and more. Kilby's discovery earned him the 2000 Nobel Prize in Physics, the National Medal of Technology in 1990 and a berth in the National Inventors Hall of Fame.

A major byproduct of the microchip was the electronic handheld calculator, developed in the late 1960s. More of a team effort organized by Kilby, the project forever changed life in classrooms, offices

A new application

TI was already building microchips for industrial and military applications, and President Pat Haggerty wanted to expand that innovation to the consumer realm after seeing how its transistors were essential in transistor radios. Kilby decided on an electronic

> handheld calculator; the top-secret mission was called Project Cal-Tech.

Some desktop calculators had been in existence since the early 1960s—first using vacuum tubes and later The new product would feature a smaller keyboard;

Jack Kilby's invention of the integrated circuit (inset) was the genesis of almost every electronic product used today. From cell phones to modems to Internet audio players, the chip has changed the world and enabled an entire industry to grow.



The team of Jack Kilby, Jerry Merryman and James Van Tassel applied for a patent for the electronic handheld calculator in September 1967, revising it in 1971 and 1972 before the patent was granted in June 1974.

Design genius

Ed Millis, a longtime friend and coworker of Merryman, wrote in an online biography that his cohort "single-handedly did the circuit design for this first calculator in three days and nights. His design was based on excess-3 binary logic and used about four thousand transistors, compared to the Regency radio's four. Jack Kilby later said he thought Jerry was one of the few people who could have done the design at that time.

"Jerry's functional 'breadboard' of this calculator logic circuitry was constructed with individual transistors and components and took up most of a small room. It was used to test the production chips as they were designed and built. The magic shrinking power of the integrated circuits did the rest, and the roomful of transistors and parts turned into a handful of chips and parts."

According to electronicdesign.com, Van Tassel and Merryman devised the keyboard contacts.

In their design, helix springs and thin, goldplated copper strips are located underneath the keys. Pressing a key shorts the strips with conductors on a printed circuit board, called the keyboard encoder. Those conductors connect to output terminals that get shorted in unique combinations to represent, in a binary form, which key was pressed. That unique electrical signal would then be transmitted to the processing circuitry. Kilby and Van Tassel filed a patent specifically for the keyboard keys and encoder.

The team applied for a patent for the electronic handheld calculator in September 1967, revising it in 1971 and again in 1972 before achieving U.S. Patent No. 3,819,921 on June 25, 1974.

A prototype for the calculator, resembling the "miniature electronic calculator" shown in patent drawings, is housed at the National Museum of American History. According to the museum, the battery-powered, 3-lb. calculator performed the four basic functions of addition, subtraction, multiplication and division; had 17 keys and a zero bar; 12 bytes of memory, and was cased in solid aluminum.

Fast evolution

By late 1970, the first pocket calculators came onto the market (if you had a big enough pocket). As with early iterations of electronics such as personal computer and flat-screen televisions, they were initially expensive with a price tag of about \$300.

Canon's Pocketronic, which used chips developed by Texas Instruments, was a noteworthy early model. Texas Instruments began selling calculators under its own name in 1972 with the TI 2500 Datamath, quickly followed by the TI 3000 and TI 3500.

By the mid-1970s, the battle to dominate the pocket calculator market was raging; *New Scientist* pegged the market at \$2.5 billion in 1975. By the end of the decade, the development of solar cells ended the calculator's battery life limitations.

Although some teachers and parents complain that the portable calculator has diminished or even negated the skill of calculating without using a device, the innovation's utility and convenience remain incalculable.

INVENTOR ARCHIVES: SEPTEMBER





September 25, 1725: French military engineer **Nicolas-Joseph Cugnot**, widely believed to have designed and built the first self-propelled vehicle or automobile, was born.

Cugnot's 1769 invention was actually a huge, heavy, steam-powered tricycle that could carry four passengers. It moved at only a walking pace, originally meant to haul heavy artillery pieces. The three-wheel design, with the boiler well out in front, was unstable; the whole mechanism had to be turned to steer the carriage. The driver had to stop periodically to refire the furnace and add water to the boiler.

Cugnot built a larger, faster, more powerful carriage in 1771, but it was never tested.

Some sources claim that Ferdinand Verbiest, a member of a Jesuit mission in China, may have been the first to build a self-propelled vehicle around 1672.

Building Trust Online Using Social Media

CUSTOMERS NOT EXPERIENCING PRODUCTS IN PERSON ADDS TO THE CHALLENGE BY ELIZABETH BREEDLOVE

■ **HOPPING ONLINE** can be inherently less trustworthy for consumers. When buying something in a store, you can see and feel it yourself before exchanging money for it.

When shopping online, most want to feel some level of confidence in the company or storefront they are purchasing from because they can't experience the product firsthand. You can likely see pictures of the product, read a description and perhaps even sift through reviews, but at the end of the day—when you click "add to cart" and then "purchase"—you are placing trust in the place you are purchasing from and showing that you believe the company's message about the product.

It's tough to gain a customer's trust online, and easy to lose it. One bad experience, or even a perceived bad experience, can lose a loyal customer or prevent you from gaining a new one. This is why social media is especially important for inventors selling their product online, whether they are using their own website or selling on a marketplace like Amazon.

Some tips for building credibility when selling on social media:

- **Consistency is key.** This doesn't mean that you need to use the same exact copy everywhere, but your messaging, tone, key differentiators, benefits, features and specs should all stay consistent across your website, marketing materials and, of course, your social media. Use the same types of words and phrases to describe your product and speak to your audience in order to build a strong, credible brand surrounding your invention.
- Stay active on your social networks. Make sure you are posting regularly on all of your social profiles. This builds trust by showing your audience that you are invested in your product, brand and customers. You don't necessarily have to post every day, but you should post often enough that your followers don't have to question whether or not your accounts are active. On that note, if you know you can't keep up with five different social

- networks, choose one or two key networks to focus on and stay active on those.
- Interact and network with other brands and individuals. Look for opportunities to put yourself "out there" by interacting with other accounts. "Like" Facebook posts, comment on Instagram posts or retweet Tweets. Whatever social media platforms you use, interacting with others is a great way to get your invention seen by more people, but it can also build credibility. If I see a brand that I trust interacting with your brand, I'm more likely to trust your brand.
- Be transparent in everything, good and bad. Customers, or potential customers, are more likely to trust your company and purchase your invention when they feel you are telling them the whole story. Thus, it's important to use your platforms to share your story. Look for opportunities to tell your audience more about how you invented your product, share news and updates, own up to any public mistakes and respond to negative reviews appropriately. When customers see your honesty and transparency, they'll feel confident that you aren't hiding anything and that your product is something they should purchase.
- Encourage happy customers to leave reviews. In this age of the internet, reviews are everything especially on sites such as Amazon. Products with great reviews and ratings rank higher and are more likely to be purchased by consumers. Therefore, positive reviews can do more than nearly anything else to build trust and credibility among current and future customers. Use your social networks to encourage your happy customers to leave positive reviews. If someone writes you a message letting you know how much he or she loves your product, ask that person to write a review on Amazon or share it on his or her own profile.
- Have a plan in place to handle customer service issues. If someone has a question about your invention or a problem with your product, chances are



Post regularly on all of your social profiles. This builds trust by showing your audience that you are invested in your product, brand and customers.

good they will take to social media to find a resolution. Get ahead of this by having a strategy for customer service. You should frequently check your messages and respond to anyone who has a question or problem with your product or invention. Dealing with problems efficiently and politely will work wonders for ensuring repeat business and bringing in new business. Whether you are selling a brand-new invention or a product your company has sold for decades, loyalty is incredibly important if you want to make sales.

Consider influencer marketing. Whose opinion do you generally trust more—a brand or a friend/acquaintance? Nearly everyone would trust a friend or an acquaintance over a brand or company. Use this fact to your advantage through influencer marketing. This involves finding an influencer—usually either a blogger or a social media personality—and asking that person to partner with you to promote your product.

Influencers typically receive compensation in the form of free product or monetary payment. They are usually asked to use a product and give their honest review to their followers; they are often also given a coupon code that their followers can use to purchase the product at a discount. There is a strict code of ethics that guides influencer marketing, in addition

to rules set forth by the Federal Trade Commission, but influencer marketing can be a great way to build trust or establish credibility when done right.

Only use great pictures. When you're selling a product on Amazon or on your own ecommerce site, a picture really is worth a thousand words. You can spend paragraph after paragraph describing your invention, but a picture will do much more to show off a product's look and function.

For this reason, it's important to ensure all photographs of your invention are top-notch. They should show off all angles of the product and show it in use as well. Make sure colors and parts show up properly, too; if your customer is expecting something black and receives something blue, it's going to affect his or her level of trust in your brand. Any photos on your website or on your social media accounts should be clear and accurate if you want your audience to trust you.

Elizabeth Breedlove is content marketing manager at Enventys Partners, a product development, crowdfunding and inbound marketing agency. She has helped startups and small businesses launch new products and inventions via social media. blogging, email marketing and more.



Spinning the Inventor **Roulette Wheel**

ODDS FAVOR 'THE HOUSE' IN MANY WAYS BUT CAN'T STOP OUR DETERMINATION BY JACK LANDER

BOUT ONCE every year or two, my wife, Mary, and I visit one of Connecticut.

nos. We each invest a \$20 bill in the quarter and I visit one of Connecticut's awesome casipoker machines and play until it's gone; sometimes it lasts more than an hour.

If I ever hit it big—let's say four of a kind or a royal flush—I'll quit forever. (I lied.) Intellectually, I know that the odds are against me. Emotionally, however, the cost of even one royal flush in a lifetime seems worth the price.

One thing I admire about the casinos is that they don't deny that the odds are in their favor. When we look at a roulette wheel, there is no mistaking it. An American wheel has 36 red or black spaces and two green spaces, 0 and 00, that are for the "house." That means on average that two times in 38, or a bit over 5 percent of the time, the house wins automatically.

The prior art test

What I'm getting at are the odds of success if you come up with a great invention. We start with the patent process.

Not all inventions need to be patented, but we can't license an invention that isn't patented unless the product has a nonobvious trade secret. So we have only one practical option: Make it and sell it which, for most of us, is not practical.

Assuming we proceed with the patent approach, the next step is a search of prior art. Prior art consists not only of issued patents and patent applications but products that are on the market, or have been on the market. Prior art also includes public exposure of the invention—in print, for example—or a demonstration of our prototype without having a signed nondisclosure agreement.

Most searches cover only patents and patent applications, leaving the product search up to the inventor. Why? I don't know. Tradition, most likely. But I know from the marketability searches I do for fellow inventors that I often find products like the ones they believe they have originated—displayed in plain sight on Amazon.com. Amazon offers an amazing library of products that can't be found any other place I know of, especially in brick-and-mortar stores.

So, what are the odds of passing the prior art search test? I asked that question of a patent attorney I have known for many years, one I trust. He wouldn't give me a direct answer. He just said that most of the time he has to say that the invention isn't sufficiently novel to believe that he can get the inventor a patent.

Patent attorneys don't like to report in negative terms, of course. For one thing, they can't rule out that the inventor will find a way to redesign or otherwise circumvent the prior art features that appear to prevent them from getting the patent. For another, they wouldn't have as much business if they turned away all inventions that are encumbered with prior art.

