

# Inventors

JULY 2020 Volume 36 Issue 07

DIGEST

## Good, Clean Fun

SOAP PRODUCT FOR KIDS  
PROMOTES HANDWASHING

**A Crawl, Not a Zoom**  
THE SLOW EVOLUTION  
OF VIDEOCONFERENCING

**The New Normal**  
IP MARKET STILL  
HAS OPPORTUNITIES



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FULTON, MO

# SAY HELLO TO INNOVATION

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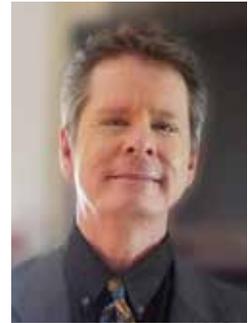
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## Taking a Gamble, 50 Issues Later

April 30, 2016. Seemed like a typical sun-splashed, shirt-staining Saturday afternoon in Charlotte, where I sat in an urgent care waiting room following my latest ubiquitous softball injury.

I was miffed, but not about my minor groin pull. Playing left field with two out in the bottom of the last inning in a close game, I just *knew* that little lefty hitter was going to try to fool everyone by sending a ball out my way. So I gambled heavily and was a couple steps in motion when he complied.

The ball was screaming down the left field line; the opposing team echoed those screams. The yellow sphere was sinking fast. I began a headlong dive for it and felt pretty confident I had it ... but my do-or-die play was DOA. The ball bounded past me all the way to the fence, retrieval of the ball was fruitless, three decisive runs scored, and my team trudged off the clay-baked field a loser.

There might have still been some annoyance in my voice when I answered my phone in the waiting room. It was Eventys Partners founder, CEO and *Inventors Digest* Publisher Louis Foreman, indicating he would offer me the job as editor of the magazine.

I was thrilled and intimidated. Despite a 30-year career writing and editing for many major publications, I had never been a boss. For all I knew, intellectual property was Gore Vidal's mansion. Plus, the timing of the hire was a little late for the monthly publication schedule; I was already a week behind on the June 2016 issue.

As I complete my 50th issue as editor this month, I can look back with pride on how the magazine has grown since then. There has been a concentrated effort to feature more female and minority inventors; more material that appeals to a general audience, including IP that has enduring impact in pop culture; a growing nod to social media and technology in the creation and marketing of inventions; and so much more.

As much as it is a pleasure to work with monthly *ID* veteran columnists that include Jack Lander and Edie Tolchin—and Eventys Engineering Director Jeremy Losaw, with his robot-like brain — it's also a privilege to have access to Gene Quinn's high-quality *IP Watchdog* content. It has been just as enjoyable to bring on Elizabeth Breedlove (also our webmaster) and Alyson Dutch for their expertise in social media and marketing, respectively.

The most fortunate aspect of my getting this job was inheriting an art director, Carrie Boyd, who ensures that every page of the magazine looks professional and attractive. Carrie is the person most responsible for the face and personality of the magazine.

A lot has happened in the inventing world in the past 50 months, including the issuance of the 10 millionth U.S. patent. Thanks to all readers for their patience with my never-ending learning curve even if sometimes I am diving at air.

—Reid  
(reid.creager@inventorsdigest.com)

**EDITOR-IN-CHIEF**  
REID CREAGER

**ART DIRECTOR**  
CARRIE BOYD

**CONTRIBUTORS**  
ELIZABETH BREEDLOVE

LOUIS CARBONNEAU

DON DEBELAK

ALYSON DUTCH

JACK LANDER

JEREMY LOSAW

JOSH MALONE

GENE QUINN

EDIE TOLCHIN

**GRAPHIC DESIGNER**  
JORGE ZEGARRA

INVENTORS DIGEST LLC

**PUBLISHER**  
LOUIS FOREMAN

**WEBSITE ADMINISTRATOR**  
ELIZABETH BREEDLOVE

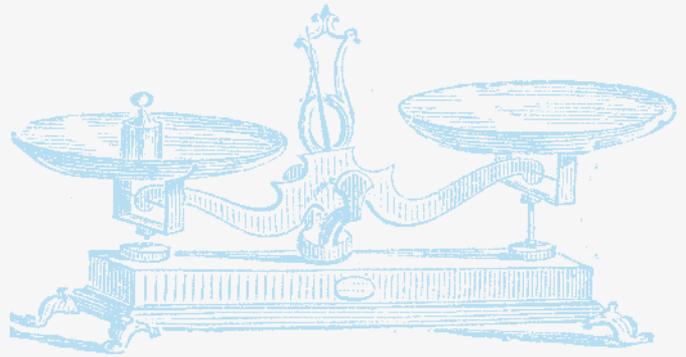
**FINANCIAL CONTROLLER**  
DEBBIE MUENCH

**SUBSCRIPTIONS**  
LOURDES RODRIGUEZ

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Ad rates, subscriptions & editorial content:  
520 Elliot Street  
Charlotte, NC 28202  
info@inventorsdigest.com  
www.inventorsdigest.com  
reid.creager@inventorsdigest.com

# American innovation needs to hit the gym



Weakened patent protections have reduced the value of American inventions. To strengthen American innovation, support the STRONGER Patents Act—legislation designed to restore strong Constitutional patent rights, limit unfair patent challenges, and end the diversion of USPTO fees.

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**[SaveTheInventor.com](http://SaveTheInventor.com)**

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AMERICAN  
INVENTOR**



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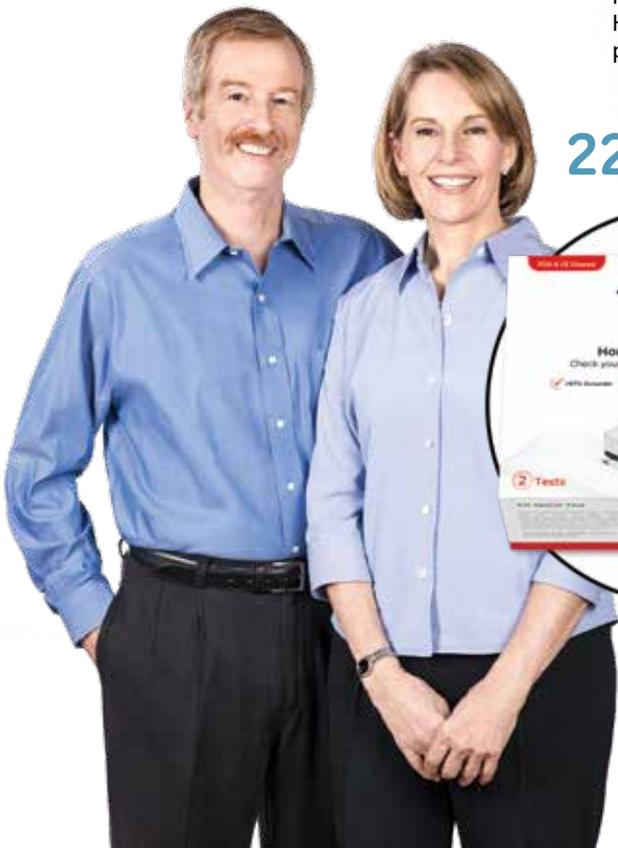
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Ivy Losaw (left) and  
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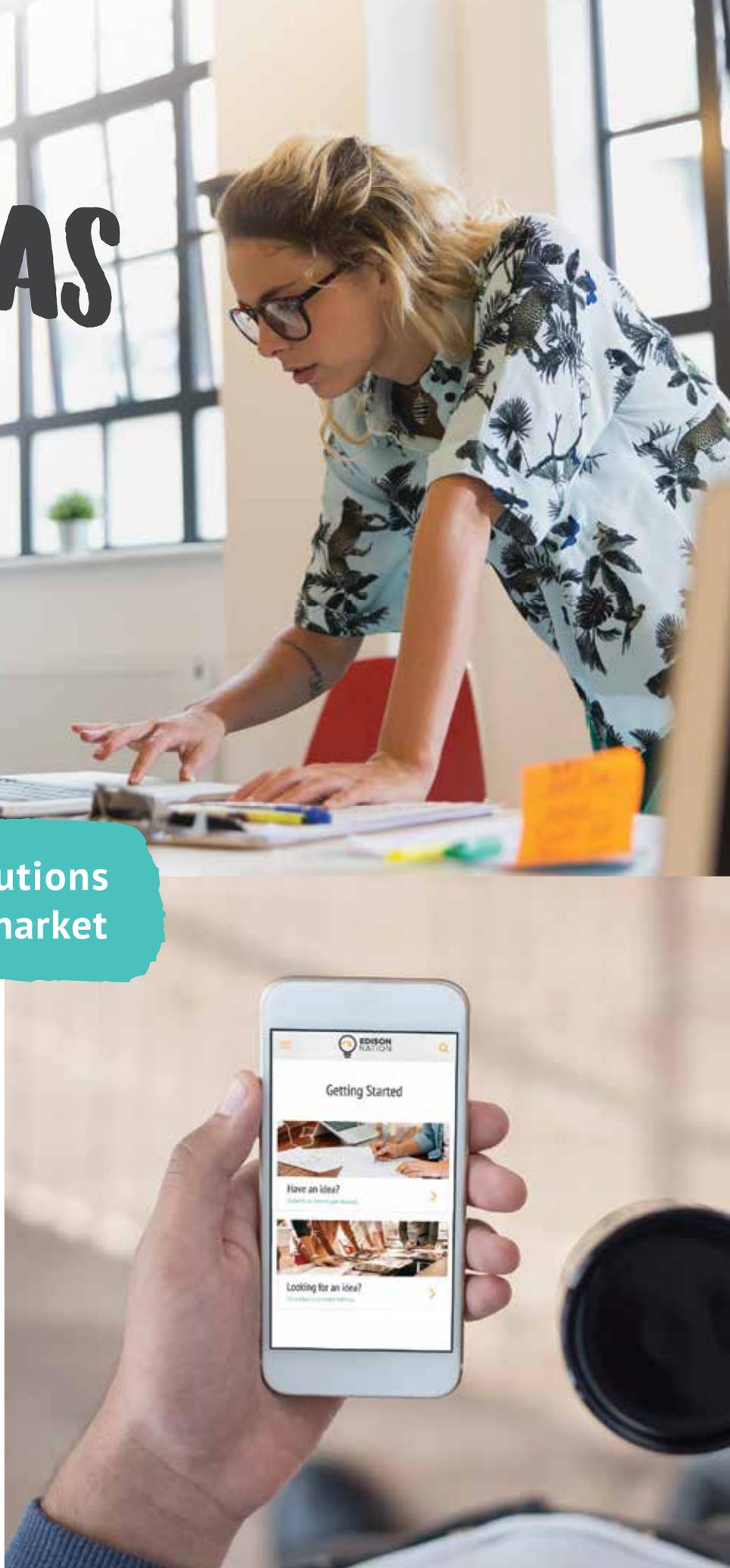
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## CORRESPONDENCE

Letters and emails in reaction to new and older **Inventors Digest** stories you read in print or online (responses may be edited for clarity and brevity):

Could you give me advice on how to start an idea for a cell app?

—SARA KEITH

*A story in the March 2018 Inventors Digest, "Consider Going Mobile," provides a lot of useful information. Remember you can patent an app, even though it is an intangible that you can't physically touch or feel. However, only some aspects of an app are patent eligible.*

*Several companies, including ones advertised in this magazine, can help you with your idea; or check online. Make sure you do your homework to determine which companies are reputable. —Editor*

This is the first time I visited your website. I found so much interesting stuff from the tons of comments on your articles.

I guess I am not the only one having all the enjoyment here. Keep up the good work!

—HIEROPHANT TAROT



## CONTACT US

### Letters:

*Inventors Digest*  
520 Elliot Street  
Charlotte, NC 28202

### Online:

Via [inventorsdigest.com](http://inventorsdigest.com), comment below the Leave a Reply notation at the bottom of stories. Or, send emails or other inquiries to [info@inventorsdigest.com](mailto:info@inventorsdigest.com).

**CORRECTION** Reader Jay Sinnett noted it was incorrectly reported in the May 2020 "What Do You Know?" that John Bardeen and Walter Brattain invented the transistor radio. Overseen by William Shockley, Bardeen and Brattain invented the transistor but not the transistor radio. The first commercially available transistor radio, the Regency TR-1, was released in October 1954.

## POLICE CARS COOK COVID-19

How can we help neutralize the coronavirus? Give it hell—or at least something that's pretty close.

Ford Motor Co. recently announced the launch of "heated sanitation software" technology that can basically burn off viruses inside 2013-19 Police Interceptor SUVs. The technology heats police vehicles beyond 133 degrees Fahrenheit for 15 minutes to disinfect their touchpoints.

How hot is 133 degrees? It's comparable to the highest temperatures recorded in places such as Death Valley and parts of Libya and Tunisia.

Ford said the idea originated from New York police officers concerned about the coronavirus. Then a team at Ohio State University helped determine the temperature and amount of time required "to help inactivate" COVID-19, Ford said.

Studies indicated that the process reduces the viral concentration by greater than 99 percent on interior surfaces and materials used inside the vehicles.

The company tested the new software in vehicles owned by the New York City Police, Michigan State Police and Los Angeles Police. The agencies are now using the technology, available throughout the United States and Canada.



