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# Inventors

## DIGEST

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## The storm is here. Let's soak it all in.



It's raining IP awareness in America. Time to stand together under a new umbrella and welcome the storm.

Early this year marked the launch of the United States Intellectual Property Alliance, organized to increase intellectual diversity and collaboration. The 501(c)(3) nonprofit was described by USIPA Vice Chairman David Kappos as an "umbrella organization that can unite the entire community of interest around creativity and innovation."

Since that's the heart of *Inventors Digest's* mission, sounds like a good idea to us. We are proud to have recently partnered with other major organizations that promote and celebrate innovation and IP—highlighted by the United States Patent and Trademark Office, the Michelson 20MM Foundation, and Save the Inventor. Gene Quinn's brilliant website, IPWatchdog, has been an unselfish content contributor to our magazine for years.

That USIPA umbrella will be more like one of those ginormous, multicolored beach umbrellas that block out the sun.

Its ambitious goal is to bring together national, state and local organizations with a goal to "balance the strong incentives provided by IP rights to creators, enablers and investors with the need for commercialization of new products, global competition and jobs." It coordinates 11 state and local IP alliances to combine some of the brightest visionaries in intellectual property. And that's just the beginning.

The USIPA executive committee is a veritable IP All-Star team. It's led by Chairman Scott Frank, president and CEO of AT&T Intellectual Property. The aforementioned David Kappos is a former director of the USPTO. Vice Chairman and Judge Paul Michel is the former chief justice of the U.S. Court of Appeals for the Federal Circuit. Joyce Ward is the Office of Education director at the USPTO. Bruce Berman is the chairman of the Center for Intellectual Property Understanding.

Given the recent COVID-19 vaccines that provide hope and relief during one of the most challenging times in American history, the importance of innovation and intellectual property to protect that innovation have never been more obvious. It's time to emerge from the pandemic storm and let IP's benefits reign.

Learn more at [usipalliance.org](http://usipalliance.org).

—Reid  
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Ilya Osipov and his son Savva, inventors of WOWCube; photos courtesy of Cubios Inc.



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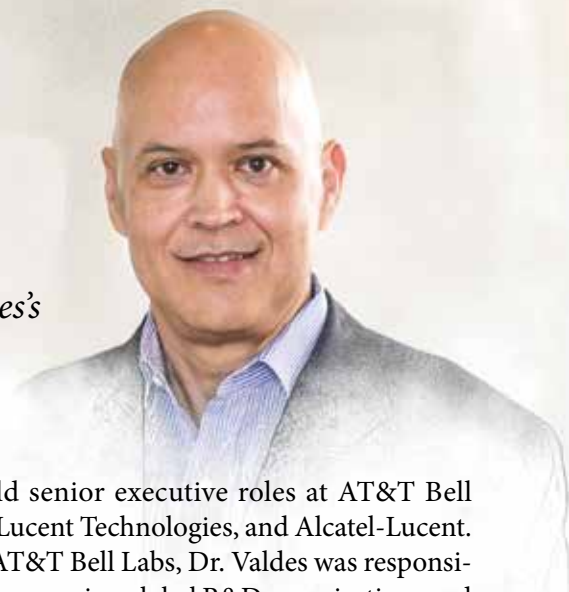
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# His Turn as Mentor

*Inspiration from others sparks Dr. Jorge Valdes's mission as STEM educator*



**SOME OF THE BEST TEACHERS** benefit from the teachers who shaped them. Dr. Jorge L. Valdes, an Education Program advisor and STEM educator at the USPTO, smiles when he thinks back at lunchtime during his long career at AT&T Bell Labs.

“I am a living example of the importance, the criticality of having mentors throughout your career—someone who is there who sees the bigger picture,” he says. “By that, I mean understanding that one success is everyone’s success.”

“Being at a world-renowned place such as AT&T Bell Labs, I was privileged to work with some amazing people who were my bosses, my mentors, my friends. We had lunch together every single day at the same table. We shared stories about our families, our challenges, and our opportunities. We worked together. We invented together.”

Among the innovation icons who worked with Dr. Valdes at AT&T Bell Labs were the first two USPTO inventor card subjects to be profiled in *Inventors Digest* in January and February 2021, respectively: Dr. Marian Croak and Dr. James West.

Dr. Valdes’s mentors’ influence helps drive his education mission of 30-plus years in industry and now at the USPTO, where he is a member of the Office of Education (OE). The OE is responsible for K-12 professional development that integrate intellectual property (IP), STEM, innovation, and entrepreneurship.

Dr. Valdes brought a glittering resume to the USPTO. After receiving a Ph.D. in electrochemical engineering from Columbia University and an executive MBA from the Kellogg Graduate School of Business at Northwestern University,

he held senior executive roles at AT&T Bell Labs, Lucent Technologies, and Alcatel-Lucent.

At AT&T Bell Labs, Dr. Valdes was responsible for managing global R&D organizations and received the E.O. Lawrence Laureate gold medal award from the U.S. Department of Energy in 1996. He was honored for his pioneering work in reagent generation, a technology essential to the energy-efficient production of high-purity chemicals, environmental health, and cost reduction in manufacturing.

Dr. Valdes, who holds 33 U.S. and international patents, is proof that any inventor with enough commitment and perseverance can receive a patent—even if the inventing process involved is literally poisonous.

He began work on his first patent project in the late 1980s. “Long story short: It ended up being a machine that allowed us to build out the infrastructure for what we call the internet today,” he says. “All of this is possible because of one vital ingredient: arsenic, an essential ingredient in building high-speed electronic and photonic systems and products vital in telecommunications and video.”