Sometimes the prior art reveals features that clearly are identical with the invention in question, and filing a patent application would be a disservice. And sometimes the prior art is not sufficiently close to the features of the invention to say with confidence that a patent probably will or probably will not issue.

The reality of patent odds

OK, but what are the odds of getting a patentability opinion that encourages you to file? Let me venture a guess based on my own experiences over many years. (My first patent, No. 3,820,592, was issued in June 1974.)

I'd say the odds of being encouraged by the patent agent or patent attorney to file are, optimistically, about 2 in 3—assuming you have done your own search and assured yourself that your invention's features are novel. Once filed, the odds are around 50-50 (probably less) that your patent will actually issue. You should also add a discount to those odds, because some of the features and their claims may be so watered down by the patent examiner that your patent will no longer be attractive to potential licensees.

Discouraged?

We inventors are like roulette players. Even when we know the odds, we are tempted to believe that somehow we'll beat them. That's our genetic destiny. But at this point in our venture, we may be going on faith that we haven't invented a "solution in search of a problem."



Most of us don't initially perform a sound marketdemand survey. We talk to friends, sure. But they don't want to hurt our feelings. Neither do relatives maybe except for your mother-in-law. I like Survey Monkey (surveymonkey.com). At least it doesn't have any personal loyalties that affects its opinions.

2 kinds of inventors

What affects the odds perhaps most of all is our approach to inventing. I think of it as having two modes: spontaneous or intentional. Most of us are spontaneous inventors. We wander in paths that are well traveled and stumble upon a need, annoyance, or problem. And we come up with a solution. A certain fraction of the inventor population is more methodical and intentional. They take the path less traveled "because it was grassy and wanted wear"—a line from Robert Frost's poem, "The Road Not Taken."

For those of us who invent spontaneously, the problem, need, or annoyance we come up with is likely to already have been solved or satisfied. This reduces the already discouraging odds that the invention is patentable. The good news is that if the invention has already been created as a design identical to yours, or very close, it will be easy to determine, and you can dismiss your venture and go on to the next great idea.

Inventing on purpose lacks the surprise and exhilaration of the spontaneous invention. But our success rate on all counts is generally higher. It is more likely to have a market, more likely to be patentable. This is the corporate approach. It doesn't have to be dull and boring. And you don't have to trade in that old

sweater with the big hole by the left elbow for a long white smock with a pocket protector.

Some suggestions:

- Be aware of change. Change is where the opportunities lie. The crumbs that fall from the main effort of corporate inventions often have good potential for the little guys.
- **Keep it simple.** More inventions from independent inventors fail to come to fruition due to complexity than any other reason, except lack of funds.
- All things in order. If you are comfortable with the gamble and you aren't borrowing from your grocery money, rent, or mortgage payment, file a PPA (provisional patent application) and then do your marketability surveys. It's usually cheaper to do the survey first, but you'll be exposing your invention without protection if you do.
- Remember, inventing is gambling. The long-run odds are probably better than roulette, but there are no guarantees. So, depend on an ongoing program: lifelong inventing.

Lastly, consider: Even with all of their money and other resources, corporate odds of success for a launched new product are about 1 in 5. I'll bet that you and I can do as well or better. ♥

Jack Lander, a near legend in the inventing community, has been writing for Inventors Digest for 22 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.



MORE TIPS ON EFFECTIVE COLD EMAILS

BY HOWIE BUSCH

N MY DEBUT ARTICLE last month, I wrote about sending effective cold emails. Most people struggle with writing effective emails, especially to people they don't know.

For some reason, I'd say that's even more true for inventors/product developers. If you're an inventor, you'll have to send plenty of emails—whether you're reaching out to potential licensees or potential retail partners.

Because writing effective emails is so crucial, I thought it was worth another article with additional tips and a bit of clarity on some of the ones I shared previously. To wit:

· You can't please everyone, so stop trying. Some people will look for a reason not to respond to you, no matter what. After seeing the sample email I shared in my last article (see opposite page), some readers said they wouldn't respond to it because they were offended by the use of their first name. Others were offended by my use of contractions (could've, don't, etc).

Really!?

Please don't give those people your energy, because they don't deserve it. Remember, you will never get 100 percent. So just stay positive! And if you're not getting responses, maybe the email needs to be tweaked or re-written.

Don't hold back. You never know what's going to resonate with people, so go for it. Whether it's reaching out to people via email, LinkedIn or the phone, or posting an article, don't hold back out of some silly fear or insecurity.

Just get it out there ... whatever "it" is. Don't be afraid of what people might say. They may surprise you.

Stop waiting for perfection. I could have continued to fine-tune that first article until I thought it was perfect. In fact, as soon as I hit "send," I thought of other things I should have written.

But I'm glad I didn't wait and continue to fiddle with it. Getting it out there was far more important.

As imperfect as I thought it was, the thing went viral. Remember, the pursuit of excellence is essential; the pursuit of perfection is the enemy.

It's not about you. It's more about the email recipient than it is about you or your product. Certainly, that first blind email is.

So focus on either solving a problem your audience faces, or providing a benefit that is relevant to that audience in some way.

Intrigue them. That is what will pique their curiosity and elicit a response.

Make it personal. The body of the email should remain the same once you find the hook that will intrigue the recipient, but the opening and close is where you can and should personalize it a bit if you can.

Did you go to the same school, have some common connections or read something interesting about your recipient's business? All are good ways to personalize.

If it's important enough to you to get your product to market, you'll take the time to research the person to find out if there's some commonality. Even if not, you can find something interesting about the recipient that's worth mentioning.

Most people will care that you took the time to know about them and mention it.

At some point, you will have to pick up the phone. At some point, you'll have to speak with your recipient. If the person isn't responding via email or LinkedIn, it's time to pick up the phone. There is definitely a balance to be struck here.



• Don't just follow my advice blindly. Although the sample email I shared in the article is incredibly effective for me, it's just an example of what works for me in my particular business.

You should take what you like about it and make it uniquely yours for your style, your industry and your business.

Don't like using someone's name twice? Don't. It works for me because that is true to who I am. I tend to use people's names in my personal life, too.

Full disclosure: I also go with "buddy," "dude," "kid," "brother" or something similar when I communicate with friends and close colleagues (not in a cold email, of course). Like I said, it has to be natural—and it works

Just find your own personal style and make it work for you.

If you take this advice to heart, I guarantee you'll see better results. And please let me know how it goes. I want to hear. 📦

Howie Busch is an inventor, entrepreneur and attorney who helps people get products to market through licensing, manufacturing or crowdfunding. Possibly the world's least handy inventor, he has licensed many products, run a successful Kickstarter campaign and appeared on "Shark Tank."



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WHIZZBANG HELPS TRAIN BOYS, MEN TO AVOID SPLASHING

BY EDITH G. TOLCHIN

JUST CAN'T GET AWAY FROM IT! It seems most of the interviews I've done during the past few years have been for inventions in the personal care industry. That alone for me is proof that it's still a booming industry for new products.

Recently, I came upon a story of three men—Shaun Kibbe, Neil Ward and Dustin Keiswetter-who formed Hatch Innovations and created the WhizzBang. That's a catchy name for an item that prevents (nicely put) "splatter" around the toilet. The three hoped to have WhizzBang go live on Indiegogo this summer and have the product on shelves in time for Christmas.

Edith G. Tolchin (EGT): Tell us about yourselves, how you know each other, and how the invention came about.

Shaun Kibbe (SK): Hatch Innovations began with the prospect of a fun but exhausting weekend. Dustin Keiswetter and Neil Ward became acquainted while attending the same church and found they shared similar interests in CAD and 3D modeling. Neil mentioned to Dustin that he had seen a new 48-hour invention competition while attending a maker's fair in Kansas City. The two decided to submit a team

> application but wanted to round out with one more member. Dustin

> > called on me. We had become friends while attaining our mechanical engineering

> > > degrees at Kansas State Polytechnic. We later

worked together at a local manufacturing company. Neil, an assistant professor in the department of art and design at Kansas Wesleyan University, could surely make anything that two gearheads come up with aesthetically pleasing as well as functional. An application was submitted and the team was selected.

EGT: Tell us about the Make48 Invent-a-thon held at the Kansas City Art Institute.

SK: Make48 is a ground-breaking concept in that it combines the excitement of an invention competition with an innovational documentary series. Teams are given 48 hours to plan, prototype and pitch an idea for prizes and coveted licensing potential. Camera crews are on hand to capture everything from the excitement of the unknown product category, idea conception, prototyping, disappointments, exhaustion, hilarity, and finally product pitches to the competition judges. The judges typically represent production companies or are well known in their areas of expertise in marketing, production or product sales.

We were invited to join the Make48 competition at the Kansas City Art Institute. The product category for our competition was a product for use within the four walls of a home. We started by going room to room and determining what issues that we encounter in each. We avoided the kitchen simply because we felt it would be the target area for most of the teams. We landed on the bathroom, specifically messy toilets when living with boys. How could we get the boys to actually aim?

From left: Neil Ward, Dustin Keiswetter and Shaun Kibbe of Hatch Innovations.



"Our goal is to bring products to market that we have a personal attachment to, or a need for. It helps with product development when you are potentially the target market." —SHAUN KIBBE



boys under 5, help along the invention process? **SK:** Dustin presented the idea to the team. When we were going room to room thinking of possible problems or issues, he mentioned his newly remodeled bathroom was deteriorating, specifically the caulking around the base of the toilet. He mentioned one time in particular when one of his little boys was using the bathroom while the door was open. As Dustin walked by in the hallway, the boy turned around to look at him, and according to Dustin, "NO, NO, NO,

look what you're doing! Ack!" We all had a good

laugh, and that's when we knew we had our project

EGT: Describe how the WhizzBang works.

chosen for the competition.

SK: The WhizzBang is an electronic component that is to be affixed under the lid of a household toilet. Once activated, it projects a target onto the water of the toilet or wherever the best angle is deemed to avoid splash back. When a boy (or man) is on target, he will get positive feedback by a rewarding sound effect that can vary, depending on choice/product model.

In order to achieve the feedback, we incorporated an infrared heat sensor that converges with the target projector. When the sensor detects a rise in temperature due to the urine stream, the feedback is activated. Originally we planned to use a laser to project a target image. We ran into potentially dangerous glare issues, and it has since been changed to focused LEDs.

EGT: How did "Make 48" yield a licensing agreement? **SK:** The top three teams received licensing consideration for a licensing agreement through Handy Camel. Handy Camel was given first right of refusal for licensing any of the products.

EGT: What is Hatch Innovations?

SK: After the Make48 competition got our collective creative juices flowing, we didn't want to walk away from it. We decided to continue to meet and bring up ideas for the other guys to bat around. After several months of collaboration and many hours of work, we decided to make it official and create our own small LLC. We named it Hatch Innovations. Hatch is a mental analogy to us for bringing an idea or concept out. You never know what is in the egg-a swan or a stinker (LOL).

We asked ourselves, "If we can come up with a prototype of the WhizzBang in 48 hours, what can we do in a week, month or year?" But it's difficult to recapture the magic of being part of an inventa-thon. When you are there, you are immersed in that world. You have fast-approaching deadlines; you have competition; you have advice, input and physical assistance from experts. And most important, the real-world distractions are on hold until Monday.