Obviously, the technology is not activated with people inside the vehicle, and it can't be generated by the climate system you would normally find on a dashboard.

Once activated, the powertrain and climate control systems work together automatically to elevate interior cabin temperatures. The software heats the engine to an elevated level, then turns both the heat and fan settings on high. Interior temperatures are automatically monitored by the software to determine when the entire cabin hits the optimal level.

Hazard lights and taillights flash when the process has begun; they change at completion. There is also a cool-down process.

A Ford spokesperson confirmed that the impact of high temperatures on the vehicle interior or its electrical equipment was not part of the study.

# BRIGHT IDEAS

## Flyer ONE

'FLYING SURFBOARD' EFOIL

[waydo.one](http://waydo.one)

A versatile, all-in-one electric hydrofoil ("eFoil"), Flyer ONE features an electric propulsion system that can reach 25 mph.

The PowerFlight battery recharges in two hours and can provide 55-85 minutes of ride time. Using the handheld Bluetooth Jet ONE controller, riders can choose between a variety of kneeling, sitting, and standing positions.

Twenty-four speed options include beginner, intermediate and advanced proficiency modes. Speed, gear and battery information is visible on the handheld Bluetooth controller's screen display. Riders can view data on the Waydo App. A safety feature automatically stops the propeller if you fall off, once you release a trigger.

Set for August shipping, Flyer ONE retails for \$4,795.



### POSSIBLE DELAYS

Coronavirus-related factors may result in changing timetables and later shipping dates than companies originally provided.

## Hapbee

MOOD-CHANGING WEARABLE

[hapbee.com](http://hapbee.com)

Hapbee bills itself as the first wearable that lets you feel calm, alert, focused or sleepy on command.

The device is an augmentative wearable that emulates normal molecular interactions in the body through small, specific magnetic fields. Hapbee can replicate different feelings by playing safe, low-energy magnetic signals. The six categories are Happy, Alert, Pick Me Up, Relaxed, Calm and Sleepy.

The Hapbee Companion App controls your device and allows you to play your feelings anytime, anywhere.

Hapbee, which comes with a 30-day guarantee, retails for \$499 and is to begin shipping in July.



## **DiFOLD**

COLLAPSIBLE, REUSABLE ORIGAMI BOTTLE  
*difold.tech*

Holding up to 25 ounces of water, the origami bottle folds at 80 percent in volume and is purported to save 3.5 ounces of water emissions for every refill.

Features include a leakproof cap with a safe seal; integrated carrying flip ring; dishwasher safe construction; lightweight at 4.2 ounces. The bottle is very stable when unfolded.

Current colors are sky blue, lime green and pink. More colors will be available.

The bottle retails for \$39. Shipping for crowdfunding Rewards backers is set for December.



**“Every new invention is like a baby. You think it may cure cancer or become the president, but in the end, you’re happy it just stays out of jail.” —ERIC BETZIG**

## **Amazfit X**

CURVED SMARTWATCH  
*us.amazfit.com*

The Amazfit’s extra-wide curved display (92 percent curvature) fits more important features on your wrist without all the scrolling to find it.

Amazfit has a continuous heart rate monitoring system. Its lithium battery can run for 7 days on one charge.

The watch’s minimalistic design eliminates buttons and crowns that can dig on your wrist. It stays sleek with a pressure-sensitive sensor that helps you access everything with a press of your finger. It also has two of the world’s top Geo-tracking systems, GPS and GLONASS.

Amazfit will retail for \$329. Shipping is to begin in October.



# A Crawl, Not a Zoom

IT TOOK NEARLY A CENTURY OF FITS AND STARTS BEFORE VIDEOCONFERENCING EXPLODED DURING COVID-19 **BY REID CREAGER**

**Y**OU'LL LIKE your odds with this friendly bet: Defy someone to name the decade of the first public video call.

Your pigeon would be surprised to know that it happened five days before Babe Ruth began his historic 60-home run season on Opening Day at Yankee Stadium.

As with so many revolutionary inventions, many could not foresee the impact of the April 7, 1927, one-way phone video call between then-Secretary of Commerce Herbert Hoover and AT&T President Walter Gifford. The event, in a New York City auditorium, was largely seen as a curiosity that had few possibilities for the average American: The *Boston Globe* reported it as “a phenomenal feat” but with “no definite purpose.”

AT&T's Gifford—who oversaw tremendous growth for the company and worked there for 45 years—disagreed. According to *Time*, he said that “in due time” video calls “will be found to add substantially to human comfort and happiness.”

His statement was prophetic. But the “in due time” part proved elusive.

## Early bad timing

AT&T's Bell Labs continued working to improve on the one-way video call, only to find the country wasn't ready for it.

In addition to the fact that the average American could not afford access to such revolutionary technology, communications networks did not have the capacity to send video calls with any kind of acceptable resolution.

It also wasn't the right time culturally. Although Americans became more curious about space travel and futuristic inventions by mid-century and 1960s TV shows such as “The Jetsons” and “Star Trek” gave us a possible glimpse of the future, communications technology had not advanced to a point



where people were comfortable with it being an essential part of their lives day to day, even hour to hour.

AT&T began researching a Picturephone prototype in 1956. According to *eztalks.com*, it was able to transmit images of one frame every two seconds over analog public switched telephone lines. The company decided to unveil Picturephone at the 1964 New York World's Fair; this time, the caller could see a picture of the person on the other line and also hear his or her voice.

The launch was part of a plan to introduce Picturephone rooms in New York, Washington, D.C., and Chicago. First lady Lady Bird Johnson participated as the media again chronicled this innovative curiosity.

In 1970, AT&T tried the Picturephone in select offices to jump-start video calls at work. It was unable to build any momentum due to expense, difficulty of use, and poor-quality resolution.

## Building momentum

Limited progress on videoconferencing began in the early Eighties, when Compression Labs released the first videoconferencing system in 1982. But the prices, according to NetMotion, were all but prohibitive—\$250,000, with an additional \$1,000 per hour for line rental.

In 1986, PictureTel (now Polycom) created a system that cost \$80,000, with an hour of communication for \$100. Another milestone came in 1991, when the company combined with IBM to create the first PC-based videoconferencing system.

Commercial webcams eased into public consciousness in the early 2000s with free services including Skype and iChat. Soon videoconferencing was an essential tool adopted by courts, law firms, the military, higher education distance learning, and even transatlantic “telesurgeries.”

Apple unveiled the iPhone4's FaceTime in 2010, popularizing video calls on smartphones. Apps to come along since then include Facebook Messenger

The Picturephone made its debut at the 1964 New York World's Fair.

(more than 1 billion users), WhatsApp (the most popular download of 2018), Google Meet and Zoom—the latter that has suddenly become so ubiquitous that “Zooming” has become synonymous with video chatting. As COVID-19 sent the world into quarantine early this year, Zoom said it added 100 million participants in the first three weeks of April.

This surge in popularity has come with some problems. Zoom has experienced recent security issues that include “zoombombing,” when people break into meetings uninvited. The issues were such that the company opted not to include any new features for 90 days while it focused on the privacy concerns.

### The time is right

Security isn't the only problem with teleconferencing. Among other issues are dropped calls, sound and video quality, delays, and too many apps.

But those are not deal-breakers for the millions of people who now depend on this novel concept

## INVENTOR ARCHIVES: JULY

**July 14, 1885: Sarah Goode** became the first black woman to receive a U.S. patent, for her invention of a folding cabinet bed.

Goode was born into slavery in 1950 in Toledo, Ohio, as Sarah Elisabeth Jacobs. After getting her freedom at the end of the Civil War, she moved to Chicago and owned a furniture store with her husband Archibald Goode, a carpenter. Many of her customers lived in small apartments and did not have much space for furniture, including beds.

The folding bed was the equivalent of a Murphy bed. When not used as a bed, it could serve as a roll-top desk that had compartments for stationery and other writing supplies.

launched almost 100 years ago—and who are grateful that the refined technology became available when it did. Had the coronavirus become such a menace even 10 or 15 years ago, options for those stuck in their homes would not have been as numerous, nor as dependable.

That phone company president called it correctly. 📞

**For decade upon decade, communications technology had not advanced to a point where people were comfortable with it being an essential part of their lives day to day, even hour to hour.**



Google Meet



# Staging Your Marketing

EACH ELEMENT OF THE AIDA FORMULA  
REQUIRES DISTINCT TACTICS **BY JACK LANDER**

**O**NE OF MY inventor acquaintances asked my advice about submitting material to a potential licensee who had responded to a letter he had written, using my suggestions from the June Lander Zone. He proposed including questions and answers regarding the hoped-for licensing agreement—along with his sell-sheet, prototypes, and a published publicity article.

I advised him to not include anything about licensing at this early stage of negotiations. The reason is that his objective was to sell the prospect on the benefits of adding his patented invention to the company's product lines, so to dilute that objective with legal and money matters too soon would weaken or interfere with that main objective.

So, is this a one-off case, or is there a principle of marketing here?

Definitely, there is a principle. If you've been reading my column over the years, you'll know that I've often cited AIDA, the "formula" used by successful advertising writers. It stands for

- Attract **Attention**
- Arouse **Interest**
- Create **Desire**
- Call to **Action**

You might think these are artificially discrete fractions of what essentially is a smooth flow of effort in the process of marketing a license for your patent or patent application. I prefer to think of each of them as separate and valid, requiring distinct special tactics.

## The courtship

Think of a love affair, for example.

First, we strive to be attractive to the opposite sex. Then, we engage in conversation and dating to arouse interest.

As we get to know each other, and if the match seems good, we may create desire by presenting as a good

exclusive partner. We give gifts, listen to and sympathize with each other's aspirations and problems, etc.

When the time is right, we ask or suggest that we live together in a permanent, bonded relationship. The need (or not) for a marriage license is a technicality that, if raised before desire is firmly established, may cause a setback in the relationship or even end it.

So, what is the first step in a quest to license a patent? How do you attract attention? It's not a bouquet of flowers or a copy of the novel everyone is talking about. It is the creation of a professionally appearing sell-sheet. You are trying to attract attention to your invention, not yourself.

In my opinion, the sell-sheet is essential, not optional. The reason is that you can perfect it as you learn by doing all the incidental steps along the way to the main objective.

A licensing deal generally doesn't happen overnight. It may take a couple years or more to land your licensee. During that time, you will discover things you want to add to your sell-sheet—better ways to say what we wish to say; more benefits; improved illustrations, etc. Or you may expand it because of other new ideas that make the invention more valuable.

## Your do-all sales pitch

My point is that the process of explaining the benefits of your invention is not one that you can whip out in a few minutes and complete. Above all, most of us are not accomplished at giving a fast, complete and effective answer if someone says to us, "Tell me about your invention."

The sell-sheet is your alter ego, the competent salesperson with the best sales pitch ever. No "do-overs" are needed. No hating yourself in the morning because you forgot to mention an important point the night before.

Everything is contained on a single sheet of paper, perfectly written and illustrated. And the best part is that it can be carried away for other stakeholders to consume.

How many times have we been interrupted when we're trying to make a point verbally? The sell-sheet is tolerant of interruptions and gets right back on track.

There are other ways to attract attention. If your patent has issued, you can safely seek publicity in magazines, on TV, blogs, radio interviews, etc. Even then, your sell-sheet is the best cheat-sheet ever.

You must explain why your eventual product will benefit the consumer. Some inventors make the sales pitch to the licensee, rather than the consumer. I think that's a mistake; it's like telling people in hell that they'll love ice water.

Your potential licensee already knows why he or she wants your product—to make more money. What the licensee really wants and needs to know is why *his or her customer* will want to buy your product. So, your sell-sheet must begin with the benefits to the ultimate customer.

### Sell-sheet mechanics

It is more effective for most of us to sell by using the written word, rather than the spoken word. And by us, I mean my fellow inventors who are not professional salespersons.

If I had to give an impromptu talk on the subject of this article, I would probably miss 20 percent of the good stuff; I would fail to get things in the best order; and my delivery would not be impressive.

A sell-sheet needs no rehearsal. That has already been done—several times. It never needs to say, “I’m sorry.”

You must create desire. The main benefit belongs in your tagline, (headline). This should be broken down into the details that support it, and in other benefits that stand on their own.

Bulleted statements below the tagline seem to work the best. Most people are not fond of searching for the point in long-winded paragraphs.

A narrative can also be used following the bulleted points if you feel you need to say something that can't easily be reduced to a bullet-point sentence. But save space for endorsements from users.

If you haven't been able to produce a few working prototypes for evaluation, quote people to whom you've shown your sell-sheet and ask them for their endorsement based on the expectation of the invention becoming an available product. Endorsements from users and potential users help convince others to want your product. But make sure they don't all look made up or written by your relatives.

**The sell-sheet is essential, because you can perfect it as you learn by doing all the incidental steps along the way to the main objective.**



**Read aloud to amplify**

OK, now you're ready for the "call to action," closing the sale.

Essentially, you're going to speak to a few people who have already read your sell-sheet, and have one in front of them. You did arrange that, right? So, use the sell-sheet as your speaker's notes and follow it as an outline for both you and your audience. Having each person hear and read your pitch is powerful, and it ensures that you cover everything.

If you've been successful in convincing your potential licensee that he or she will gain sales and profits by owning the rights to your invention, you will be asked what you want. That's ideal.

For you to have to change the subject from the product's benefits to licensing can be awkward. But it's even more awkward to leave a meeting without at least a definite maybe from your prospect.

If no one brings up the subject of licensing, you might try something like this: "Is there anything else

you'd like to know about my product before we talk about an agreement?"

Consider: The people in the meeting at which you present your proposed agreement are marketing people. They may or may not have the authority to agree to license. In any event, they will probably want to involve manufacturing and the legal people before they can commit. Never agree to anything legal not in written form that you can take away with you for further study and your lawyer's approval.

And always remember that a sell-sheet is like poetry. It says a lot in a few well-selected words and brief phrases or sentences—that probably shouldn't rhyme. 🎤

**Jack Lander**, a near legend in the inventing community, has been writing for *Inventors Digest* for 24 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](mailto:jack@inventor-mentor.com).



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# 10 Early Keys

CRITERIA FOR DETERMINING WHETHER YOUR PRODUCT WILL BE EASY FOR AN INVENTOR TO INTRODUCE **BY DON DEBELAK**



**H**ERE ARE 10 points I use for an early invention evaluation—i.e., whether an idea is worth pursuing. Note that this is not a determination of whether you have a great invention. Instead, it focuses on whether you have a product that will be easy for an underfinanced inventor to introduce.

In all instances, the product should:

**Have the “wow” factor.** When you first thought of the idea, did your eyes open wide and did you say, “Yes, this is it, I’ve got a great idea”?

**Have a premise on which people agree.** Your premise is why you think people will want your product. For example, the premise behind a wrist step counter is that people want to know how many steps a day they take.

**Offer a total solution.** Cutting the number of products required for an activity from three to two isn’t all that impressive in the market, but you hit payday when you cut the products needed to just one.

**Target people with passion.** When people care about a product category they evaluate it closely, read trade magazines, go to trade shows, visit websites and talk to like-minded enthusiasts. All that interest makes it easier for inventors to inexpensively reach their prospects.

**Relate to an emerging market.** When the scrapbook industry started, dozens of inventors and new product entrepreneurs were able to introduce their product because there was a shortage of products to buy. That is not the case anymore, with many established companies and a tough market for a new inventor. Inventors have a great chance any time a market is emerging.

**Target new trends in an existing market.** This is similar to the last item but in an established product. When golfers switched from pull carts to push carts, there were many opportunities for inventors—both for the carts themselves and for accessories such as cup holders, umbrella holders and baskets to hold supplies.

I highly recommend that inventors choose one or two areas where they have a high degree of interest, then track emerging product categories and new trends.

**Offer few technical challenges.** Inventors can and do introduce technically difficult products, but this type of invention requires more money,

more time and more expertise than most inventors have. Simpler products, such as Rollerblades, are far easier to introduce for the average inventor.

**Be easily found by targeted customers.** Products are easy to find when prospects can find them at specialty stores and catalogs. This is why inventors do well with kitchen products. There are many small stores that are relatively easy to sell to and stores that prospective customers probably visit every three months or so.

**Convey its major benefits quickly.** People should be able to understand your product immediately, and without any explanation from you if you are going to succeed. Consumers, retail stores and distributors are turned off by a product they don’t understand.

**Avoid competitors with category-dominating companies.** You don’t want to try to compete with Rubbermaid, which dominates the market. These companies have broad product lines and get premium shelf space—and they are not above complaining about any space given to a pipsqueak inventor trying to get started.

If the dominating company likes your idea, it will try to figure out a way to get around your patents and will have lots of resources to come after you.

These 10 criteria help you decide whether your product is worth developing further. In turn, this helps you decide whether you should invest in a patent and prototype and spend 3-12 months developing your idea. At that point, you can evaluate your idea after it is developed so you can determine whether to proceed with a market introduction. 📦

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



# New Tool: LinkedIn Polls

FEATURE HELPS YOU COLLECT VALUABLE DATA FOR BUILDING, MARKETING YOUR INVENTION **BY ELIZABETH BREEDLOVE**

## **B**ILL GATES ONCE SAID:

“Software innovation, like almost every other kind of innovation, requires the ability to collaborate and share ideas with other people, and to sit down and talk with customers and get their feedback and understand their needs.”

Right now, though, between our busy lifestyles and social distancing guidelines for the foreseeable future because of the coronavirus outbreak, it's difficult to sit down, talk and share ideas. This is where social media can become especially helpful.

In mid-May, LinkedIn introduced an easy way to engage with others, share ideas and collect data you need to invent great products and run a successful business: LinkedIn Polls.

These polls are simple to set up:

1. Begin creating a new post from the LinkedIn dashboard.
2. Click the plus sign at the bottom of the post window to pick a type of post, then choose “Create a poll.”
3. Enter your question and up to four answers for your poll respondents.
4. Choose a duration for your poll. You can choose one day, three days, one week or two weeks.
5. Write a short post to go along with your poll and encourage people to answer. Include a few relevant hashtags to help extend your reach on LinkedIn.
6. Hit Publish. Note that you can publish your post to anyone on the internet, to only your connections, to a specific group or even to Twitter.

LinkedIn Polls is an easy way to interact with others, share ideas, gauge interest, share pain points, and more.



Now that you can create a poll, your options for how to use this feature are nearly limitless. Here is the kind of information you can gather with LinkedIn Polls:

**Learn more about your audience.** Want to learn more about your connections? Or perhaps a LinkedIn group in which you're active? Consider asking questions about which industries they work in; what department they are in or what position they hold; what type of content they are interested in seeing on LinkedIn; and how they like to see content presented (short posts, long posts, links to other content, videos, etc.).

**Get feedback about existing inventions.** Once you've launched your invention for the world, LinkedIn polls are a great way to gather data about how people use it.

You can ask your audience whether they have started using your product, what features they like best, and more. Asking questions such as these will help you collect basic information about how your audience interacts with your inventions while opening the door to further conversations with those using your invention. This can build a community of loyal brand advocates.

**Identify pain points to solve with an invention.** Looking to create the next big thing? Start your market research on LinkedIn.

Use the polls feature to identify common pain points your audience faces that you can address with your newest invention. As you begin to hone in on pain points you can solve and problems you can resolve, you can use LinkedIn polls to ...

**Gauge interest and get feedback about new inventions.** While you develop new prototypes and continue to iterate on your product, invention or idea, remember you can always come back to LinkedIn and gather more information through additional polls. You can also come back to this poll later to see who may be interested when you launch your new invention, or even to offer product samples or a special offer.

In other words, when you use LinkedIn Polls to help develop and shape a new invention, you're also curating a list of people who are likely to be interested in your invention—those who respond to your poll. Which brings me to another way to use polls.

**Engage with those likely to use or purchase your invention.** To do this, you'll first need to ask a question to identify those who may be interested.

For example, if you've created a new way to make coffee, create a poll asking how the recipients prefer their coffee. This will give you a pre-qualified list of people who may have a need for your product.

Then, open the comment section to start a conversation. For example, suppose one of the responses in your poll was "with creamer." In the comments section, you could say something such as, "For those who chose 'with creamer,' what is your favorite creamer?"

Make sure you respond to comments. Engaging with respondents like this will help you build rapport. Then, when their coffee maker breaks, hopefully they'll remember and purchase yours.

**Start a conversation related to your industry.** This same strategy can be used to make connections in your industry. In the case above, rather than asking about coffee specifically, ask a question about the entire home goods industry. This will help you identify potential customers and help you make connections with those also in the industry—perhaps even future retailers, licensees or partners.

**Research new or emerging trends in your industry or category.** A LinkedIn Poll is a great way to learn more about what other creators are doing, and what new trends your customers like to see.

Let's go back to the coffee maker example. Smart home features are incredibly popular in the home goods category. So, you could ask a question about which smart home systems your audience uses, whether they would use a smart coffee maker, how they would use a smart coffee maker, and more.

Bottom line: If you need a quick, easy way to get valuable information to aid in the process of invention, LinkedIn Polls is a great starting point. ☑

**Elizabeth Breedlove** is a freelance marketing consultant and copywriter. She has helped start-ups and small businesses launch new products and inventions via social media, blogging, email marketing and more.



# Be the Chef

WITHOUT A FOCUS ON MARKETING, INVENTOR/ENTREPRENEURS CAN SUCCUMB TO THE DAILY DETAILS **BY ALYSON DUTCH**

**B**ECOMING an entrepreneur is supposed to be a ticket to freedom and financial independence, right?

No more demanding bosses to please. Morning serenity replaces the sting of a 5 a.m. alarm clock shriek. Malicious office mates are a vague memory. The angst of morning traffic fades. A happy dog snores under the desk.

Pantyhose? Tie? I think not. Best yet, you may get to work in your underwear. These perks are worth their weight in gold, right?

However, while you were dreaming, no one told you that the entrepreneurial adventure would force you into the positions of chef, cook—and bottle washer.

## Are you a boss or an operator?

I've been in this game since 1996 and can tell you I've never worked so hard in my life. All the complaining I did about the apparent easy life of my bosses when I was an employee soon dissipated into a cool sense of compassion.

Having the shoe on the other foot even inspired me to call former bosses—one of whom fired me—apologizing for assuming I understood their role.

One of the hard-learned lessons for most entrepreneurs is how to focus on the forest and less on the trees. In case you're starting to feel bad reading this, this took me 10 years to understand, let alone do.

So many entrepreneurs spend their days doing the actual work, hiring others to help and zero-time planning, building and scaling.

How can you tell? Here is how I figured it out.

When I met my partner, he would plan grand trips all over the world—adventures that would realistically take at least 3 weeks. If your business is going to suffer without you there for 3 weeks, you've not built a company, you've just enslaved yourself to being an operator.

It's OK to remain connected and ensure you have your laptop and a Wi-Fi signal when in Moscow. But if you're up at 3 a.m. trying to do a conference call with a client in Los Angeles, like I was, that's not a good sign.

## Make yourself known

Your dreams of success, freedom and financial abundance will never become a reality without taking the time to stop doing the business to plan and grow it.

As mentioned before, there are three aspects of any company that must be in place for it to become its own entity: the product (or service), the operations, and marketing to make it all go.

Without these three pillars, which I call the POM Principle, your dreams will crumble.

If you were to sell your company tomorrow, would it stand alone with all the intellectual property, systems and marketing to have value? Would someone be able to unlock the proverbial door and seamlessly keep going and grow?

Even the coolest widget or most intoxicating service will fail without telling potential customers that it exists (the marketing). No company can grow without systems that automate mundane tasks. The most brilliant ideas will not expand unless there is a customer who really wants and needs that product.

The first two of those pillars—the product and operations—usually are set forth in the first few years. Then you spend the rest of your days and budget finding new customers.

Think of it this way. Launching a new product of any kind without marketing is like having a party and forgetting to send invitations. Who will come? Who will know it exists? Worse yet, your competitors who are taking the time to market will stomp you before you have a chance to say, "Who are you?"

In the United States, we live in a very competitive market. No idea is original. Even if it is great. Even if you have customers who are dying for you to solve their problems. If they don't know you exist, you will wither and fade away.

## Buried in bottle washing

According to the Bureau of Labor Statistics, about 20 percent of small businesses fail in the first year. Those are the guys who spend their time and money hiring lawyers to get patents and set up corporations without making sure they have a market. They are the people who are so busy making their product and go



## As time goes on, your goal is to spend more than 60 percent of your time being the chef and have other team members doing the cooking and bottle washing.

home dog tired every day but have not thought twice about how to reach their customer.

My company consists of product launch specialists who work with inventors and startups every day. We've seen this over and over again.

Starting a business and launching a product is confusing. It's like having kids; few know what to do. You make it up as you go along.

My business started because I got fired from a PR agency job and was going through a divorce. Who knew that kind of pain would create my dream life in Malibu? I happen to be a marketer, so growing my business was second nature to me.

There are thousands of ways to market your business, but you need to just choose one for now. Once you choose that path, hire a great marketer to do the work and focus on watching all three aspects of your business and make them better.

Go find money to add on the next marketing tactic. Look for partners and relationships with other

entities that will expand your footprint. Do that for at least one year until you have a solid customer base, operations humming along smoothly and revenue coming in the door.

After that, you can think about adding more product and other layers of operations and marketing to support that.

### Marketing choices abound

Your goal is to remain the chef. You want to have the freedom to create, to be a visionary. You may spend some of your time being the cook, making things happen.

You will still have some moments when you're washing bottles, but not much. As time goes on, your goal is to spend more than 60 percent of your time being the chef and have other team members doing the cooking and bottle washing.

You're going to have to make decisions, the best ones that you can, as fast as possible. Use the information



that you have to move forward every day.

If you find yourself back in that same familiar place of doing all the work—and worse yet, not being able to delegate to your team, you have had a setback. It's OK. Take a breath and start over again.

Once you have a product, you know who your customer is and your operations are fairly stable, you've got to make marketing method selections.

Here's a way to make a good decision and do it quickly: Find an approach that's quick to implement. Look for something that does not require a PhD to understand. Find a tactic that gets you the widest possible spread of communication to your customer as possible.