Our goal is to bring products to market that we have a personal attachment to, or a need for. It helps with product development when you are potentially the target market. We have several wide-ranging products that we are currently hammering out in various stages of development. At this point, we are more interested in licensing our products versus manufacturing them. We've recognized that we enjoy the innovation and development processes. The actual production is a distant future thing.

It's amazing to work with others who are on similar wavelengths. We've grown respect for each other's strengths, talents and acknowledged weaknesses.

EGT: Did you encounter any stumbling blocks? **SK:** We ran across several setbacks along the way. The WhizzBang is an electronic component that is affixed under the lid of a household toilet. Once activated, it projects a target onto the water of the toilet or wherever the best angle is deemed to avoid splash back. When a boy (or man) is on target, he gets positive feedback via a rewarding sound effect.



Hatch Innovations presents Whizzbang at the Make48 Inventa-thon at the Kansas City Art Institute. which resulted in a licensing agreement. The first one was with the patent attorney. It turns out that there have been toilet target patents applied for. Some even have a lighted reticle like we wanted to incorporate. Instead of starting over, we pressed on to differentiate our targeting system with actual feedback. This set the WhizzBang apart enough to make it patentable.

Motion detection was the next hurdle. We originally specified an emitter and receiver to actually see that the target was being contacted with whizz. It's not that it isn't possible, but it soon became evident that our cost would be through the roof for the sensors and logic to make it happen. Heat detection can perform the same function, but it's simpler.

We had an independent product developer source the components and shell for us. We found that we could not get the manufacturing and shipping costs down to allow the WhizzBang to be sold for under \$20. Handy Camel, Make48's licensing company, has since conceded that a higher price point can work for this product. The sale numbers are anticipated to be lower, but it allows for actual marketing for the WhizzBang.

EGT: How many prototypes have you had?

SK: The early prototype(s) were a "looks like, feels like" model with a tilt switch and a laser. I believe that we had at least three to four of these models. This helped us to discover that not all toilet seats have the same clearance between the seat and bowl, and we crushed one right before the Make48 presentation. Fortunately, it still worked and the glue was not detracting.

We then moved on to a low-functioning model that actually contained an Arduino programmable board, infrared sensor, laser, switches and a piezo (electric) speaker. The Arduino gave us the ability to simulate an integrated logic chip. With this model we proved out the concept of heat detection to feedback, which was huge. Obviously, it could not be produced with a programmable board with components sourced in low quantities for a price point that would satisfy anyone. We handed it off to Pivot International, which has since produced several working prototypes at an acceptable cost.

EGT: Are you manufacturing, and if so, where?

SK: We are currently in a pre-production phase for market testing. One of the major product releases was at the National Hardware Show in Las Vegas. Handy Camel, the licensing company, will contract with an American manufacturing company, possibly using both offshore and domestic manufacturing.

EGT: What are your plans for selling the product? Or will that be up to your licensing company?

SK: Initially a crowdfunding campaign, then working with retailers for larger contracts and higher manufacturing runs. We hope to have secured some contracts from retailers at the National Hardware Show.

EGT: Can you share any lessons learned?

SK: If you're working with production and manufacturing companies, you will lose some control and influence over some of the design decisions. While not a bad thing, it does mean that there comes a point when you need to step away and accept that the development and production needs of the product will begin to dictate many details that you may not have anticipated.

One other thing we have learned is that it is important to find people to do the things that you don't want to do or cannot do. Finding partners that allow you to focus on your strengths keeps the creation process exciting and invigorating while making sure that all of the necessary components of the business keep moving.

For instance, we know that our interest lies in ideation and prototype development. Getting the chance to have Handy Camel focus on marketing and product release of the WhizzBang has been a great opportunity to feel like we are still a part of the process, but without the stress of organizing that part of the product life cycle. ♥

Details: producthype.co/whizzbang/

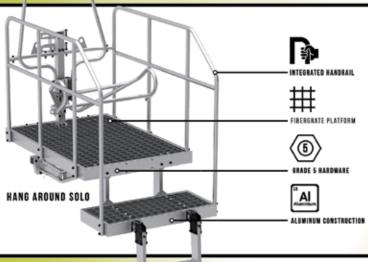
Books by Edie Tolchin (egt@edietolchin.com) include "Fanny on Fire" (fannyonfire.com) and "Secrets of Successful Inventing." She has written for Inventors Digest since 2000. Edie has owned EGT Global Trading since 1997, assisting inventors with product safety issues and China manufacturing.



SAFE

OUR PRODUCTS HAVE BEEN ENGINEERED WITH THE MINDSET OF CREATING THE BEST TREE STAND POSSIBLE. WE CUT NO CORNERS IN THE DESIGN PROCESS TO MAKE OUR STANDS SAFE, STRONG, AND SPACIOUS. THE RESULT: WE THINK WE'VE MADE A PRETTY DAMN GOOD STAND.





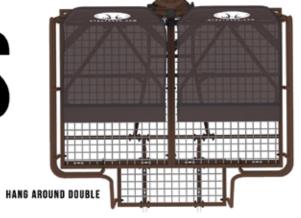
STRONG

THE ALL-ALUMINUM CONSTRUCTION GIVES THE
HANG AROUND FAMILY A WEIGHT CAPACITY OF 1,000 POUNDS.
THE DURA-CON-COATED GRADE 5 HARDWARE ENSURES
THIS STAND WILL BE STRONG AND STABLE FOR YEARS TO COME.

SPACIOUS

GO BIG OR GO HOME. THE FIBERGRATE PLATFORM REDUCES THE THERMAL TRANSFER OF HEAT FROM YOUR FEET AND IS SLIP-RESISTANT.

THE FORWARD STEP ON THE SOLO AND DOUBLE GIVES YOU EXTRA ROOM TO LOAD AND UNLOAD YOUR GEAR.











Making a **Stand for Safety**

AVID HUNTER'S INNOVATION TARGETS A LESSER-KNOWN SOURCE OF INJURIES BY JEREMY LOSAW

HRIS BERRY knows that hunting can be exhilarating, but it's not supposed to be a circus. When he took his sons with him into the woods one day to install new tree stands, the difficulty and danger of the process hit him, well, like a shot.

"I am up there looking like Cirque du Soleil at 20 feet," he recalled. "My kids are on the ground and they are laughing because they think it's kind of funny.

"Then we get home and they tell Mom what I am doing in the tree and Mom is looking at me like, 'Are you ever going to grow up? Will you please be safe?"

Safety and comfort

An avid hunter, Berry knows the activity can be dangerous—and tree stand injuries are a part of that danger. According to Orthopedic & Sports Medicine Specialists, it is estimated that approximately 10 percent of hunters are injured in tree stand-related accidents annually.

Most stands are installed onto a tree by the user and have very small platforms on which to stand. The ladder sticks that need to be climbed to reach the

> not to mention that many hunters do not wear safety harnesses and risk major injury due to a slip or if they fall asleep.

> > Berry saw the market need for a better, safer stand and formed a Charlottebased company called Heaven's Trail.

> > The first offering is the company's line of tree stands and ladder sticks. The products were designed for the biggame hunter to have a safe and fast installation and a comfortable

> > > seat so that hunters can stay in the stand longer for more successful hunts.

Three different stands are offered: the Hang Around, Hang Around Solo and Hang Around Double. The Hang Around is for solo hunters who need to hunt in a tight spot. The Solo and Double are ladder stands that feature large platforms for one or two hunters, respectively, and are used in areas that have more room around the tree.

The Hang Around sticks are ladder sections that are fastened to the trunk of the tree for hunters to ascend during installation and for ingressing the Hang Around stand. The sticks have footholds that are secure, rigid, and wide enough for climbing while wearing hunting boots. The system also features a winch that can be driven by a cordless drill to make installing the stands a breeze. All stands feature a large platform area; the custom-designed seats are extra wide for maximum comfort.

Design and IP progress

Berry's "aha moment" came while he was at a career crossroads. He had more than 15 successful years in commercial real estate, but the stress and grind were starting to wear on him. He was soul searching, seeking a pursuit that would be more meaningful. At the same time, he had been spending a number of years making his own modifications to his tree stands and had a vision of the perfect one.

He had massive enthusiasm and a great blueprint for the products but lacked the engineering and manufacturing experience to bring it to life. He found a local design and engineering firm, Enventys Partners in Charlotte, and used its contract design and engineering services to help. The company worked for approximately two years to make Berry's desired features into a great design.

During this process, the Enventys Partners team developed key innovations such as the forward step

"It is a real challenge to hire the right talent for the right position ... I made a ton of mistakes. (One) was not letting people go fast enough."—CHRIS BERRY

Far right: The Hang Around Double is a stand that features a large platform for two hunters.

Below: Hang Around Climbing Sticks provide a large, stable platform for climbing during installation. They can be left on the tree after the stand is installed.



(a step between the ladder and the platform to make getting in the stand more comfortable), and developed the winching mechanism for easy installation. Then the prototypes were built and installed in the woods to get hunters' feedback.

He conducted a number of intellectual property filings during the design and prototyping process. He filed design and utility patents on the product as well as trademarks on the logos for the brand.

Berry admits that it was a big expense for his start-up to invest in the portfolio, especially considering that Heaven's Trail is a family-run business and there is no plan to license the IP. However, he feels the patents will help the business build credibility as it expands around a unique product line.

Trail and error

Transferring the design to a suitable manufacturer proved formidable and time-consuming. Through referrals and his own research, Berry worked with a number of metal fabrication groups that also offered design services. Each firm refined the design of the stands to take cost out, reduce assembly time, and still keep the stands strong and durable.

However, it was still a struggle to find the firm that could finish the job. "It is a real challenge to hire the right talent for the right position ... I made a ton of mistakes. (One) was not letting people go fast enough."

After years of starts and stops and seven different major iterations of the product, he finally found Alabama-based Harco Metal Products, Inc. The tube bending and forming company is making the first go-to-market stands.

"They brought automation and sophistication to the manufacturing side of it," Berry said. "Being really small, you (usually) don't have the luxury of going after that."

His vision and unending perseverance have helped build a product that is resonating with consumers. The stands have been displayed at more than a dozen hunting and outdoors shows, winning Best of Show at the Virginia Outdoor Sportsman Show. The ease of installation, safety features and attention to comfort in the stand have been a hit with hunters—especially female hunters and wives of hunters who want to keep their partners safe.

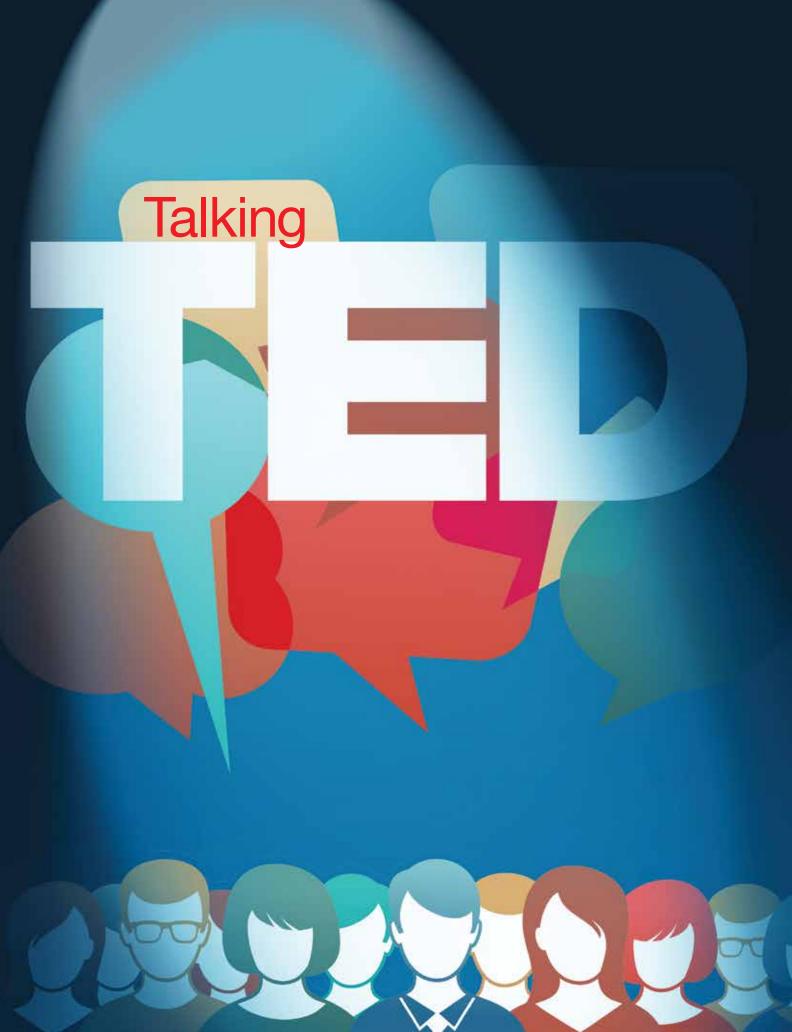
The Heaven's Trail team took its first customer order in July and looks forward to increasing sales and building brand awareness, all to develop a loyal customer base that has successful and safe hunts. €

Details: htoutdoor.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/.









10 QUESTIONS WITH JOHN RIZVI ABOUT HOW HIS TED TALKS EDUCATE CURRENT, FUTURE INVENTORS

HETHER IT WAS landing a position at the prestigious law firm Fish & Neave or moving on to start a successful firm of his own, John Rizvi is all too familiar with people telling him "you can't do that." Today the Florida attorney, adjunct professor of intellectual property law and author is among the influential IP professionals who give TED talks to thousands and sometimes millions of viewers, thanks to the internet.

Rizvi's two talks (youtu.be/QM58zSVWRMk and youtu.be/NTLTDSW0lAI) have attracted more than 100,000 views. Inventors Digest editor-in-chief Reid Creager talked with Rizvi about the art of the TED talk: his content, inspirations, strategies, lessons learned and how his speaking at TED talks relates to other aspects of his life.

You have given two TED talks. How have they been different? Similar?

They are polar opposites. The first TED talk is entitled "Dreaming Boldly: When Launching Your Dreams Full Throttle is the Only Option." In this TEDx talk, I tell the story of Alex Gomez, a client of mine who dropped out of medical school to pursue

his invention. He had an idea for a surgical camera lens defogger which would solve the problem of doctors' instrument lenses getting fogged in the operating room.

Gomez endured the skepticism of his peers and fought incredible odds to bring his idea to market. Today, his lens-defogging device has been used in more than 1 million surgeries and saves lives every day. He ended up selling rights to the idea for \$100 million.

In contrast to this first TED talk focusing upon a life-saving innovation, my second TED talk turns to more humble improvements. It is entitled "Cut the Toes Off Your Pantyhose: Patenting Solutions to Life's Little Annoyances."

In this talk, I feature a client of mine who is doing incredibly well by addressing a minor but annoying inconvenience—the smell of bathroom toilet odor. By focusing on him and other everyday inventors who are addressing life's little annoyances, I dispel the notion that world-changing inventions come only from the minds of genius scientists or solve earthshattering problems. The common theme to both is the importance of stepping out of your comfort zone and pursuing an idea you think is unique.

Which message do you feel resonates the most with an audience of current and future inventors?

I believe an important message today's inventors need to hear is that of moving past failure and not giving up. For inventors, it is often helpful to see the struggles other inventors have had before they eventually found success with their idea.

Florida attorney, adjunct professor of intellectual property law and author John Rizvi is both a gifted TED speaker and keen student of the process.



John Rizvi, who has delivered two distinctly different talks, says "the beauty of TED talks is, no matter what the topic or who the speaker is, **TED limits the duration** of a talk to 18 minutes or less. This means the speaker has to summarize their point succinctly and there is no room for added fat."

Tell us about the importance of communicating personal experiences.

When it comes to impactful communication, the messenger is as important as the message and I think TED talks perfectly capitalize on this reality. People want to hear from a speaker who has been where they are. The speaker's personal stories and anecdotes help an audience relate to the theme of their message in a way that dry facts alone won't allow.

Why is it so important that your anecdotes constantly remind inventors of the reality of failure?

The reality of failure is easier to overlook today than ever before. All we see and hear about on social media are the success stories and what I call the "highlight reels" of people's lives. This is even more true of successful inventors. Seldom do we see pictures or video of the prototypes that don't work or the product launches that flopped.

What did you learn from watching TED talks before giving your first one?

Several years ago, I stumbled upon using TED talks as a "hack" to find out the crux of any author or thought leader's viewpoint on a topic to decide if it resonated with me.

After listening to a TED talk, I could decide if the author's viewpoint resonated with me or caught my attention and then decide if I should read the author's book or invest the time and energy to learn more. If the TED talk didn't catch my attention, I could save the time and move on to something else, knowing I gave it 18 minutes of my time.

You are not supposed to judge a book by its cover, but I think it is fair to judge a book by the author's

The beauty of TED talks is, no matter what the topic or who the speaker is, TED limits the duration of a talk to 18 minutes or less. This means the speaker has to summarize their point succinctly and there is no room for added fat.

Your talks have humorous anecdotes, but perhaps not as much as in talks by other presenters. How did you arrive at your comfort level on that?

Before I was a patent attorney, I was an engineer. As an engineer, I found things fascinating that nobody else did—and I find this applies to my sense of humor about bringing a new idea to market as well.

The process of inventing something new is chock full of adventure, and this adventure is often incredibly funny to me. In my TED talks I share the aspects I find funny, and it has been wonderful to learn that my weird sense of humor resonates so well with other inventors.

Your quoting Theodore Roosevelt's "gray twilight" of accepting mediocrity in your first TEDx talk shows you draw from history in your presentations. (Ironic that Theodore would have been nicknamed Ted.) Which historical figures have most inspired you?

Although Theodore Roosevelt best expressed this concept of risking going beyond the "gray twilight"



People want to hear from a speaker who has been where they are. The speaker's personal stories and anecdotes help an audience relate to the theme of their message in a way that dry facts alone won't allow.

or comfort zone of our lives, any number of historical figures have lived by this philosophy.

My favorite are the Wright Brothers and their invention of the airplane. They could have lived out their lives safely as bicycle mechanics. Instead, they chose to risk it all by attempting human flight by stepping outside their comfort zone and launching themselves into the air on a metal contraption they designed and built themselves.

There were many college-educated scientists attempting and failing at human-powered flight, but these two brothers had no formal college education and, in fact, only one of them had even finished high school.

Oprah Winfrey is another inspiration of mine, although I would not refer to her as a historical figure (not yet, anyway). Told she was "too ugly for television," she could have limited herself to working in radio. Instead, she defied her critics by pursuing her idea of a television talk show and has become one of the most successful television personalities of all time.

What kinds of questions are you asked after giving your talks?

I am often approached by inventors who are in awe of the incredible success achieved by some of my clients. They express doubts about whether patenting is a viable option for a "regular Joe" like them.

What I tell them is, the clients of mine who have achieved incredible success with their inventions did not start out successful. In fact, they were "regular Joes," too! In fact, if you look at historical inventions that have changed entire industries, more often than not the inventor is not an employee of a well-funded corporation but a "regular Joe" who just decided to take a chance on escaping mediocrity.

It takes a lot of courage and hard work, but anything worth having is going to involve risk and hard work to get the reward.

What can you say to people who remain pessimistic about pursuing their dreams, even after being presented with anecdotal evidence to the contrary in your talks?

I can relate to their fears. In fact, it took me years of

working in the stable world of corporate patent law before I finally got the courage to quit. It was hard to resign from the top patent law firm in the world to go out on my own to represent individual inventors and start-ups.

Success was not guaranteed, but one thought kept me from turning back: I'm not going to be able to control how or when I die. It is going to happen at a time and place that will not be of my choosing.

The only thing I can control is how I live—and the sooner I start living life on my own terms, the better. Living on my terms may mean eating Ramen noodles for a few years, or even for the rest of my career, but I would rather do that than live out my days in that comfortable "gray twilight" that President Theodore Roosevelt spoke of where you never really taste victory or defeat.

You run a successful law firm now. What can you teach others at your firm through these TED talks?

I am very fortunate to have an incredibly talented group of engineers, designers, patent

illustrators and patent agents helping my clients in bringing their dreams to life. The most important lesson that I want my staff to take away from my TED talks is to never judge the potential of a client's invention by looking at where they currently are in the process, or by their track record as an inventor.

In my mind, every client of mine could be just one idea away from completely changing their life and revolutionizing an entire industry. Remember, I quit doing corporate patent law because I wanted to represent the Bill Gateses and Steve Jobses of this world—before they became Microsoft and Apple.

About **TED** Talks

TED talks began in 1984. TED— a nonpartisan nonprofit devoted to spreading ideas, usually in the form of short, powerful talks—began as a conference where technology, entertainment and design converged in a global forum. TED now encompasses many different subjects.

A TEDx talk is a local gathering where live TED-like talks and videos previously recorded at TED conferences are shared with the community. TEDx events are fully planned and coordinated independently.





Adam Grant speaks at the February "TED2016: Dream" conference in Vancouver, British Columbia, Canada.

ADAM GRANT

A PAINFUL LESSON IN THINKING OUT OF THE BOX

IS last two TED talks have been viewed more than 10 million times. He's an organizational psychologist, Wharton professor and New York Times best-selling author. But Adam Grant is candid about his failures—including the "worst financial decision" he ever made.

In one of his talks, "The Surprising Habits of Original Thinkers," he recalls a time nine years ago when one of his Wharton students asked him if he was interested in investing in a start-up. The student and three of his friends planned to launch a company that would sell eyeglasses online.

Grant felt the team was not well organized and too risk-averse. He chose not to invest. The company became eyewear e-commerce giant Warby Parker, a billion-dollar brand that was coveted by many investors.