The most important thing about this first marketing choice is that it provides a way for a customer to transact—give you money. You can do your homework and look into all of these marketing choices, then see what fits:

- Affiliate programs
- Banner ads
- Coupons
- Influencer marketing
- Pay-for-play radio
- Pay-per-click
- PR
- Promotions
- Social media marketing
- Trade advertising
- Trade shows

### PR: Cheaper, more effective

It's endless and confusing when you aren't familiar with it all. I could spend a few hours explaining the entire marketing landscape to you, and maybe I should sometime. But for now, just know that PR is the cheapest marketing method. It's also the most effective and believable to your customer.

You can start with advertising, but I do not recommend it. First, it's the most expensive way to go. Second, every kind of paid advertising loses credibility in customers' minds because they know you paid for the space and can say whatever you want.

This includes influencers. Everyone knows they are paid to fawn over a sweater or recommend a mascara; it's not a real opinion but a biased advertisement. But if your product is mentioned in an article, in a TV or radio report, it gives context and information that is perceived as objective. Your customers get to make their own decision about why it's helpful to them.

I know this, because PR is what I do for a living. But there is an integral part of this process that you can do yourself. You can write your own press release. You can send it to the media and try to persuade it to report about you.

You don't have to be Richard Branson for the press to report about your product!

The chef/cook/bottle washer syndrome must be in your control if you want to succeed. 🍷

**Alyson Dutch** has been a leading consumer packaged goods launch specialist for 30 years. She operates Malibu-based Brown + Dutch Public Relations and Consumer Product Events, and is a widely published author.



## NEED A MENTOR?

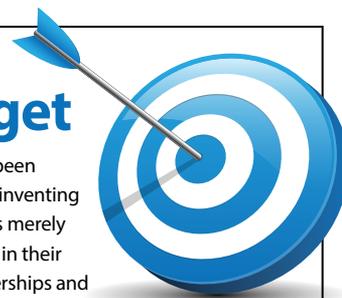
Whether your concern is how to get started, what to do next, sources for services, or whom to trust, I will guide you. I have helped thousands of inventors with my written advice, including more than nineteen years as a columnist for *Inventors Digest* magazine. And now I will work directly with you by phone, e-mail, or regular mail. No big up-front fees. My signed confidentiality agreement is a standard part of our working relationship. For details, see my web page:

[www.inventor-mentor.com](http://www.inventor-mentor.com)

Best wishes, Jack Lander

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# Fertile Find

SMARTPHONE HOME SPERM TESTING DEVICE  
DESIGNED FOR OFT- RELUCTANT MEN **BY JEREMY LOSAW**

**I**N GABE DEUTSCH'S long history of creating fertility products to help couples struggling with conceiving, the clinics he serviced noticed a trend: Men often did not want to come in to be tested.

Despite the fact that male fertility problems are at fault roughly half the time a couple struggles to conceive, "They felt they didn't have a problem," he says. "They were functioning sexually, they thought, and there is no pregnancy, (so) it must be her.

"Or they were too embarrassed to deal with it. These docs were asking us to come up with something as an initial screening test from home."

At-home fertility tests are common for women, but Deutsch noticed a significant gap in the marketplace for male-centric products. He created the YO Mobile sperm kit to help men quickly and inexpensively test their fertility to help couples on their journey to parenthood.

YO Mobile is a smartphone home testing device with lab-level accuracy that provides a count of active sperm. The device mounts to a phone and uses special optics to turn the camera into a microscope. Slides of a semen sample are placed into the device, and the app performs a complex imaging algorithm to count the viable sperm cells and provide a result.

The standard kit comes with the imaging device and supplies for two tests including sample cups, pipettes, slides and liquefaction powder. The test takes about 10 minutes to run; the app plays an educational trivia game for users while they wait.

## Camera, other challenges

Deutsch worked as a CEO for several companies in health services before he and his wife, Marcia, founded their company, Los Angeles-based Medical Electronic Systems, in 2002. It develops vision-based sperm counting devices.

MES's product line was initially focused on providing devices for laboratories to assess human and animal fertility. But as his business grew, clinics told him about men's reluctance to be tested.

After some initial market research he found there were home-based sperm counting devices, but they did not differentiate between viable and dead sperm. So, Gabe Deutsch felt he could merge the technology from his lab units to create a viable, home-based version.

Because Deutsch already had a development team in place to design his commercial line of products, development for the home version proceeded quickly. The team was able to prototype shrunken versions of its lab devices and produce

Gabe and Marcia Deutsch founded Medical Electronic Systems, which created the YO Mobile sperm kit.



## At-home fertility tests are common for women, but Gabe Deutsch noticed a significant gap in the marketplace for male-centric products.

3D prints of its designs. And with plenty of samples available in the company's labs, testing was no problem either.

However, one of the biggest challenges was the optics and image processing algorithms. The team was trying to take a high-tech device with sophisticated technology and make it work with much simpler tech.

"We are talking about using a camera of a cell phone, which ... doesn't have the resolution that (professional) systems have," Deutsch says. "You couldn't use normal image processing technology for that."

Additionally, spermatozoa are particularly hard to count. Not only are they very small, if viable they are constantly moving and tend to overlap each other in images. Another problem is that seminal fluid is a viscous substance that also contains blood cells and other debris that can trick image-processing algorithms.

However, after many iterations, Deutsch's team was able to create a viable set of optics married with an image processor to get accurate sperm count results. Painstaking clinical development and testing resulted in MES receiving FDA clearance for the YO home kit in 2016.

### Educating the public

Though Deutsch filed intellectual property on the physicality of the device, he opted to leave much of the innovation as a trade secret.

Utility patents have been filed around the optics and autofocusing aspects of the YO test. However, the image processing is so unique that he decided he would have a better competitive advantage by not disclosing it at all, even if afforded protection with a utility patent.

Product manufacturing and assembly is done in Israel, where Deutsch's development team is based. He wanted the manufacturing to be close to the engineers, so that they could deal with any issues that may arise. There are also some tax benefits by manufacturing the product there that made more

sense from a business standpoint.

The YO product line was his first time launching a direct-to-consumer product, so there was a learning curve from the marketing side. The first challenge was market awareness.

After some research, Deutsch found that only 7 percent of people surveyed knew about any home-based fertility tests for men, so he and his team faced a significant market education challenge.

They set up an ecommerce site to launch the product and take orders and quickly learned that even though the product is for men, 40 percent of orders were placed by women—and many men who ordered were encouraged by their female partners. With this knowledge, they adjusted their digital marketing strategy, such as keyword searches and SEO.

The universal version of the device—which uses wireless to communicate with the phone, instead of a cable—is due to start shipping this summer. Deutsch is working with big-chain pharmacies and hopes to have it available in wider retail channels soon.

The innovation has not stopped, either. The optics platform Deutsch has developed is suitable to analyze other bodily fluids such as blood and urine, so he is pushing to expand the product line and make the technology more suitable for clinical use as well. 📍

*Details: [yospermtest.com](http://yospermtest.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/](http://blog.edisonnation.com/category/prototyping/).



# That's Using Your Head

WOMAN'S FASHION STATEMENT COMBINES  
HEADBAND WITH READING GLASSES **BY EDITH G. TOLCHIN**

**P**ERSONAL CARE accessories are a huge market. I've recently covered many such products in *Inventors Digest* (Kickstands, April 2019; Makeup Junkie cosmetic bags, July 2019; Bra Bridge, September 2019; Best Pocket Square Holder, November 2019).

Many of us face the predicament of not being able to find one's reading glasses, only to discover they're resting on your head. Here's a smart combo solution of a hair accessory fashion statement and reading glasses, invented by Valerie Carbone of the Orlando, Florida, area.

**Edith G. Tolchin (EGT):** Please describe Eyebandz® and how this invention came about.

**Valerie Carbone (VC):** Eyebandz is a headband and reading glasses in one. The lenses are camouflaged within the design of the headband.

After I turned 40, my need for reading glasses increased exponentially. I needed reading glasses to read texts, labels, a menu, and so on.

One day I reached on top of my head for the glasses I now always kept there, and accidentally pulled down a headband I was wearing that day instead. I looked at the headband design and thought, "Wait a minute. This could be and should be both." The idea for Eyebandz was born.

I researched and found there are over 39 million American women over age 40 using reading glasses daily. I knew many of these women were wearing their glasses on their heads just like me. The reason we do this is that even if we have 10 pairs, we can never find them when we need them. By far the biggest problem with needing reading glasses is finding them.

There are many problems with wearing glasses on your head. The main ones are that they fall off as you lean over, they pull your hair when you drop them down, and they can be a bit unsightly. I knew Eyebandz could easily solve all these problems, too.

Since I have my Eyebandz I can read texts, menus and labels quickly. I can run on the treadmill not worrying about my glasses falling off. I can keep better track of my expensive readers. The list is long.

I also looked at products in the reading glass arena, and all were designed to help us keep track of glasses—i.e., pins, chains, wallets with pockets. So, I knew I was on to something.

Since Eyebandz launched, I've had great feedback. However, I often must remind people that Eyebandz isn't meant to replace reading glasses; it's an option for quick reads. If you're reading a book or working on the computer, you should be using your reading glasses.

The largest issue has been people dropping them downward to use them like glasses when they're meant to be dropped to the tip of the nose. I like to say simply, "Stop, drop, and read."

**EGT: What is your background?**

**VC:** I have a master's degree in occupational therapy. The word occupational in this vocation refers to the "work of life." We focus on ADLs (activities of daily living), tasks such as dressing, eating and bathing.

As occupational therapists, we strive to educate our patients with acute or chronic disorders to be as independent and functional as possible. We are also known for our knowledge of AE & AD (adaptive equipment and assistive devices)—items such as transfer boards, walkers, adaptive utensils, etc.

In short, we are problem solvers. So inventing is often a skill most OTs possess.

**EGT: Have you invented anything before?**

**VC:** No, although I have had and continue to have many ideas for new or improved products.

My most notable idea was the rolling backpack. I watched my children and all the other children struggling to carry their heavy backpacks. Knowing the considerable harm it could be causing to their muscular and spinal systems, I thought there has to be a better way.

I made prototypes in my garage that worked quite well, and I went to the library to patent search for the idea. I shared the idea with my family and close friends. There were so many naysayers, saying things



**“Since I have my Eyebandz I can read texts, menus and labels quickly. I can run on the treadmill not worrying about my glasses falling off. I can keep better track of my expensive readers.” —VALERIE CARBONE**

like “Kids won’t wheel that to school” and such, so I finally just let it go. Lo and behold, five years later they were everywhere.

So, when I had the idea for Eyebandz I decided to see it through this time.

**EGT: How many prototypes did it take before you were satisfied?**

**VC:** First, let me say I’d love to see how most inventors answered this (laughing). It’s my experience that it can be quite challenging to be satisfied—not because we’re necessarily that persnickety, but because it can be difficult to get the product to match the image we have in our minds, and especially for small inventors like myself who have a limited budget. But if I had to guess, I’d say I have made a couple dozen iterations.

Although I’m quite happy with the current model I have, it’s my search for what Eyebandz can be that now has me on the path of licensing. I see in my mind the legs this product can have.

The women who embrace Eyebandz will want choices, high-end metals, woods, and so on. I see endless styles, colors, price/quality points. Perhaps in several sizes—i.e., small, medium, large. I see them so clearly in my mind, displayed at Macy’s, hanging

on endcaps at Target, CVS and Walgreens, and being demonstrated on QVC and HSN.

I’m confident a large company with vision can make them all they should be, and that is what I am focused on today. I’m looking for a relationship with a company that sees the inherent potential of Eyebandz and is willing to make it the best it can be.

**EGT: Where are you manufacturing? If overseas, can you share any obstacles?**

**VC:** Sometimes you must go overseas. Like many American inventors, I desperately wanted to produce Eyebandz here in the States.

I went to several companies, to no avail. I quickly learned that all headbands are made overseas. Additionally, most eyeglass lenses are also made there, although we do make some domestically. What we mostly make here are medical- and science-grade lenses.

I found a CAD drawer, a molding house and an injection facility and was able to source lenses from California for the first batch of Eyebandz I made here. However, they were quite expensive, and they had difficulty providing the cuts close enough to fit in the molded design properly. So as of today, Eyebandz is manufactured overseas.

**EGT:** Are there any governmental safety regulations involved in manufacturing this product?

**VC:** Yes, I learned quickly that I must register with the Food and Drug Administration and pay quite a hefty yearly fee to be an importer of glasses. And equally important, the company you're buying from must also be registered as an exporter with the FDA.

Additionally, the company you're buying from must provide safety testing such as the "Drop Ball Test" to attest to the safety of the lenses.

**EGT:** Is the product patented?

**VC:** Yes, Eyebandz has a utility patent, a design patent, and the name is trademarked. I researched and found a great attorney, John Rizvi. He calls himself "The Patent Professor" and also teaches patent law. I brought him my homemade prototypes, and the process went quite smoothly.

**EGT:** Where are you selling?

**VC:** Eyebandz is sold on Amazon. I also have a website, but the Buy button brings you to Amazon. As I mentioned earlier, my focus is on licensing Eyebandz to a company that can do it proudly.

**EGT:** Do you have any advice on any issues relating to the invention process?

**VC:** Verify there's a market for it. I attended a couple of trade shows where women would jump up and down screaming, "I love it!" and "Why didn't I think of that?"

Also, Eyebandz has been a finalist in several contests. For instance, it won the most popular invention at Maker Faire Orlando in the local invention organization area.