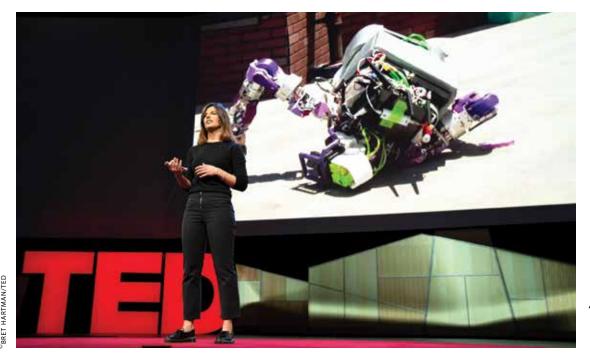
"And now"—he pauses dramatically with a wry smile—"my wife handles our investments." His larger point: There is no such thing as what a successful inventor is supposed to look like.

As a psychologist, Grant has a unique way of looking at things and helping others to see things differently. In "Are You a Giver or a Taker?", Grant 🕻 🕻 Grit doesn't mean 'keep doing the thing that's failing.' It means define your dreams broadly enough that you can find new ways to pursue them when your first and second plans fail."

—ADAM GRANT

identifies the personalities of givers, takers and matchers to promote a culture of sharing in the workplace. He opens the talk by jokingly asking audience members to identify the most paranoid person they see, and point out that person.

Grant isn't afraid to buck conventional wisdom. Although he admits that persistence can be beneficial, he's not an advocate of determination at all costs. "Never give up' is bad advice," he says. "Sometimes quitting is a virtue."



Giada Gerboni speaks at the April "TED2018: Age of Amazement" conference in

GIADA GERBONI

BIOMEDICAL ENGINEER MAKES SOFT ROBOTICS UNDERSTANDABLE

ER accent is a little hard to understand at times, but Giada Gerboni is savvy about how to keep an audience interested.

In her June TED talk on "The Incredible Potential of Flexible, Soft Robots," the biomedical engineer from Italy who works in the Department of Mechanical Engineering at Stanford demonstrates the limitations of robots' bodies, especially when not in an environment that is perfectly known and measured. A video is shown of a robot falling down while trying to perform a routine real-world task and being carted off on a stretcher.

Instead of focusing on a robot's brain and how to program it, Gerboni concentrates on its body. "What makes a robot precise and strong also makes them ridiculously dangerous and ineffective in the real world, because their body cannot ... adjust to interaction with the real world," she says.

Gerboni says the goal of soft robotics is not to make hyper-precise machines—we already have those—but to help robots be able to face unexpected situations in the real world.

She demonstrates such flexibility via a robotic fish in water and a figure that is able to crawl under a narrow passage and then get up and walk again, among other examples. She employs a short video demonstration while talking about how her research group in Europe developed a soft-camera robot for surgery that can bend in every direction and even elongate.

Video is utilized often in her talk, a wise choice given the speaker's pronounced accent and sometimes imprecise grammar. Gerboni, who has a PhD in biorobotics from The BioRobotics Institute of Sant'Anna School of Advanced Studies in Pisa, Italy, also occasionally injects humor to help make a complex topic more understandable. She presents an evolving component of robotics with clarity and authority.

🕻 🕻 Robots will be softer and safer. And they will be out there helping people."-GIADA GERBONI



"TED2014: The Next Chapter" provided a memorable moment at the close of Hugh Herr's talk when 2013 Boston Marathon bombing victim Adrianne Haslet-Davis danced for the first time since the tragedy, using a prosthetic leg provided by a team led by Herr (left). She was accompanied by Christian Lightner (right).



JAMES DUNCAN DAVIDSON/TED

HUGH HERR

ROCK-STEADY DETERMINATION AFTER PERSONAL TRAGEDY

UGH HERR has gone from a rock-climbing teenage prodigy to scaling previously unexplored innovation terrain, in a most inspirational way.

He and another climber were attempting to conquer Mount Washington in New Hampshire in January 1982 when they were caught in a blizzard and stranded on the mountain for three nights in -20F degree temperatures. The two were rescued, but not before they had suffered severe frostbite that resulted in both of Hugh's legs being amputated below the knees. After months of surgeries and rehabilitation, not only was Herr climbing again with prostheses that he designed at the Massachusetts Institute of Technology, he climbed at a more advanced level than before the accident.

Herr gave his powerful March 2014 TEDMED talk, "New bionics let us run, climb and dance," while standing onstage wearing shorts that showed his bionic legs. At the time of the amputations, he recalled, "I didn't view my body as broken. I reasoned that a human being can never be broken. Technology

Bionics is not only about making people stronger and faster. Our expression, our humanity, can be embedded into electromechanics."

-HUGH HERR

is broken. Technology is adequate. This simple but powerful idea was a call to arms to advanced technology, to the elimination of my own disability, and also to the disability of others."

Incredibly, he injected dry humor into his talk. "I made my height adjustable. I could be as short as 5 feet or as tall as I'd like. So when I was feeling badly about myself, insecure, I would jack my height up. But when I was feeling confident and suave I would knock my height down a notch just to give the competition a chance."

He said "narrow-edged feet allow me to climb steep rock fissures where the human foot cannot penetrate, and spiked feet enabled me to climb vertical icewalls without ever experiencing muscle leg fatigue."

Herr noted, however, that bionics needs to improve in order to allow everyone full rehabilitation from various injuries. That's the mission of the Center for Extreme Bionics, which he established. He described the process behind his bionic legs and how the technology has helped him resume his life.

The most stirring moment was saved for the end of the talk. In a memorable display of technological achievement, he introduced Adrianne-Haslet Davis, a dancer who lost a leg in the 2013 Boston Marathon bombing. Using a prosthetic leg Herr's team designed, she performed for the first time since the bombing in one of the most moving TED moments ever captured, contributing to the talk's 8.6 million views.



Rodin Lyasoff speaks at the April "TED2018: Age of Amazement" conference in Vancouver.

RODIN LYASOFF

AUTONOMOUS FLYING TAXIS? SPEAKER FACES OUESTIONS

MAGINE THIS," Rodin Lyasoff says in his April TED talk about autonomous flying taxis. "You call an Uber. It takes you to a nearby landing spot—we call these vertiports—there's an airplane waiting for you there (that) flies you all over the traffic in the middle, and on the other side another Uber takes you to your friend's house."

The San Jose-based Lyasoff is the CEO of A³-Airbus and former project executive for Project Vahana, which seeks to open urban airways by developing the first certified electric, self-piloted vertical takeoff and landing passenger aircraft. He talks about how all-automated electric flight opens new possibilities for vehicle configurations that will eliminate our current limitations with internal combustion engines, and far more inexpensively.

It all sounds good. After a video demonstration, Lyasoff says 20 companies are working on this technology and that there could be vertiports in selected cities as soon as five years from now. His talk lasts only six minutes.

But such a revolutionary concept has cynics. As Lyasoff is starting to walk off the stage, the event host comes out—seemingly surprising him—and asks the audience for a show of hands in terms of how many

would be willing to get out of their cars and walk into a pilotless aircraft. He's surprised by the abundance of hands he sees. He also asks salient questions about safety; Lyasoff's response is that more work needs to be done but that it's all possible.

Whether or not one is in favor of autonomous flying taxis, the questioning by the host puts a fresh spin on the conventional one-person TED talk. It acknowledges and addresses skepticism about the speaker's subject in a non-combative way and creates a conversation that is comfortable and informative.

Is the dialogue between speaker and host scripted? It's hard to know. Regardless, the everyman questions by the host add a dimension of openness to the presentation.

🕻 🕻 In the past century, flight connected our planets. In the next, it will reconnect our local communities and I hope it will reconnect us to each other." - RODIN LYASOFF





Manu Prakash speaks at TEDGlobal 2012 in Edinburgh, Scotland.

MANU PRAKASH

NATURAL, LOW-COST SOLUTIONS FOR OUR BIGGEST PROBLEMS

T'S HARD to outsmart a physicist and assistant professor of bioengineering at Stanford University, but Indian-born Manu Prakash says Earth's biological systems are doing exactly that to all of us. That's why he's devoted to developing radical new technology for global health—such as the 50-cent, "print-and-fold" origami paper microscope that won a \$100,000 grant from the Gates Foundation in 2012.

In Prakash's first TED talk (posted in 2012), he notes the microscope's importance in identifying causes of illness and deadly diseases since its discovery hundreds of years ago. He also talks about the instrument's limitations: It's bulky, expensive, and hard to maintain. The inexpensive microscope he demonstrates, with color-coded foldable components, has micro-optics that are embedded in the paper.

Once he has assembles the microscope, Prakash turns it on, throws it on the floor and stomps on

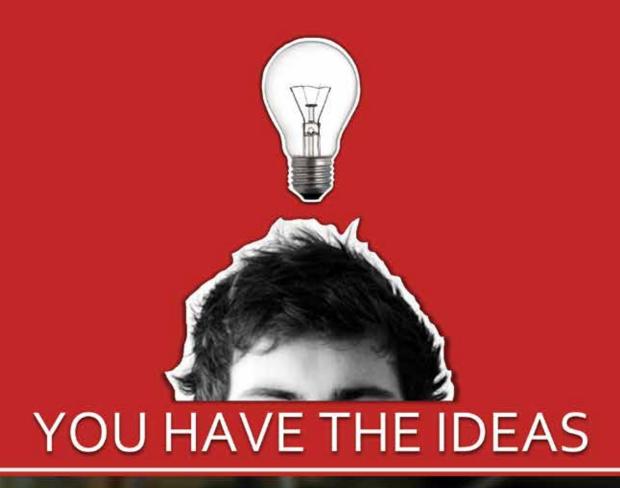
As we stand for science, we need to make a promise to make science accessible to everyone—not just the people who can afford it, but the billion kids who can't."—MANU PRAKASH it to show its durability—a dramatic show-and-tell moment in front of fascinated audiences worldwide.

He then pulls out 30 different Foldscopes of varying configurations, contained in one folder. One has a fluorescent filter specifically for identifying malaria, an example of his concept of very specific diagnostic microscopes.

"What are the tools that we are actually providing the kids who are going to fight this monster soup (disease) for tomorrow?" he says at the close of his talk. "I would love for them to be able to just print out a Foldscope and carry them around in their pockets." Prakash receives a rousing standing ovation.

Other inexpensive public health tools by this selfdescribed "gizmologist" include a mosquito identifier and paper centrifuge. Prakash also built a water computer that uses droplets as bits of information. He created a chip that can analyze the contents of mosquito saliva and help people stay ahead of infectious disease outbreaks. His discoveries resulted in his receiving one of the MacArthur Foundation's prestigious "genius grants" of \$625,000 over five years to spend however he chooses.

It would not be smart to predict that Prakash has run out of ingenious, impactful scientific innovations to share with the world in a fascinatingly entertaining way. 🕏



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Seniors' Impact on Inventing Grows

OLDER INNOVATORS OFTEN HAVE UNIQUE KNOWLEDGE, FORESIGHT BY JOHN G. RAU

N ONGOING major thrust in the inventing world focuses on inventions that help senior citizens in their daily lives, covering a broad range of applications. Examples include gadgets and technology that can help seniors remain safe in the comfort of their own homes: in-home and remote monitoring sensors; medical alert devices; locking medication dispensers and reminders, and various mobility products that allow seniors to get around easier even with decreased mobility.

This current and future relevance in the inventing realm cannot be overstated. The over-65 population in the United States is the fastest-growing age demographic, according to the United States Census Bureau.