Another tip is if FDA compliance is needed, the FDA site has a way to research manufacturers that have the proper registration. So, go from their list.

Lastly, cherish the support of your family and friends. They can hold us up in times of struggle and doubt. ☺

*Details: [eyebandz.com](http://eyebandz.com)*

Books by **Edie Tolchin** ([egt@edietolchin.com](mailto:egt@edietolchin.com)) include "Fanny on Fire" ([fannyonfire.com](http://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.



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# Colorfully Clean



LATEST PANDEMIC-INSPIRED DEMAND:  
DESIGNERS' SOAP-CRAYON THAT ENCOURAGES  
KIDS TO WASH THEIR HANDS **BY REID CREAGER**

**KIDS DO THE DARNEST THINGS.** “One of our customers wrote in, saying her daughter used to hate washing her hands with soap,” says SoaPen cofounder Amanat Anand. “But since the introduction of SoaPen, she loves it so much she even washes her doll’s hands every day.”

In an age when hand sanitizers and cleaning wipes have vaulted into worldwide prominence overnight, 20somethings Anand and Shubham Issar were five years ahead of their time.

Of course they did not foresee the historic COVID-19 pandemic in 2020 when they conceived of and began promoting SoaPen, a soap-crayon with a rollerball tip that young children can draw with as encouragement for washing their hands.

“We’ve talked about the importance of handwashing since Day One,” Issar says. “What has changed is the attitude of our consumers, because more and more people are realizing the life-saving importance of handwashing with soap and teaching these habits early.”

Issar and Anand had also been unaware of the scale of these benefits for a long time. Their surprise might be your surprise as well when you learn that these runners-up for the 2017 U.S. James Dyson

Award grew up in New Delhi, India, known for its poor sanitation.

On the other hand, it probably won’t surprise you that since the pandemic became a global phenomenon, “there has been a definite spike in SoaPen sales with more awareness on the benefits of handwashing with soap,” Issar says.

The product was sold out on [soapen.com](http://soapen.com) as of this writing, with hopes it would be back in stock sometime in July.

## Visiting inspiration

Like the new emphasis on cleanliness around the world, the invention of SoaPen was a team effort.

“It’s hard to say at what point of the brainstorming session the idea of SoaPen came about,” Issar says. “We had so many solutions we were thinking about. But in the end, we chose SoaPen because it fit seamlessly into our user’s life.”

A pivotal moment came when Issar and Anand, who had graduated from New York City’s Parsons School of Design in 2015, traveled to their home country late that year. They wanted to examine the structure of low-income schools and what was stopping kids from adequately washing their hands.

Ivy Losaw (left) and Harper Losaw of Charlotte have a little extra fun with SoaPen.

Growing up in India, the product's cofounders saw that basic necessities such as soap could be scarce. Other impoverished countries suffer the same fate. Further, the two said, preventing disease takes on added importance in countries where health care is also in short supply.

But what they saw during their trip brought the urgency of the situation to life.

Children rarely washed their hands. Donated liquid soap was locked in closets by teachers so that children wouldn't misuse it or steal it.

"The soap was taken out once during the midday meal," Issar says. "The teacher would put a coin-sized amount on each child's hand.

"In India, class sizes tend to be pretty big sometimes with a ratio of 1 teach to 60 students, and this task of administering soap on to each child's hands was pretty tedious. If the teacher didn't have a helper, the kids wouldn't get to wash their hands even once during the day."

When kids in these classrooms were given soap before lunchtime, they didn't want to wash their hands. They preferred to color.

*Aha moment:* What about combining coloring and washing with soap? What about moving soap from the bathroom to the classroom?

"At that young age, kids love drawing and it's the primary activity in classrooms," Issar says. "We wanted to create something that was portable and fun so that it catered to both teachers and kids. They could use the soap themselves in the classroom and go to the wash-room and wash their hands off, and the teacher could check if kids properly washed their hands by looking for leftover traces of the soap drawings."

### Major milestones

Shortly after Anand and Issar got their undergraduate industrial design degrees from the Parsons School, they entered their concept at the UNICEF Wearables for Good Challenge in late 2015. Issar recalls:

"The UNICEF competition highlighted and made us aware of the fact that every year, over 1.5 million children under the age of 5 die due to infectious illnesses like diarrhea—over 50 percent of which can be prevented by simply washing hands with soap. We were shocked by these statistics."



## YOU'RE PROBABLY NOT DOING IT RIGHT

It is estimated that about 5 percent of people wash their hands correctly. Failing to wash hands correctly contributes to nearly 50 percent of all foodborne illness outbreaks.

The correct way to wash your hands, from the United States Centers for Disease Control and Prevention:

Wet your hands with clean running water—warm or cold—and apply soap.

Lather your hands by rubbing them together with the soap.

Scrub all surfaces of your hands (palms, backs, fingers, between your fingers, and under your nails). Scrub for at least 20 seconds. One way to unofficially time it is to sing the "Happy Birthday" song twice.

Rinse your hands under clean, running water.

Dry your hands using a clean towel, or air-dry them.



# “More and more people are realizing the life-saving importance of handwashing with soap and teaching these habits early.”

—SHUBHAM ISSAR



In early 2016, SoaPen won the UNICEF competition. The company was awarded \$15,000 to develop the concept into prototypes.

The next year, the invention was the runner-up for the U.S. Dyson Award.

“The JDA brought a lot of exposure and support from the industrial design community,” Anand says. “James Dyson is such an icon in the industrial design world, and we’ve looked up to him since we were young designers in school.

“We’ve made countless prototypes of SoaPen—getting user feedback and refining it even more—and James Dyson remains one of the biggest inspirations of the iterative process.”

In late 2017, SoaPen ran a successful crowdfunding campaign on Kickstarter, backed by Quickbooks, that provided the capital for the product’s first large-scale production run. SoaPen was launched on Global Handwashing Day, October 15.

## Slippery path

Like virtually all inventors, Issar and Anand have navigated a path strewn with obstacles. They had a clear vision for how their invention would look and feel but uncertainty over the many steps to reach a packaged, ready-to-sell product.

Simply assembling the right team took months. “In the beginning, the biggest challenge was finding the right partners since we were young and inexperienced,” Anand says. “We combatted that by surrounding ourselves with industry-specific advisers and mentors who guided us in the right direction.

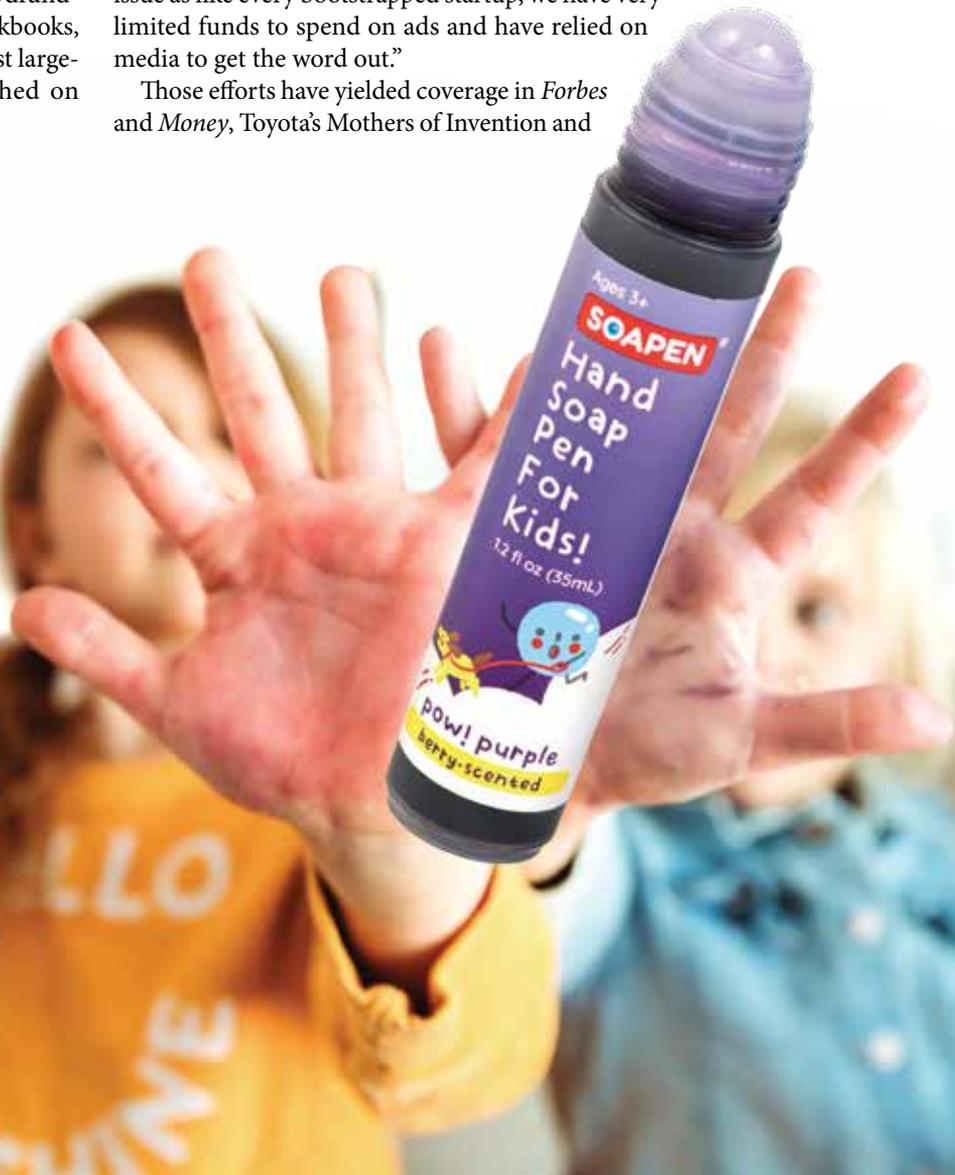
“As we’ve grown, marketing continues to be an issue as like every bootstrapped startup, we have very limited funds to spend on ads and have relied on media to get the word out.”

Those efforts have yielded coverage in *Forbes* and *Money*, Toyota’s Mothers of Invention and

## THEY’RE CLEAN SOLD OUT

Hand-washing and sanitation-related products dominated a recent *USA Today* list of the leading sold-out items during the COVID-19 pandemic:

1. Toilet paper
2. Hand sanitizer
3. Cleaning wipes and spray
4. Paper towels
5. Hand soap





**“We’ve made countless prototypes of SoaPen—getting user feedback and refining it even more—and James Dyson remains one of the biggest inspirations of the iterative process.” —AMANAT ANAND**

more. Anand and Issar made *Forbes*’ prestigious “30 under 30” list of entrepreneurs.

Anand says in a Dyson video for SoaPen that initially, the team focused on four main components: cost, packaging, environmental, and the human factor. “You kind of have to balance all of them at one time. And you never know which is the right balance.”

There have been times the two wanted to give up. Manufacturing, traditionally a field traditionally dominated by older men, has proven particularly imposing.

“We’ve gone back and forth on the littlest of things, and made the biggest mistakes with things that we are too embarrassed to even tell people that we’ve done,” Anand told Dyson.

#### **Future innovation**

The colorful crayon-pens last for up to 60 hand washes, with an intuitive gradient that helps kids track their washes. Given SoaPen’s wild popularity, ideas for more product features and extensions are bubbling over.

Issar says she and Anand are “working on introducing a rainbow of color and that “a lot of parents have also requested a larger size of SoaPen for bath time.

“Another idea we’re working on is a bar SoaPen that would draw like a crayon on kids’ hands! Additionally, given the need of the hour, we’ve launched a hand sanitizer.”

The cofounders also make time to be active participants in their mission for cleaner hands. For every three SoaPens sold, they donate one to a lower-income school that has limited resources for proper sanitation.

“We recently did a handwashing campaign in an indigenous school in the Philippines,” Anand says. “Seeing that impact is extremely humbling.

“The biggest satisfaction is seeing SoaPen in action with kids and how excited they get when they use it—also, parents’ relief and happiness that their kids are properly washing their hands. When they ask, ‘Did you wash your hands?’ for the 100th time that day, kids say yes.” 📌

## **BET YOU DIDN’T KNOW**

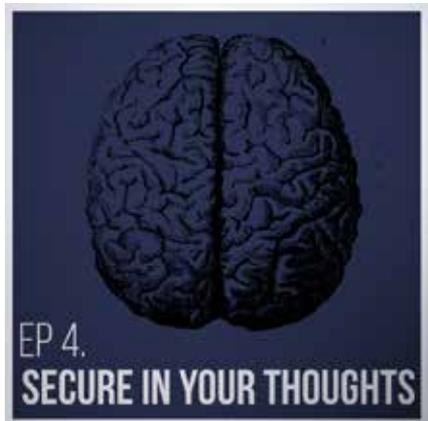
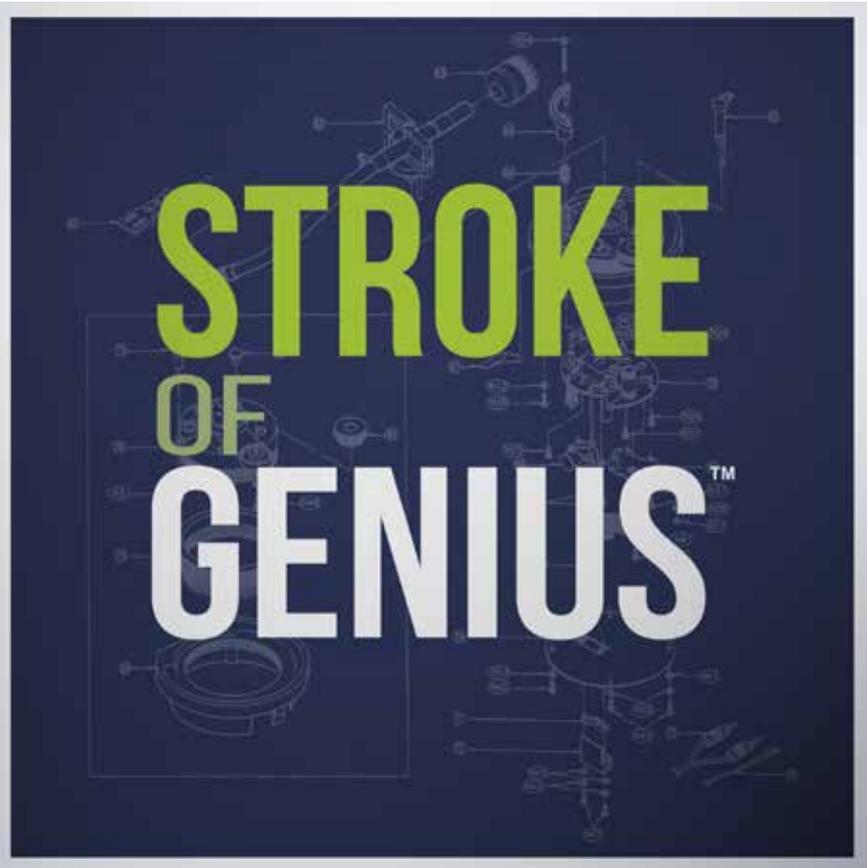
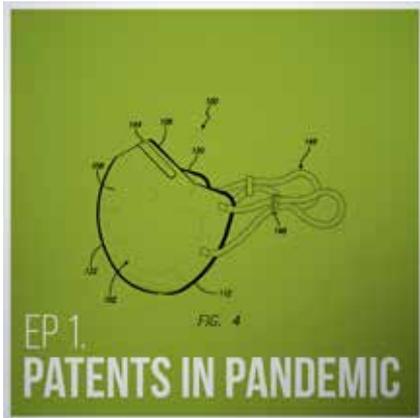
- On average, you come into contact with 300 surfaces every 30 minutes, exposing you to 840,000 germs.
- Most people only wash their hands for 6 seconds.
- About 33 percent of people don’t use soap when washing their hands.
- Up to 80 percent of communicable diseases are transferred by touch.
- Proper handwashing can reduce diarrhea rates by 40 percent and respiratory infections by close to 20 percent.
- Only 20 percent of people wash their hands before preparing food, and 39 percent before eating food.
- About 7 percent of women and 15 percent of men do not wash their hands at all after using the bathroom.
- Most bacteria on our hands is on the fingertips and under the nails. The number of bacteria on our fingertips doubles after using the bathroom. Most people wash the palms of their hands and miss everything else.
- Damp hands are 1,000 times more likely to spread bacteria than dry hands. About 20 percent of people dry their hands after washing them.
- There is fecal matter on 10 percent of credit cards, 14 percent of banknotes and 16 percent of cellphones.
- Approximately 39 percent of people don’t wash their hands after sneezing, coughing or after blowing their nose.
- Elevator buttons harbor 22 percent more bacteria than toilet seats.
- Dirty sinks result in less handwashing.
- Handwashing rates are higher in the mornings than evenings.

*Statistics from All Portable Sinks*





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# Fast Times at IoT

INTEGRATED HARDWARE AND CLOUD SOLUTION HELPS DEVELOPERS CONNECT THEIR PROTOTYPES QUICKLY

BY JEREMY LOSAW

**F**OR THE PAST DECADE, IoT products have gone from being interesting whimsy for the early adopters to must-have functionality for many types of consumer devices.

In the early days of IoT, you needed a whole team of electrical engineers and programmers to bring a connected product to life or even prototype them. As the industry has matured, so have the tools to connect and control devices through the web and with apps. Many solutions allow developers to get their prototypes connected quickly, and one of our favorites at Charlotte-based Enventys Partners is called Particle.

The Particle Argon uses the Feather circuit footprint, making it easy to connect peripherals such as this OLED display that is monitoring the sensors on the breadboard.

## Basic information

Particle is an integrated hardware and cloud solution for IoT products—electronic hardware that can be programmed and wired into prototypes and products, allowing those devices to be monitored and controlled via the cloud. The company’s latest Generation 3 products include the Boron (cellular and Bluetooth), Argon (WiFi and Bluetooth) and Xenon (Bluetooth mesh), although the Xenon will be dropped by the end of 2020.

Products are built on the Feather platform, an asymmetric pin design that is reminiscent of the Arduino but smaller. Thus, they are compatible with a number of peripherals that use the same platform, such as OLED screens, relays and LED drivers.

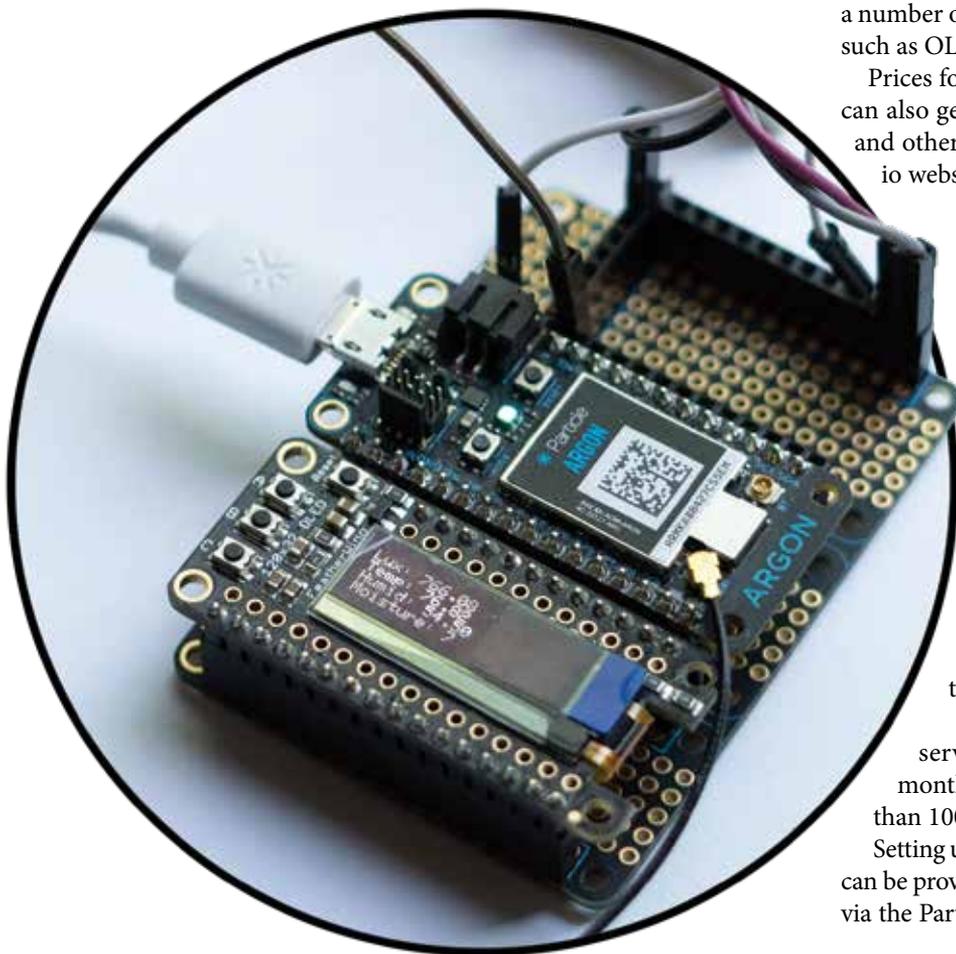
Prices for the boards range from \$19 to \$80. You can also get development kits that include sensors and other goodies, available through the Particle.io webstore or other online retailers.

All Particle devices can be programmed and monitored via the Particle cloud at [particle.io](http://particle.io). A web IDE (integrated development environment) allows for the devices to be programmed in a language very close to that of Arduino.

However, unlike Arduino and other development boards that must be physically plugged into a computer to be flashed, Particle devices are updated via the cloud so you can program them remotely. They also provide a dashboard that shows all your devices and allows you to see what data are being sent back, which lets you send commands to the device to perform a desired action.

Note that although the Particle data services are free for prototyping, there are monthly fees to use it once you grow to more than 100 devices.

Setting up a Particle board is very easy, and devices can be provisioned in minutes. The devices are set up via the Particle smartphone app where you scan the



PHOTOS BY JEREMY LOSAW



## Particle is electronic hardware that can be programmed and wired into prototypes and products, allowing those devices to be monitored and controlled via the cloud.

QR code on the top of the board, point the device to your WiFi network and you are off and running.

You do not even have to write a line of code to interact with the device. The Particle app has a feature called “Tinker” that allows you to control all analog and digital pins through a graphical interface.

### Programming, functions

Programming Particle devices with custom code is not hard and is handled through the web Particle console.

The console allows you to see all your devices. There, you can access the web IDE to create your own sketches. The code language is a modified C++, which is very similar to that of Arduino, and most Arduino sample code and libraries will compile to Particle devices.

Libraries to drive sensors and hardware are already hosted on the Particle cloud; they can be added to a sketch with just a couple of clicks. Once your code is written, it can be sent to your device anywhere in the world with just one click.

The real magic of Particle devices and the ecosystem are the Particle functions. These special features

can be called in your code to allow you to monitor and control the device through the app or web console. The Particle functions are available across all Particle devices, require minimal coding, and are a great tool to extract the power of their IoT capability.

There are many Particle functions, but the four that are of primary concern for prototypers are Particle.variable, Particle.function, Particle.publish, and Particle.subscribe.

Particle.variable allows you to see the value of a variable from your code in the console. For example, if you have a temperature sensor hooked up to the device, you can send the value in a Particle.variable to see the current temperature in the console.

Particle.function allows you to perform a coded action when it is called from the console. If you have an LED hooked up to the device, you can create “on” and “off” functions to turn on and off the LED.

Particle.publish and Particle.subscribe are a related and powerful combination.

Particle.publish allows you to send sensor data or a status based on the data. For a temperature sensor, you can Particle.publish the actual sensor reading and can also send a temperature status event— where

The Enventys Partners team used the Particle Argon in this prototype of the Ringo smart garden system. The Argon allowed the ability to push data to a custom app, which enabled the team to update the device code remotely.



The FloSonix lice treatment device was built on the Particle platform, to allow the Eventys Partners team to monitor key performance parameters and update the device firmware.

Below: The writer's pressure sensor is piped in to the PVC misting system and wired to the Particle Argon in the plastic case in the background. Pressure data is Particle published to the writer's dashboard.



it may send the value "normal" if the temperature is in a comfortable range or "hot" if the temperature passes a defined threshold.

Particle.subscribe allows a device to monitor the Particle cloud for certain events and perform actions based on them. A device can listen to the temperature status events from above. When it sees the event "normal," it could drive LEDs to show the color green; if the event changes to "hot," the LEDs can be driven to red.

## Practical uses

Particle devices are great for both prototyping and end-use applications. Because they can be flashed remotely, they are great to use for prototypes where they may be away from the lab or travelling to a trade show.

For example, the Riego smart plant watering system used a Particle Argon. We chose this solution because we wanted to control watering events with an app, and we knew the inventor wanted to take it to a trade show such as CES.

Our team also built end-use products on the Particle system, such as the FloSonix lice treatment device. The device uses a Particle board to send key performance metrics to the cloud to monitor device performance and health, and we can update firmware remotely so that the devices can stay out in the field.

Because of how fast and easy it is to get Particle products up and running, I have also used them to build some devices for fun at home.

My latest Particle application is a water pressure monitoring system for my greenhouse. I have an Argon in my greenhouse, hooked up to a pressure sensor in my misting system that cools the greenhouse.

I Particle.publish the data and have another Argon on my desk. It displays the pressure reading on an OLED display and changes the colors on an addressable LED ring from green (not watering) to blue (misting in progress). This way, I can make sure the cooling system is working properly without having to log in to the Particle console or walk out to the greenhouse during the hot summer months. ☺



# Patent Searching Tips

HOW TO LOOK FOR PRIOR ART USING FREE TOOLS;  
THE IMPORTANCE OF CLASSIFICATION SEARCHING **BY GENE QUINN**

**I**NVENTORS and entrepreneurs who are looking to cut costs frequently conduct their own patent search. This is a wise first move, because patent searches are critically important.

But inventors must be careful. It is common for them to do a patent search and find nothing, even when there are things that could and would be found by a professional searcher.

So although it makes sense to do your own search first, be careful relying on your own search to justify spending the thousands of dollars you will need to spend to ultimately obtain a patent. Do not forgo a professional patent search. There is no comparison between a patent search done by an inventor and a patent search done by a professional searcher.

That said, every inventor should spend time searching and looking for two reasons:

Spending time patent searching familiarizes you with prior art.