Specifically, based on its press release No. CB18-41, dated March 13, 2018: By 2030, all baby boomers (1946-1964) will be older than 65, resulting in a

to invent something useful that give them an advantage over younger inventors. This is the point made more than 2,000 years ago by the Roman playwright Terence, who said that "No man was ever so completely skilled in the conduct of life, as not to receive new information from age and experience."

Notable older inventors

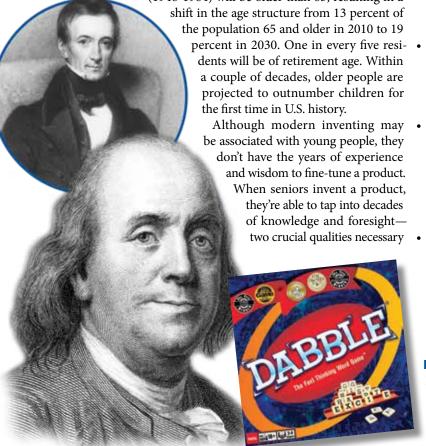
History provides many documented examples of successful inventions and new products by seniors. Probably the best known such inventor was Benjamin Franklin. He created bifocal glasses at 78, giving seniors the ability to see up close and far away at the same time. Other noteworthy examples provided by Living Senior in its April 24, 2014, blog:

- Peter Mark Roget's "Roget's Thesaurus," the gold standard for synonyms, was published when he was 73. He supervised all revisions for the next 17 years until his death.
- George Weiss was 84 when he invented the board game Dabble, in which players get tiles with letters on them and have to come up with words as fast as they can within a limited time. For this, he was awarded the 2011 Game of the Year.
- Gys van Beek was 85 when he invented the all-purpose survival tool Trucker's Friend, a multi-purpose tool specifically designed for any situation that requires hacking, chopping, prying, pulling or pounding. It includes a curved axe, hammer, nail puller, tire chain hook, pry bar, lever and spanner wrench.
- Charles Greeley Abbot became secretary of the Smithsonian Institution at age 56. At 99, he invented the solar cooker that used the energy of direct sunlight to cook food and heat beverages. At that time, he became the oldest person to receive a patent and may still hold the record as the oldest inventor.

Reports support trend

Research studies show that senior citizens make up a group that is surprisingly tech-savvy; cellphones, smartphones, tablets, e-readers and social media sites are all used by varying portions of the older





Within a couple of decades, older people are projected to outnumber children for the first time in U.S. history.

generation. In this regard, an article appeared in the April 17, 2015, New York Times by Constance Gustke entitled "More Older Adults Are Becoming Inventors." She noted that there is a "rising tide of American innovation" in the sense that older inventors are teaming up, joining inventor clubs and getting their products into the marketplace.

This year, the July 10 issue of the San Francisco-area community newspaper Independent News reported an innovative collaboration. Several years ago, residents of the Livermore retirement community Watermark at Rosewood Gardens joined students from Livermore High School to start a project called "Seniors Helping Seniors" to work together on inventions designed to make life easier for older adults.

Examples include building a hands-free umbrella for use with walkers; a handle device to assist a person with leg or knee weakness to stand up confidently from a sofa, and inventing knobs for lamps. According to project leaders, students meet with

senior residents to discuss their progress and test their inventions with seniors who have backgrounds that include the sciences, engineering and library science, to name a few.

Perhaps many people don't realize that seniors are active in the inventing landscape and have demonstrated the ability to identify and define their own problems and invent solutions. The new wave of baby boomers exhibits essential attributes and characteristics for inventors: independence, competitiveness, possibly more open-minded social values than older generations, focused on health and wellness, and the valuing of individuality. ♥

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.



Critical Steps to getting your NEW PRODUCT "out there"

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The Soul of Patents Can Be Creepy

INCREASING NUMBER OF APPLICATIONS COMING FROM BIG-BROTHER CORPORATIONS BY LOUIS CARBONNEAU

HIS YEAR'S 10 MILLIONTH utility patent marked a symbolic milestone. More important, it gave pause for many to reflect upon the fundamental question: Why does one file for a patent?

Those who personally interact with inventors daily know that their motivations vary greatly. Many individuals want the social recognition that they have contributed something of value, and a patent is the currency that proves it. For them, a patent is something you frame and provides bragging rights. They often have no ulterior motivation.

Others dream bigger and often believe that once they obtain a patent, they have unlocked the key to paradise and solved a world's problem worth a monumental investment from others. They often drop back down to earth after having tried unsuccessfully to commercialize it for years, only to realize that having a great idea (and a patent) was just the beginning and that the hardest part—by far—is bringing a product to market.

Others are more realistic in terms of their skill sets and are happy to look for partners who will license or sell their invention. Most of these people also fail miserably, as companies nowadays rarely feel the need to pay to license in rights from inventors especially if the product is half-baked and most of the work is still to come. The fear of an injunction that could stop them from selling an infringing product, a driver once upon a time for licensing deals, is no longer present.

On the other side of the spectrum, we see large corporations still filing thousands of patents a year while at the same time lobbying hard to weaken the patent system. What may appear to many as a rather schizophrenic behavior (why devalue an asset class you keep investing in internally?) is actually quite clever: Patent enforcement is rarely a battle between who is right and who is wrong but rather who has the resources to fight a long, protracted battle. At that game, the house always wins, and this means a patent becomes a lot more valuable in the hands of someone who has vast resources to enforce it than in those of inventors who do not.

An unpleasant peek

Patent filings also offer an opportunity to take a rare peek into the "soul" of a corporation, as it gives a preview of where the company's research and development efforts are directed—sometimes years before the product sees the light of the day (if it ever happens). As large technology companies yield more power and influence (i.e., Amazon getting billions in tax credits for its HQ2 corporate headquarters or forcing the City of Seattle to reverse itself on a "head tax" to help with the homelessness crisis it is partially responsible for), the last thing the citizenry wants to see is a Fortune 50 company receiving a government-approved monopoly on technology that will only accelerate that trend.

Yet we have noticed lately more patent applications emanating from large corporations that pertain to what I would call the "big brother" category. Recently, the New York Times reported: "A review of hundreds of Facebook's patent applications reveals that the company has considered tracking almost every aspect of its users' lives: where you are, who you spend time with, whether you're in a romantic relationship, which brands and politicians you're talking about. The company has even attempted to patent a method for predicting when your friends will die."



The Guardian recently reported about the publication of another Facebook patent application describing a system that would allow the company to "activate your phone's microphone, using inaudible signals broadcast via a television, to monitor your television viewing habits." Creepy? You bet. Want more? "A newly public patent shows Facebook is eyeing tech that automatically chooses an animated selfie based on your current emotional state."

To be fair, Facebook is not alone in its quest to exert more control over people's information or behavior. We've seen patents from almost all large technology companies that were some variations on this theme. Recently, there were reports about Walmart having obtained a patent for "technology that will allow bosses to eavesdrop on their workers. The audio surveillance technology can measure workers' performance and listen to their conversations with customers at checkout." This is probably just a temporary measure because most cashiers will eventually be replaced by robots, but nevertheless ...

Advancements described in a patent can be used in everyday scenarios, such as a recently issued patent to Samsung pertaining to new facial and iris recognition. But you can easily see the slippery slope. If you cannot trust a company's management to maintain a certain moral compass, it becomes incumbent for employees at these large organizations to hold the company accountable to higher ethical standards—as Amazon employees did recently when they asked Jeff Bezos to stop selling Amazon's own face-recognition software to law enforcement. These people deserve a big, free, two-day-delivery hug from the rest of us who do not want our every moves tracked.

This followed similar employee activism at Google over providing AI technology to the Pentagon, and at Microsoft over its contract with the U.S. Immigration and Customs Enforcement. In other words, in all of these cases, the company had to change course because of internal pressures from the rank-andfile. Robots won't have those ethical quandaries in the future, so now may be the right time to start thinking about types of patents that should be given additional scrutiny before being allowed—just like any patent application that could affect national security is currently subject to an additional screening.

Meanwhile, wear sunglasses and leave your phone at home when you go for a walk!

Buyers and sellers

Despite the usual summer slowdown, we've still seen a fair amount of activity on the IP transaction side. Google took a trip to the Middle East to snatch Israeli start-up **LucidLogix**, which had ceased operations a few months prior. Google reportedly paid \$40 million for the defunct company's assets, the lion's share being Lucid Logic's patent portfolio. This is a rare happy ending for a company gone bust. It goes to show that a strong IP portfolio can still be of significant value, even when a company is not successful commercially. ...

Close to home, defensive aggregator RPX reported "a number of acquisitions on behalf of its patent risk management network in June 2018, obtaining rights to the patents involved either to end litigation against its members or to prevent it in the first place." Given the RPX practice to do licensing deals as well as straight acquisitions, it is unclear whether this announcement covers both or just the latter. The transactions are said to have occurred within the Mobile Communications and Devices market sector, as well as in the networking space. ...

After divesting a portion of its portfolio to Quarterhill-owned Canadian non-practicing entity WiLAN, MagnaChip Semiconductor doubled down and assigned some of its patents to Texas-based NPE Longhorn IP. ...

We don't often hear of IP-driven transactions in the medical device space, but on July 9 **Bovie Medical** announced a deal with Tennessee-based Specialty

HANDSHAKES

WiLAN announced two licensing deals—one with **Brother**, the other with **Etron**— apparently involving patents from Kodak and Infineon, respectively. ...

Who wants to go to court in the summer, especially when training camps for the National Football League are under way? Apparently not the NFL, which opened its checkbook and settled a pending case brought by **OpenTV** that alleged infringement of eight of its patents. ... The sunny days also seem to have made lighting technology less quarrelsome; it would appear that Taiwanese LED maker **Epistar** shook hands with All Star Lighting. The light bulb went off, and it looks like several lawyers will be able to take their summer vacations after all.

... Fitbit and Immersion also called off the hostility by settling their dispute over haptics patents. ...

Interdigital announced that it entered into a multi-year, worldwide, non-exclusive, royalty-bearing patent license agreement with Fujitsu Connected Technologies Ltd. What is remarkable these days is that it was achieved without any litigation. Do the Japanese know something U.S. companies don't?

Surgical Instrumentation Inc. whereby SSI will receive Bovie's electrosurgical business and related IP in exchange for a \$97 million cash payment. ...

After previously picking up assets from Sharp, Intel and SK Telecom, Chinese mobile devices manufacturer Oppo made its largest patent acquisition so far by acquiring more than 20 patent families—totaling about 240 individual assets that cover audio and visual technologies—from Dolby.

Winners and losers

U.S.-based Motorola sent a loud and clear signal that its two-way radio technology patents were not to be encroached upon when it scored an initial International Trade Commission victory against China's Hytera Communications. A final decision (and possible ban to importing in the United States) is due this fall. ...

Tech giant **ZTE** was condemned to pay **Maxell** \$43 million for infringing its smartphone patents. But it wasn't a half-bad week for the beleaguered Chinese company, as the Trump Administration lifted its prohibition to sell products in the United States after a few weeks' hiatus. ... Pursuing its winning streak, publicly traded non-practicing entity **Finjan** successfully closed a campaign against Trend Micro that saw the latter take a license to Finjan's cyber security portfolio. At \$13.5 million, no one will argue this was a mere nuisance settlement. ... Another publicly traded IP company, Marathon Patent Group, faces a possible delisting from NASDAQ after losing two of its board directors. ...

It appears that patenting is still an old boys' club, as recent research found that only 7.5 percent of patents were granted to women and that just 5.5 percent of patents commercialized or licensed were done so by women. Clearly, there is no doubt that women are as innovative as men, and female underrepresentation in the engineering world (15 percent to 20 percent) only partially explains this phenomenon (as you'd otherwise have the same percentage of female inventors). Hopefully, this will change with time.

From the bench

You must have heard that President Trump chose appellate judge Brett Kavanaugh for his next Supreme Court nominee. Apparently, Merrick Garland was no longer available. ... Given how many times SCOTUS has left patent owners holding the bag in recent years, everyone should be supremely interested in what Justice Kavanaugh (should he be confirmed) has to say about IP.

Around the world

European Patent Office Director Antonio Campinos began his five-year tenure and replaced controversial predecessor Benoît Battistelli, who was at the helm for the eight previous years. Battistelli has been accused of abusing staff rights at the office, including introducing proposals to scrap permanent employment contracts, allegedly dismissing staff members against the wishes of the administrative council, and overseeing "shocking events" at the office. And you thought the White House was a mess? ...

The European Commission has set up a group to consider licensing and valuations of standardessential patents. The SEP group was created by the commission to "deepen the expertise on evolving industry practices related to the licensing of SEPs in the context of the digitalization of the economy." ...

It has been said numerous times that **China** loves to share other people's secrets, but apparently not its own. China is filing cybersecurity patents at an "unprecedented level," according to a report from Minesoft and Patinformatics. The report showed that China had surpassed the rest of the world in cybersecurity patents, with a specific focus in the sub-category of authentication.

Similarly, taking a page from the Apple-Samsung playbook, the number of applications for design patents with graphic user interfaces in China has grown rapidly during the past three years at a rate hovering around 50 percent. Patent filings around business methods are also surging in China due to a more favorable policy environment. Why does it sound like the United States 10 years ago?

On the legislative front

Our dear elected also had a burst of energy before leaving to do what they do best: fund-raising. U.S. Reps. Thomas Massie (R-Kentucky) and Marcy Kaptur (D-Ohio) recently introduced H.R. 6264, the Restoring America's Leadership in Innovation Act. (I love those titles, by the way; it's like watching a movie trailer. You don't really need to see the details because you know exactly what the subtext is.)

Nevertheless, this pro-patent bill received support from the usual pundits and was opposed by unsurprisingly by the large tech companies. Because it will likely join the rest of the patent-related bills stalled in Congress for years, there's no need to delve into this too much, but for mentioning that this continues the streak of pro-patent legislation and provides a decent view of how our politicians view this narrative. We've come a long way since all you had to do was say the word "troll" and everyone would answer "patents bad." ...

I'LL SEE YOU IN COURT

In life as in patent assertion, grit and resilience are paramount skills to success. Body camera manufacturer Digital Ally can attest to this as its patent suit against Taser and WatchGuard can now move to the next phase after having successfully fended off no fewer than five direct challenges to its validity. And I always thought you could only shoot a Taser once! ...

Remember the Supreme Court decision in Oil States Energy Services v. Greene's Energy Group that validated the constitutionality of the Patent Trial and Appeal Board? We discussed it extensively in previous columns, including the veiled invitation by SCOTUS to claim that invalidation of a patent by an administrative tribunal could be seen as a "taking" under the U.S. Constitution. This quickly led to a class action initiated by a patent owner whose invention was declared invalid by the same agency that first granted it, the United States Patent and Trademark Office. Not surprisingly, the Department of Justice is now arguing in a motion to dismiss that case summarily that inter partes reviews do not amount to such a "taking" and the lawsuit should be rejected. ...

I've been asked by one of our readers to handicap the patent trial between **Groupon** and **IBM**, which I declined to do. I am not in the individual prediction business; I would rather focus on trends and industry-wide shifts. Although I am often called to consult with analysts who want to know who has the upper hand in some specific patent battle, my response is always the same: There are only two parties who really know that case in depth enough to comment (i.e. each party's main counsel), and one of them is invariably going to be wrong. Regardless, it is going to be an interesting one to watch, as we rarely see a Fortune 50 company not named Apple go all of the way to trial on patent cases. If IBM loses, I hope it had bought a discount from Groupon. ...

Speaking of **Apple**, it pulled out the big guns against arch-nemesis Qualcomm and fired a salvo of six IPR challenges to Qualcomm's patents. It appears the recent settlement between Apple and Samsung has freed some extra resources at its headquarters in Cupertino, California. ... British Telecom, another behemoth, recently flexed its IP muscles by filing a lawsuit accusing Fortinet of infringement of five of its patents around cybersecurity.

Of more immediate significance is the ongoing effort to tackle the U.S. patent code Section 101 beast (patentable subject matter) at many levels. It was heartening that the always influential New York Intellectual Property Law Association "has decided to support the joint IPO-AIPLA Section 101 statutory proposal as the best path forward to advance the debate on patent eligibility." This effort is the most likely to bring forth changes in the near future, assuming the courts decide to follow its lead. €

Louis Carbonneau is the founder & CEO of Tangible IP, a leading IP strategic advisory and patent brokerage firm, with more than 2,500 patents sold. He is also an attorney who has been voted as one of the world's leading IP strategists for the past seven years. He writes a regular column read by more than 12,000 IP professionals.



Sharing Prototypes and Ideas Safely

5 WAYS TO AVOID BECOMING A HORROR STORY BY JEREMY LOSAW

TUART ANDERS was excited, and with good reason. He and his partners were about to debut their product, the Slap Wraps bracelet, at the annual New York City toy fair in 1990.

That excitement soon turned to despair. Other toy companies took his idea and manufactured similar products that hit stores well before Slap Wraps did. His business was ruined. Years of development went down the drain.

This is part of why releasing an invention into the world is a scary thing. Inventors invest countless hours and brain power on their products, so it can be nerve-racking to finally let drawings or prototypes see the light of day. At best, it is an invitation for criticism; at worst, it is an idea that can be stolen.

Despite cautionary tales like Anders's, there are safe ways to share innovations— whether it be for feedback or help with prototyping. Here are five techniques to safely share your ideas and prototypes.

The NDA

The non-disclosure agreement is the first crucial step in keeping your idea safe. An NDA is a legal document between two parties, outlining that confidential material can be disclosed between them.

Both parties are legally bound to hold that

knowledge private and not use that information for their own gain.

> If one of the parties violates the agreement, the disclosure can be subject to

> > legal recourse.

Sometimes, NDAs are referred to as CDAs (confidential disclosure agreement), with similar protections. NDAs are a must if you are showing an innovation to anyone offering feedback or to someone who

At my workplace, Enventys Partners, we always get an NDA in place with a potential client before asking for images, CAD files, or any other documentation. If a service provider does not offer one or will not sign one, be wary of his or her reputability. NDAs are simple to produce, and an internet search will lead you to templates that you can use and modify for yourself. Of course, having a lawyer help review it is strongly recommended.

The PPA

Filing a provisional patent application is an effective and inexpensive way to keep your innovation protected. A provisional patent application filed with the United States Patent and Trademark Office includes disclosures of your innovation, drawings and claims. It allows you "patent-pending" status and gives you one year of protection before you have to convert the filing into a full utility patent. Provisionals are useful for those who are going to launch a product at a trade show or on a crowdfunding platform.

Depending on the status of your business entity, if you are willing to write the provisional patent application yourself it can be filed on the USPTO website for as little as \$70. The application can also be filed with the help of a patent attorney; that fee is usually about \$1,000 or more, depending on the innovation's complexity.

Get references

Many inventors need a specialist or technical service provider for help with some part of the product development process. Whether this will be for prototyping, design, 3D printing or other service, it is important to get references. Some service providers may quote an attractive price, but if they are not skilled or reputable, they may do more harm for your product than good. Ask for the contact information of another client they have helped within the last year and follow up to hear about their experience.

If you are getting design work done, ask to talk directly to the industrial designer or engineer who

Samantha Wolfe and her dad, Bruce, filed patents before showing their heated lacrosse stick at this year's Consumer Electronics Show.





and if they have many satisfied clients and intelligent designers you have a very high probability of getting great service and keeping your idea safe.

Go DIY

This is where prototyping knowledge and skills can be of particular use. If you still have a mental hurdle about sharing your innovation—even with an NDA and provisional patent application in place—or you are working on a truly groundbreaking product, the only option may be to do all of the development work on your own. High-quality maker tools such as 3D printers and other shop items have come down in price a lot over the last few years, and it is reasonable to outfit a garage with all of the requisite equipment.

If you are not a designer by nature, there are plenty of YouTube videos and tutorials to follow to learn any major CAD package or technical skill. The DIY route

Avoid inventor narcissism

This is my term for a state of mind that inventors get into sometimes. They feel their idea is so great that they either will not tell you about it or are unwilling to hear any constructive feedback. But the truth is, discussing your idea or product concepts with others you trust may give you key insights to make your product much better or give you the spark to create something completely different that you hadn't thought of yet.

As long as you have taken steps to protect your intellectual property, either via NDAs or by filing a provisional patent application, talking to others about your idea is a low-risk proposition that has a lot of potential upside. Besides, most people you meet will not be able to steal your idea in a meaningful way, even if you explained it to them and gave them all of the files.





Bill Proposed to Safeguard Patent Owners

INVENTOR PROTECTION ACT IS MEANT TO COUNTER RECENT U.S. RULINGS BY STEVE BRACHMANN

ATENT HOLDERS would get help in bolstering their rights against infringers via recent legislation that was introduced by U.S. Rep. Dana Rohrabacher (R-Calif).

H.R. 6557, the Inventor Protection Act, was introduced into the House of Representatives on July 26—the latest proposed legislation to help undo some of the more damaging effects of recent federal government actions on patent law, which have negatively affected the ability of patent owners to enforce their patent rights against infringers.

cally designed to counteract aspects of two decisions made by the U.S. Supreme Court that limited both the legal remedy available to patent owners prov-

ing infringement, as well as the option of

district courts for filing patent infringement cases. As the proposed bill notes,

the right to exclude others from practicing a patent technology through an injunction was stripped by the Supreme Court's 2006 decision in eBay v. MercExchange. Likewise, patent owners are no longer able to file infringement suits in their home jurisdiction, thanks to SCOTUS's decision last year in TC Heartland v. Kraft Foods Group Brands.

Provisions of the legislation have been specifi-

U.S. Rep. Dana

co-sponsor of The

Restoring American

Rohrabacher (R-Calif.) is also

Leadership in

Innovation Act.

Caveats and details

Before anyone gets too excited, however, one of the aspects of this bill is that the legislation would create a definition for "inventor-owned patent," referring to patents that are held entirely by the inventor of the claimed invention. The provisions of this bill are limited to this kind of patent.

So it appears that companies acquiring patents from inventors will not benefit from the protections this legislation would afford to inventors owning their own patents. There also could be some question as to whether holding companies set up by an inventor to hold the patents for licensing operations would find this bill advantageous.