Patent searches inform you on the prior art so you can focus on what makes your invention unique.

Of course, if you find something that is too close on your own, you save time and money and can move on.

## Certain tools' pros, cons

If you do your own searching and find relevant patents, you need to learn some strategies—and about the free tools that are available.

If you do your own preliminary patent searching, look at the United States Patent and Trademark Office patent search page. A lot of information can be found free, and the system is not terribly difficult to use.

There is also an excellent Help Section on the patent office website to educate inventors on how to use the online search features. Another excellent

(and free) site that you should use when searching is Free Patents Online.

Whenever I search I tend to use Free Patents Online, simply because it is easier to access the patent illustrations. This leads me to one of the best things about Free Patents Online: It provides copies of the actual PDF documents, which is why it is easier to obtain access to the images. Using the images on the USPTO website to obtain these full text PDF documents that contain the images is cumbersome.

Free Patents Online is also normally much faster than the USPTO site as well, although I sometimes find the patent search engine of the patent office better. Nevertheless, when I use the USPTO patent search engine, I go to Free Patents Online for the PDFs and to access related patents, which is much easier because everything at Free Patents Online is hyperlinked.

So once you find a handful of relevant patents, go to FPO so you can easily jump back and forth and look at the patents that are cited in each relevant patent you find.

Google also offers Google Patent Search, which is lightning fast (unlike the USPTO online database) even compared with Free Patents Online.

The reason I don't suggest this search tool first is because the Google Patent Search engine has serious limitations. The number of fields that can be searched pales in comparison to the USPTO or Free Patents Online.

Thus, if you are going to use Google Patent Search, it is probably best used initially because when you start a search you want to cast a very wide net—so the limitations of the field search are probably not as important initially. As you start to want to search for specific things, perhaps terms within a particular part of a patent or patent application, the Google tool is not very useful.



## There is no comparison between a patent search done by an inventor and a patent search done by a professional searcher.

Google Patent Search also has some holes in the database. I have specifically looked for patents I know to exist and cannot always find them. I have heard the same experience from other patent attorneys and patent agents. Additionally, the most recent patents are not always available on Google.

What this means is you cannot only rely on Google, but you still must use it.

The Google database covers patents that are issued all the way back to U.S. Patent No. 1. This scope is much broader than either Free Patents or the USPTO. So although you might not find everything and it is difficult to specifically narrow your search, you still should use the Google database to see if there are old references that might be on point.

### Advanced Search

When using the USPTO search features, either at the USPTO website or on Free Patents Online, one trick to improve search quality is to start by using the Advanced Search Page and searching in the specification field.

Let's say you are looking for patents that relate to insulated containers for carrying beverages. You must pick a term or phrase that might appear within the written description of issued patents.

Following this example, you might try in the search box: SPEC/"insulating beverage container." When this search was conducted, the results returned a list of 27 patents issued since 1976 that have used that phrase in the specification.

This points to the first problem encountered by doing your own patent search online at the USPTO. You can only do full text searching back to 1976. This is probably not too much of a concern for those operating in the high-tech sector but is important to know nonetheless.

The fact that you can only search going back to 1976 can be extremely detrimental if you have a mechanical invention or gadget. It is not at all uncommon—in fact, it is extremely common—for inventors in every generation to seek solutions for the same or similar problems, which leads to the same or similar solutions/inventions.

In this case, there were not many patents from which to choose. Many times, however, the list will contain hundreds or even thousands of patents, depending upon the popularity of the term or phrase selected.

For example, if you search “SPEC/thermos,” you will find hundreds of patents that use this word in the specification—and that is only for patents issued since 1976. So what should you do now?

If you find too many patents, rework the specification field search. For example, if your search were “SPEC/thermos and SPEC/beverage,” you get down far fewer patents.

Ultimately, upon receiving manageable results, just click on several of the patents. The key is to start off broad and then narrow your way down to those that are the most likely relevant references.

### Classification searching

Before going any further, it is worth pointing out one major problem associated with inventors doing their own search. What you are doing, at least in the first instance, is a keyword search.

Perhaps the reason there were only 27 issued US patents found that use the term “insulating beverage container” in the specification is because that isn’t the proper, or at least most common, way patent attorneys and patent agents typically describe that particular feature set.

This means it is essential to try a variety of different keywords in your search. I’ve done searches using keywords in the past and haven’t been able to find anything when I knew there should be a universe of prior art to find. Once you stumble on the proper keyword combination, the doorway starts to open.

Even with the best keyword combination, the doorway only starts to open. To do a competent search, you must do more.

For example, once you get manageable results, read the patents and see which ones are relevant. Always remember to try various search terms to ensure you are covering all possible descriptions of the invention.

Along the way, as you read the patents and identify related ones, keep track of the numbers and identify the U.S. classification that relates to the type of invention you are searching. Then, return to the Advanced Search Page and do a classification search.

Again following our example from above, you may notice that classification 206/545 seems relevant to the area of insulated beverage containers. As it turns out, this classification relates to special receptacles or packages with an insulating feature.

Therefore, it would seem that patents within this classification are potentially highly relevant. So, return to the Advanced Search Page text box and enter “CCL/206/545.” This will search for all the patents classified in 206/545—which, as of the time the search was conducted, resulted in 156 U.S. patents.

You can also add to a classification search to narrow. For example, if you search “CCL/206/545 and SPEC/beverage,” you get down to 55 US patents issued since 1976.

Even as the old U.S. classification system becomes obsolete, the same will work with respect to the Cooperative Patent Classification or CPC classes. You would just use “CPC/” and the classification number without the numbers in parenthesis.

Any successful search must use classification searching. Although the classification system is helpful, never forget that patents are classified as the patent office sees fit. In order to identify the appropriate classification, a broad search is necessary to ensure you familiarize yourself with how inventors and patent attorneys routinely characterize certain inventions, features, scientific principles and concepts.

Only after you have a broad idea of all possible descriptions can you meaningfully search the classification systems. Some will disagree with this last statement, though.

Frequently, a patent classification search is the only type of search that is conducted by individuals who are professional patent searchers. It is important to realize, however, that a professional searcher only searches for a living and is far more familiar with the classification system than any inventor or even any patent attorney. If you think you are familiar enough with the classification system, you are not!

It is critically important to figure out what things are called. I cannot stress this enough. You must use different names and labels.

You will find that patent attorneys typically call certain features by a select few names. These names are not always obvious, but once you figure out what the industry calls something you are far more likely to find relevant patents. ☛

**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.





# Navigating the New Normal

COVID-19 ERA TRIGGERS SPENDING FREEZES BUT ALSO ATTRACTIVE BUYING OPPORTUNITIES **BY LOUIS CARBONNEAU**

**A**S THE WORLD gradually experiments with the incremental reopening of global economies, no one knows what the real impact of deconfinement will be. Simple things that early this year were considered routine activities now come with their own risks.

Let's hope that as we learn to navigate this new normal, the summer's warmer temperatures and growing "herd immunity" will preserve us from that dreaded second wave.

In this regard, we are starting to witness some large corporations revisit their patent acquisition budgets for the remainder of the year, in the context of what appears to be companywide spending freezes due to the current economic uncertainties.

On the other hand, there is a growing trend for those to be favoring pre-assertion licensing discussions. It will be interesting to monitor this to see whether this is temporary or the sign of a new normal.

In parallel, we are seeing more non-practicing entities or NPEs—those holding a patent for a

product or process but with no intention of developing it—accelerating both their acquisitions and the launch of their litigation campaigns. This reflects that they see a buying opportunity but also points to the fact that the outcome of patent litigation is not directly tethered to the overall health of the economy and thus less affected by the current situation.

## Study results

As most of you know, the patent market is still fairly opaque. Despite numerous attempts during the past decade to create a true online marketplace for this asset class, the reality is that most transactions are still done privately via direct or brokered deals.

But let's take a peek behind the curtain.

Tangible IP's good friends at Richardson Oliver Insights have been aggregating through the years by pulling in deals made by patent buyers and sellers who participate in its annual study. This year again, Tangible IP was the only brokerage firm worldwide that was selected to participate in such study. Here are some highlights for the full year 2019 (Q1 numbers for 2020 are still being compiled).

The results stem from looking at close to 500 transactions that took place between 2013 and 2019 (with 74 deals added for 2019 alone) and a total deal value of approximately \$2 billion. Before we look at some of the numbers, it is interesting to note that most participants in the study believed that the market will either hold steady or continue to expand. But this was before COVID-19 hit, so it will be interesting to see if those assumptions change over time.

It is also noteworthy that most buyers who are not non-practicing entities acquired patents primarily for defensive reasons—i.e., in a typical buy-and-hold fashion, and not to assert first. Finally, 70 percent of participants said they are using some type of model to price their deals.

Statistically, the average prices hover around \$300,000 per U.S. family; however, median prices are substantially below because of the long tail of prices. Therefore, if you are a seller, you should use the average price per family, whereas buyers will likely insist on using the median value as a comp.



## I'LL SEE YOU IN COURT

I might see you in court, but via my monitor. Because of the pandemic, courts have had to adjust; the first "Zoom patent trial" on the merits involving **Cisco** and **Centripetal Networks** started in the Eastern District of Texas. ...

There has been a resurgence of NPE -ed campaigns lately, which is usually symptomatic of a pickup in the confidence level they have in getting licenses in place. To follow those more closely, we recommend you subscribe to the RPX weekly newsletter. It does a great job tracking those, and the basic information is free. ...

**Seoul Semiconductor**, a leading global innovator of LED products and technology, filed a patent infringement lawsuit in the United States District Court for the District of New Jersey against **Onyx Enterprises Int'l Corp.**, a distributor of automotive components. This comes on the heels of another case in which **LKQ Corp.** filed a lawsuit against General Motors, seeking to have collision repair part design patents ruled invalid. ...

Finally, Sunnyvale, California-based platform security vendor **Fortinet** accused cybersecurity competitor **Forescout** of violating three patents associated with the Bradford Networks network access control (NAC) technology that Fortinet acquired in 2018.



## A study examining close to 500 transactions from 2013 to 2019 revealed that most buyers who are not non-practicing entities acquired patents primarily for defensive reasons.

When you look at how patents are sold and their impact on the deal amount, the study shows that brokered deals yielded on average between 50 percent and more than 100 percent more to the sellers than using auctions. This difference is largely a function of patent auction sites dealing with smaller families and oftentimes patents with no Evidence of Use, which we know are key drivers to a higher valuation.

Accordingly, according to the study, buyers usually paid a premium from more than 30 percent to almost 130 percent for patents with EoU when compared to those without any, depending on the nature of a deal.

Finally, the study showed that deals still take an average of 3 to 6 months to close on average, depending on whether they are direct, brokered or auctioned assets.

### Buyers and sellers

The big recent news was reports that two well-known, publicly traded NPEs made some rather large acquisitions of patents from current or former Fortune 100 companies. This goes to show that the privateering model is still alive and well,

First, it was reported that **Acacia** completed the purchase of the huge **Excalibur** (formerly Yahoo) 2,500-plus rich patent portfolio for an undisclosed sum. We suspect there is a fair percentage of the deal that involves a revenue sharing scheme on the back end, as the NPE secures various licenses through discussions or litigation.

Other recent acquisitions included a portfolio of about 150 patents from **L3Harris Technologies** that cover commercial applications of Wi-Fi and IoT technologies. There was also the purchase of

a portfolio of 70 patents from **Fusion-io** that cover flash memory management and control technology. With nearly \$170 million in cash on hand, the company is well poised to continue making opportunistic acquisitions.

Second, **Wi-LAN** announced that it had acquired a portfolio of patents from **IBM**. The acquired patents (apparently more than 1,000) relate to semiconductor manufacturing process technologies.

This follows acquisitions it made less than a year ago, including patents originating with Advanced Micro Devices, DB HiTek, GlobalFoundries, IBM, Renesas, and STMicroelectronics. ...

It also appears that defensive aggregator **AST** will launch a new edition of its annual patent purchase program and that a few new large members will join this year.

Historically, these efforts in which sellers have to name their price ahead of time have generated a rather low number of deals and prices that were significantly lower than the industry average. But apparently, AST members continue to see value in the program. ...

*IAM* magazine also reported recent sales of patents by **Nokia** and **LG**, but no details were available. ☛

**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.





# PTAB Rulemaking: Past, Present, Future

MOST RECENT CHANGE IS A BABY STEP, WITH A LONG WAY TO GO FOR FULLY PROTECTING INVENTORS **BY JOSH MALONE**

**R**ECENTLY, the United States Patent and Trademark Office published a Notice of Proposed Rulemaking to change the “Trial Practice at the Patent Trial and Appeal Board,” which is contained in Part 42 of Title 37 of the Code of Federal Regulations. This is the fifth rule change since the PTAB was created and the second of Director Andrei Iancu’s tenure.

## Through the years

The first rules were issued on September 16, 2012, the one-year anniversary of the America Invents Act. David Kappos was USPTO director at the time.

The first rules were controversial and heavily biased against inventors. For instance:

- Claims were construed under the broadest reasonable interpretation;
- Patent owners were denied the right to present testimony in a preliminary response;
- User fees subsidized discounts and rebates to petitioners;
- Unlimited petitions were permitted;
- Previously considered prior art and arguments were permitted;
- Interfering and overruling with district courts was permitted;
- Discovery was effectively prohibited;
- The institution decision was delegated to the PTAB.