To counteract the effects of TC Heartland, the Inventor Protection Act would give an inventor the right to bring a civil action for patent infringement where the defendant is subject to the court's jurisdiction or where the defendant has committed an act of infringement. An inventor asserting an inventor-owned patent would not be limited to those jurisdictions where a defendant has a regular and established place of business.

On the flip side, anyone seeking a declaratory judgment against a patent owned by an inventor can only do so within the district where the inventor is domiciled, or where the inventor consents to have the action brought. Further, if the inventor is a party in an action involving an inventor-owned patent, the

Among other benefits, the bill rolls back the effects of eBay v. MercExchange by restoring the court's presumption of irreparable harm to an inventor upon a finding of infringement.

case can only be transferred to another venue if the inventor consents to the transfer.

The bill also rolls back the effects of eBay v. *MercExchange* by restoring the court's presumption of irreparable harm to an inventor upon a finding of infringement. The proposed legislation would also create a series of simplified damages available to an inventor proving infringement of his or her patent. These damages include the total profits attributable to the infringing party's use of the patented invention or 25 percent of the sales attributable to the infringing use. The bill retains the language enabling an inventor to request trebled damages for willful infringement, while also including a presumption that the infringement is willful if the infringing party is an expert in the field of the invention.

The Inventor Protection Act would also give inventors some much-appreciated ability to remove themselves from patent validity trials conducted by the Patent Trial and Appeal Board. First, the bill prevents any executive agency other than the U.S. Patent and Trademark Office from making a determination about the validity of a patent within the executive branch.

Further, the bill would prevent the USPTO from re-examining, reviewing or otherwise making a determination about the validity of an inventor-owned patent unless the inventor voluntarily agrees to that determination process. The Restoring American Leadership in Innovation Act, which is co-sponsored by Congressman Rohrabacher, goes much further in eliminating the PTAB entirely.

'A new day is dawning'

Randy Landreneau, the president of inventor advocacy group US Inventor, reacted to the legislation:

"A new day is dawning for American innovation as legislators are realizing that inventors have been effectively shut out of our patent system without any realistic path to enforcing their hard-earned patents. Passing this bill will restore confidence in patent rights and draw capital investment back to small disruptive businesses built on the ingenuity of American inventors."

Rohrabacher's office was contacted for a comment as to why this bill has been introduced after the congressman co-sponsored the Restoring American Leadership in Innovation Act. His office forwarded the following official statement.

"The United States Constitution specifically secures for inventors the exclusive right to their discoveries, but, unfortunately, legal protections for those rights are on the decline.

"Too often we see multinational corporations stealing the property of those who do not have the resources to defend themselves, then tying up inventors in endless reviews and litigation. Worse, the system is now structured to make it economically worthwhile for those corporations to pursue this strategy. The founders of this nation rightly understood that property rights, including to one's writings and discoveries, are essential to liberty and economic prosperity. That is why they were written into the Constitution."

Steve Brachmann is a freelance writer located in Buffalo., N.Y., and is a consistent contributor to the intellectual property law blog IPWatchdog. He has also covered local government in the Western New York region for The Buffalo News and The Hamburg Sun.







Iancu:

Clarity Coming on Patents, PTAB

PROPOSED NEW RULES SEEM TO HAVE MOMENTUM

BY GENE QUINN

And Trademark Office, says new guidelines and/or processes regarding patent eligibility and Patent Trial and Appeal Board reforms should be coming soon.

Iancu spoke at the quarterly meeting of the Patent Public Advisory Committee on August 2, followed by a question-and-answer period. "We are working on various issues coming out of the PTAB," he said.

The director was referring to proposed rules relating to the switch from the broadest reasonable interpretation of a claim in post-grant proceedings to what is known as the *Phillips* standard—the claim construction standard used in federal district court, and which the U.S. Court of Appeals for the Federal Circuit has referred to as the true construction of the claim. (Under the *Phillips* standard, which originated in the 2005 *Phillips v. AWH Corp.* federal circuit

ruling, district courts look to both intrinsic evidence such as the specification and claims of the patent itself as well as the patent's prosecution history.)

Iancu said the USPTO received more than 350 comments relating

to the proposed rules, and work is ongoing as the office reviews those comments. Although he did not characterize the substance of the comments, it is understood that the bulk of the comments received were either supportive or neutral.

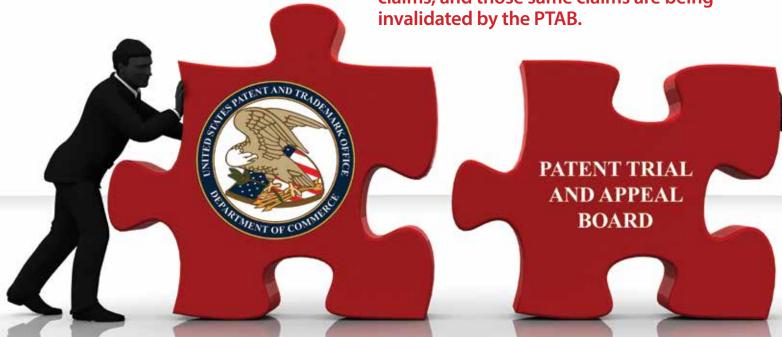
He added: "We are looking at a variety of other issues with respect to the PTAB, such as the Trial Practice Guide, and the like."

'Big hill to climb'

Asked about the business community losing faith in the patent system and the importance of his leadership in the public eye, Iancu explained:

"We do have a fairly big hill to climb. There is absolutely zero doubt in my mind that the patent system is critically important, that having a robust patent system is critically important. All we have to do is look at our history, from the founding of the

Former USPTO General Counsel Bernie Knight said the user community is very concerned that USPTO examiners are issuing claims, and those same claims are being invalidated by the PTAB.



Republic until today, and all the amazing technology and science and growth that we have experienced in this country... and throughout all that time, and all that work, it was backed by the patent system. ...

"We really must have faith in the system; the business community must have faith in the system. ... We need to have a very careful balance and understand the pressure points. The last thing we need to do is to ignore or downgrade the patent system. That will have a detrimental affect across the board. Instead, we need to have a robust system in a balanced fashion."

PPAC member and former USPTO General Counsel Bernie Knight raised the question about the difference between what happens in examination and what happens before the PTAB. He explained that the user community is very concerned that examiners are issuing claims, and those same claims are being invalidated by the PTAB.

"I certainly agree it is important to have certainty of patent rights," Iancu said. "The boundaries of a patent cannot possibly depend on the happenstance of which tribunal will review that patent years down the line, because you don't know whether it might be the PTO that takes it up first, the district court or the ITC that will take it up first. The boundaries, at least from an objective point of view, should be the same no matter who reviews it. That is one of the main reasons we proposed the claim construction standards should be the same."

He added that he doesn't believe the result of post-grant proceedings should be an all-or-nothing proposition. He explained the statute envisions an amendment process, which would allow claims that might be invalid as originally granted to be fixed. This is why he believes "a robust amendment process is critically important."

Facing PTAB questions

"Let me mention one more thing that I did not mention in my opening comment, which is the question of the review panel itself," Iancu said. "There has been some criticism out there about the way we sometimes enhance or expand the panel. I don't particularly subscribe to those criticisms, but I hear them. So, we are working toward clarifying that process to provide more transparency, both to the parties to the process as well as to the public."

> Knight suggested to Iancu that "I would think one great initiative

would be to make certain the (PTAB) judges are following the same guidelines the (USPTO) examiners are following."

"Thanks for the suggestion. Let me just state the obvious: We are one agency," Iancu said with a smile.

Members of the PTAB do not follow agency guidance, and if Iancu can truly get the USPTO to operate as one agency on the same page that would be a tremendous legacy. Given the latitude the director is getting from the Department of Commerce and the White House, as well as his accomplished track record in the private sector, I don't doubt that he has as good a chance as anyone to accomplish that goal. But it is not going to be easy. ©

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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INVENTIVENESS

IoT Corner

Storied designer Tommy Hilfiger recently announced a new line of connected clothing, pairing haute couture with high tech.

The XPLORE line of women's and men's jeans, T-shirts,, sweats and accessories feature the Awear Solutions' Bluetooth low-energy smart tag embedded in the garments that syncs with smartphones. When customers pair it with the Tommy Hilfiger XPLORE app, they can earn points by wearing the garments, or by searching for icons on the app's virtual map (similar to the blockbuster app Pokemon GO). Users can redeem the accumulated points for gift cards, signed merchandise, pieces from the Tommy Hilfiger archives and more.

This new implementation of IoT-enabled clothing follows last fall's announcement of Levi's partnership with Google to create a smart jean jacket that allows users to control music and other apps. The Tommy Hilfiger XPLORE line starts at \$39.50 per

garment, available online and in brick-and-mortar shops. —Jeremy Losaw



Wunderkinds

At 12, Alexander Deans' chance encounter with a visually impaired woman inspired him to develop the iAid, a navigation device for blind people. The Organization of American States named the iAid one of the top 50 ideas worldwide for technology in health, energy and medicine. A minor planet was named after him by MIT's Lincoln Laboratory. Now 21, the

Canadian-British inventor was appointed as the Queen's

Young Leader by Queen Elizabeth II at Buckingham Palace in June 2017. More recently, he has teamed with ad agency McCann to create a new technology to stop teens from texting and driving, and gave TEDx talks in Monte Carlo and Frankfurt.

What IS that?

Heavy Meta is an extreme example of innovation that was on display at the recent Maker Faire Detroit. It's a 30-foot-long, mobile metal dragon made of hand-cut, hand-welded sheet metal panels built atop a GM bus. The Maker Faire website says "she is a terrifying and beautiful beast, and of course Heavy Meta shoots fireballs from the tail and animatronic mouth."

The amount it cost the TV show "Mad Men" to use the Beatles song "Tomorrow Never Knows" in a 2012 episode—the first time a TV show used a Beatles master track. Paul McCartney and Ringo Starr are reportedly big fans of the show.

WHAT DO YOU KNOW?

- Which of the following is not a famous father-son inventing duo?
 - A) Thomas and Theodore Edison
 - B) Alexander Graham Bell and Alexander Melville Bell
 - C) Sir Hiram Stevens Maxim and Hiram Percy Maxim
 - D) Benjamin Franklin and William Franklin
- True or false: Unlike patents, trademarks have no expiration date.
- In which decade was the first usable electric toothbrush invented: 1040 toothbrush invented: 1940s, 1950s, or 1960s?
- True or false: The ice cream cone was invented by a waffle vendor.
- 5 In which year was the mechanical pinsetter used at howling allows in used at bowling alleys invented?

A) 1922 B) 1936 C) 1946 D) 1953

ANSWERS: 1. D. Benjamin Franklin's illegitimate son and the last colonial governor of New Jersey, William Franklin had a strained relationship with his father. 2. False. Trademarks expire after 10 years, unless the owner files an Application for Renewal within that time that begins with the date of registration. 3. In 1954, by Swiss doctor Philippe Guy Woog. 4. True. Legend has it that Charles E. Menches's invention at the St. Louis World's Fair in 1904 happened when an ice cream vendor ran out of cups. Menches rolled up his waffles to hold the ice cream. 5. B. By Gottfried Schmidt.

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