It is stunning how lopsided the rules were written. It was arguably deliberately implemented by the USPTO to be a death squad.

Kappos resigned a few weeks following the rule implementation and President Barack Obama’s re-election. The office was officially vacant from February 1, 2013, until Michelle Lee was confirmed on March 9, 2015.

The second rules were implemented May 19, 2015, with Lee as director. This was a trivial change that increased the page limits for certain filings.

The third rules went into effect May 2, 2016, under Lee. This change allowed inventors to provide testimonial evidence in a preliminary reply, but astoundingly required that the PTAB (which

continued to decide which patents to review on behalf of the director) view the evidence in the light most favorable to the *petitioner*.

So much for patents being presumed valid. The deck was stacked against the inventors at every opportunity.

## Protests begin

By 2017, the corruption and abuse had provoked inventors like me and Roman Chistyakov—who was hit with 125 inter partes reviews (IPRs) by a gang of giant corporations—to burn our patents in protest in front of the USPTO.

Lee resigned, leaving the office vacant again from June 6, 2017, until Andrei Iancu was confirmed on February 6, 2018.

The fourth rules were implemented November 13, 2018, under Iancu. This was a teeny, eminently reasonable rolling back of the ridiculous broadest reasonable interpretation (BRI) rule – the one where the PTAB stretched the meaning of the words to read on prior art to accuse the inventor of claiming he or she invented something old.

For instance, Chistyakov was accused of claiming to have invented plasma vapor deposition that was discovered in the 1800s, while in reality he had invented a system for depositing a near-perfect layer of metal only a few atoms thick. He claimed a plasma “without arcing,” which the PTAB construed to mean “a little arcing” to encompass the 1800s technology.

Iancu’s common-sense baby step of balancing the PTAB was met with a firestorm of opposition from the big tech lobby and its supporters in Congress. The resistance was so unhinged that Rep. Zoe Lofgren (D-Calif.) read talking points criticizing elimination of BRI in direct contradiction of her support for BRI in the prior Congress.

Iancu met the irrational resistance with resolve, delivering a rebuke in the week following publication of the final claim construction rule.

## Iancu did the right thing

That brings us to the current rule change. Another baby step.



Honestly, it seems we are rearranging deck chairs on the Titanic.

Nevertheless, Director Iancu should be supported and encouraged for doing the right thing. This change codifies the 2018 *SAS v. Iancu* decision that requires the PTAB to institute all claims or none.

*SAS* does not require that all grounds be instituted (only all claims), but that still seems like a good policy for inventors. It really doesn't matter if all claims/grounds or some claims/grounds are instituted; most inventors are going to lose in a trial due to built-in bias and lack of competent representation.

The more significant change this time is the reversal of the outrageous provision of the May 2, 2016, rules under Lee that "testimonial evidence will be viewed in the light most favorable to the petitioner..."

It defies belief that five years after the AIA, the infringer forces were still advancing a radical attack on patent rights.

This new rule requires instead that the evidence be viewed neutrally.

### Time to restore equity

The America Invents Act left it to the USPTO to establish the rules and procedure of the PTAB. The rules of practice under Kappos and Lee were radically skewed to help infringers and hurt inventors. Director Iancu has begun to fix the most egregious of these biased rules.

However, we are very far from leveling the playing field. We should encourage Director Iancu to

channel that passion and resolve from that October evening in Dallas when he had put down the crazed revolt against his first rulemaking and threw down the gauntlet to the storytellers.

Above, I list eight inequities that were promulgated in the first rulemaking for PTAB practice. The first three have been addressed.

The remaining five all deal with institution. Attempts to fix this through informal guidance and opinions have failed, because they are not binding. For instance, multiple petitions, including serial petitions, continue to occur and drive high rates of institution.

The institution decision is a greenfield for rulemaking. Congress gave complete discretion to the director, along with explicit rulemaking authority.

It is time for a comprehensive rulemaking to roll back the radical rules of the prior administration and restore balance and equity.

Director Iancu was appointed to lead the national innovation policy. We may not be able to save the patent system, but we can try. I will have his back if he makes the attempt. 📌

**Josh Malone** is the inventor of Bunch O Balloons, a product that was ruled to be patent infringed by U.S. telemarketing firm Telebrands and its subsidiaries. His companies received \$31 million in the settlement but spent about \$20 million in legal fees. He is a Fellow with US Inventor, working to restore the patent system.





# Going Remote

AS INNOVATIVE COMPANIES MOVE TO AN AT-HOME WORKFORCE, TAX IMPACTS GROW IN IMPORTANCE **BY GENE QUINN**



**A**S OF THIS WRITING, the COVID-19 pandemic seemed to be coming to a slow but steady close in Europe, with no evidence of a spike despite loosening of lockdowns according to the *Washington Post* and *Wall Street Journal*.

Although some media continue to report spikes in the number of coronavirus cases in certain American states and areas, other media, such as Politico, acknowledge that two weeks after the widespread protests in virtually every major U.S. city started there was no evidence of a spike.

Of course, Politico has also reported the exact opposite.

Whatever the case may be about whether COVID-19 is increasing, decreasing or likely to spell imminent doom, corporations of all sizes are rethinking their future. Many innovative and

innovation-based corporations, from startups to small businesses to the largest multinational technology corporations, have discovered that their workforce can operate just as effectively or even more effectively from home.

## Going remote

A recent survey of Venture Capitalists and Founders found that roughly one-third of all companies will emerge from the economic shutdown caused by COVID-19 with a fully remote workforce. Another 40.7 percent will emerge with most of their workforce being remote.

Another 20.7 percent said they will have at least some of their workforce remote; only 5.6 percent responded that they will have an all-in-office workforce.

That means that 94.4 percent of respondents will have at least some remote workforce, with 73.6 percent having at least most of their workforce working remotely from home.

Numerous technology giants are similarly rethinking the future of their workforce—most notably Facebook, which has announced plans to eventually become a fully remote workforce. Meanwhile, Google employees will be allowed to work from home at least through the end of 2020, and Twitter CEO Jack Dorsey has given employees permission to permanently work from home if they wish.

Tech companies have spent lavishly on office space and buildings in Silicon Valley and San Francisco in recent years: Think Apple’s particle accelerator-shaped office space in Cupertino, California, or the many leases entered into even before ground is broken in San Francisco.

But the prospect of a remote workforce is too enticing to pass up. From a truly national and international recruiting base, talent acquisition will be easier than ever. And from a tax standpoint, the savings could be enormous.

## The rankings flip

Why would or should any corporation of any size remain in a high tax jurisdiction? With a majority remote workforce or better, boards of directors should demand that corporations move their operations to more tax-friendly jurisdictions. A decision to stay in

### NEW DATES FOR IPWATCHDOG CON2020

This premier discussion and networking event, originally scheduled for March 15-18 in Dallas at the Renaissance Richardson hotel but postponed due to COVID-19 precautions, is now set for September 13-15. More than 90 invitation-only speakers are planned. **Details: [con2020.ipwatchdog.com](http://con2020.ipwatchdog.com)**

a high tax jurisdiction when a corporation will have a remote workforce is practically malfeasance.

Typically, when states compete for corporations, they tout many things, including quality of life for employees. This will no longer matter for many technology companies in the post-COVID economy.

States also tout their overall tax rankings, which are a function of corporate tax rates, individual tax rates, sales tax rates, and property tax rates, among other things such as fees and licenses, etc.

The picture often looks like this overall and corporate tax rankings, with the top 15 most attractive rates from the Tax Foundation for 2020, in this order:

**Overall tax rates**—Wyoming; South Dakota; Alaska; Florida; Montana; New Hampshire; Nevada; Oregon; Utah; Indiana; Delaware; Michigan; Texas; Missouri; North Carolina.

**Corporate tax rates**—South Dakota, Wyoming (tied); North Carolina; South Carolina; Missouri; Georgia; Colorado; Oklahoma; Florida; Mississippi; Indiana; Utah; New York; Virginia; West Virginia.

With a majority remote workforce or a fully remote workforce, metrics that go into the overall picture that affect the individual seem less important. Focusing just on the corporate tax rates, a somewhat different picture emerges, with some notable states even switching from a “top” ranking position to a “bottom” ranking position.

Surprisingly, when you do not consider individual tax, property tax and sales tax burden, New York flips from the second-worst worst tax jurisdiction in the United States (49th in overall tax rates) to 13th in corporate rates. Similarly, Delaware and Texas flip from 11th and 13th, respectively, in overall tax rates to 50th and 47th in corporate tax rates!

For at least some corporations (perhaps many corporations), the thought of relocating to South Dakota, Wyoming, South Carolina, Mississippi or West Virginia would not be appealing for a variety of reasons.

On the remainder of the list would be cities such as Charlotte, St. Louis, Atlanta, Denver, Oklahoma City, Jacksonville, Orlando, Tampa, Miami, Indianapolis, Salt Lake City, New York—and although not a particular “city,” the northern Virginia area near Washington, D.C. All these locations have major airports and some obviously would have lower overheads than others.

### More to learn

Obviously, there are a lot of considerations that go into where to locate or relocate your business.

Cities and states are known to put together enticing tax packages to attract businesses that they want, but those are premised on jobs. What the new post-COVID economy will look like and the sales-pitch states and cities will have to make to attract new and relocating businesses will undoubtedly change. So, too, will the calculus for those businesses small to large. 📍

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## TRADE SHOWS JULY 2020

**Editor’s note:** Both of the following are virtual events, changed because of the COVID-19 pandemic. The other July events that appeared in our 2020 U.S. trade shows calendar in the January edition of *Inventors Digest* have been moved to later in the year or canceled.

**July 12: IFT20 Annual Event & Food Expo**  
(*Institute of Food Technologists*)  
800-438-3663; [iftevent.org](http://iftevent.org)

**July 13-17: ICAST**  
(*International Convention of Allied Sportfishing Trades*)  
703-519-9691; [icastfishing.org](http://icastfishing.org)

## IoT Corner

The global impact of COVID-19 has also had an impact on deployment of new IoT devices. ABI Research reports there will be an 18 percent drop in new IoT devices for the year, which equates to 66 million fewer connected devices.

The pandemic has caused supply disruptions, which have affected product availability. There also have been changes in demand, positively and negatively, in different sectors that are anticipated to last for years to come.

Particularly hard hit are IoT applications for the automotive industry and retail space, as sales of autos and foot traffic in commercial centers have fallen dramatically. However, smart home device interest is predicted to spike with people spending more time at home, and demand for remote monitoring applications to eliminate human interaction is projected to grow. —Jeremy Losaw



## Wunderkids

Lily Brown, 13, and Tait Hansen, 12, invented a card game that is selling in stores nationwide. Five years ago the girls created “Betcha Can’t,” a game of bets and brags in which players attempt to be the first to collect five cards to win the title of “Better

Bettor.” They won the Chicago Toy and Game Fair Young Inventors Challenge in 2018, beating about 300 competitors. The event was sponsored by Target, which professionally produced the girls’ game and sold it as a Target exclusive. The girls worked with marketing and development professionals to refine their concept.



## What IS that?

Here’s a dippy gag gift for lovers of roast beef. The product’s makers say the bath soak is “a manly gift for Dad, (a) gorgeous brown sugar and fig fragrance for Mom ... 23 ounces of roast beef-colored, soothing, bat crystals they don’t have to share.” Just don’t eat it.

## 5%-10%

The possible drop in patent revenues during the next 12 months cited by USPTO Chief Financial Officer Jay Hoffman, due to the economic downturn spurred by COVID-19.

## WHAT DO YOU KNOW?

- 1 When was the first modern and practical respirator, nicknamed the “iron lung,” invented?  
 A) 1840                      B) 1872  
 C) 1927                      D) 1945
- 2 True or false: Nikola Tesla was known for being unkempt and dirty.
- 3 Which was invented first—the disposable diaper or the electric fireplace?

- 4 True or false: Bertha Benz, wife of automobile inventor Karl Benz, was a German automotive pioneer.

- 5 Who said, “Baseball is the greatest of American games”?  
 A) Abner Doubleday                      B) William Howard Taft  
 C) Ronald Reagan                      D) Thomas Edison



**ANSWERS:** 1 C. The device, which was almost as long as a subcompact car, was invented by Harvard researchers Philip Drinker and Louis Agassiz Shaw. 2 False. Tesla had a fear of germs. He reportedly used 18 napkins with each meal. 3 The disposable diaper was invented in 1942, the electric fireplace in 1912. 4 True. In 1888, she was the first person to drive an automobile a long distance (65 miles). 5 D. Edison, who played ice hockey, sponsored some baseball teams.

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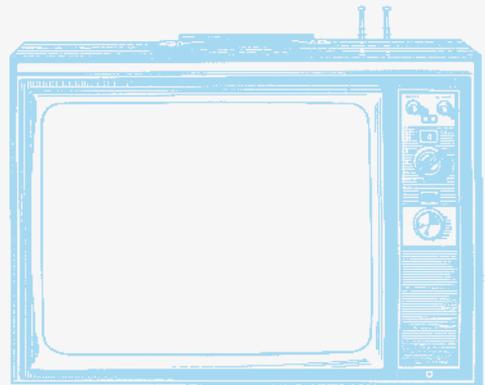
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