“During the development phase, it went from science all the way up to a product. I was working through all the different phases, right from the basic science and research in the lab through an intense development phase to a commercial product.”

“The problem was, AT&T was getting really concerned they were not going to be able to make these lasers and high-speed electronics to build out the infrastructure of this new internet that was coming. The agent for this, a gaseous form of arsenic called arsine that is used



to produce semiconductors and optical systems, is extremely toxic.”

How toxic?

“So toxic that at the parts-per-billion level, it will kill you in a couple minutes. It’s one of the most dangerous projects I have worked on in my life. There was no room for error here.”

Gaseous mixtures are a constant in many of the 1990s patents on which Dr. Valdes is listed, including a later invention that revolutionized the way optical fiber is made.

“That was using a device using sound waves to very accurately determine the concentration of binary gas,” he says. “We were able to improve the quality of the material, the quality of the fiber, the efficiency of the fiber, and the reliability and stability of the manufacturing process.”

Dr. Valdes has published more than 100 science and technology research papers in peer-reviewed journals and magazines. He has won many corporate and industry awards for his contributions in science, technology, education, and diversity.

His commitment to diversity is at the forefront of his education efforts. He is the co-founder of the national Young Science Achievers program, dedicated to inspiring and enabling more girls and students underrepresented in science and math to pursue careers in STEM fields.

Although Dr. Valdes is no longer applying for patents—USPTO employees are not permitted to do so—he delights in sharing his “patent-related experience and the value of IP” as he passes along the invaluable lessons his mentors taught him.

## WHAT’S NEXT

The USPTO events page ([uspto.gov/events](https://uspto.gov/events)) provides you a full list of all events in the next month and beyond.

Listings are broken down into programs originating from the USPTO headquarters in Alexandria, Virginia, as well as in each of the five major U.S. regions. The page also gives you the ability to further filter events by topic and event type.

The USPTO is always looking for opportunities to engage with the public.

## NEWS FLASH

### GENERATION NEXT

*University Outreach Engagement Series showcases importance of invention and IP*

#### DURING THE USPTO’S RECENT UNIVERSITY

Outreach Engagement Series, the importance of inventing and IP was on full display the moment each session appeared on the screen.

As has been the case throughout the world, COVID-19 forced the program to be online only. Without the existence of teleconferencing technology and IP protections, America’s ability to do business could have been significantly affected.

This innovation had a dramatic impact on the country’s social and economic well-being, as well as the success of the USPTO program.

In just three months—October 2020 to January 2021—the Outreach Engagement Series attracted more than 2,500 students and faculty at 25 colleges and universities. The digital, virtual sessions provided an opportunity for the USPTO to expand its student outreach throughout the country with each session, and engage with the next generation of innovators, entrepreneurs, and IP professionals.

Then-USPTO Director Andrei Iancu gave a short history reminder to attendees.

He noted that after the signing of the Declaration of Independence, it took about two weeks for word to get from Philadelphia to Williamsburg, Virginia—which was the same amount of time it took Alexander the Great to send messages of his victory back to his capital in 331 B.C.

In other words, “the state of the human condition, just about 200 years ago or so, was the same as it was in antiquity.”

The primary force that has accelerated the human condition so quickly in the past couple centuries, he said, was IP—beginning with the IP clause in the U.S. Constitution. Article I, Section I, Clause 8 gives exclusive rights to inventors and authors for their respective discoveries and writings, resulting in a modern democratic patents and copyrights system.

The USPTO fulfills this through online programs, such as a recent one with renowned inventor Dr. Marian Croak, where a class of third-graders was able to ask her questions. The USPTO also supports children’s hands-on participation in inventive activity through Camp Invention, an annual summer camp run by the National Inventors Hall of Fame.

The engagement series is run through the Office of Education and Office of Innovation Outreach.



## TRADING CARD

**NO. 29**

## Temple Grandin

**D**R. **TEMPLE GRANDIN** is always of a mind to understand other minds. Human and otherwise.

She did not talk until she was almost 4 years old, but now she is an accomplished public speaker and one of the world's most well-known people with autism. She was not exposed to the beef cattle industry until age 15, but her understanding of animal behavior led to greatly improved conditions for the animals.

While vaccinating cattle in Arizona as a teen, she noticed that some of the livestock could be distracted by something so mundane as a car parked next to a fence.

"And it was obvious to me to look at what the cattle were seeing. And at the time I thought everybody's a visual thinker," Dr. Grandin said in one of the USPTO's Journeys of Innovation interviews. In a 2010 TED Talk, she likened her mind to Google Images: "It's literally movies in my head."

"I didn't realize that my thinking was different," she told the USPTO, "and I couldn't understand why other people weren't seeing this. And then I learned later on in life that some people

are visual thinkers, thinking photo-realistic pictures like me, or an object visualizer. Then you have the more mathematical type of person who is a pattern visualizer."

When designing cattle-handling facilities, she noticed: "The visual thinkers invent all of the clever mechanical equipment, and the more mathematically inclined engineers will do things like boilers, refrigeration, stresses on pre-stressed concrete, [the] kind of stuff the visual thinkers don't understand ... you need both kinds of minds."

Dr. Grandin, a professor of animal sciences at Colorado State University who holds U.S. Patent No. 5,906,540 for her animal stunning system, is also a best-selling author whose contributions to autism awareness and the livestock industry were captured in an HBO Emmy Award-winning movie about her life. The invention she is most proud of is a center track restrainer system for livestock.

On March 25 from 2 to 3:30 p.m., she will be a keynote presenter in a USPTO program with the U.S. Department of Education that addresses making STEM education more accessible to all. Details: <https://www.eventbrite.com/e/differing-abilities-in-stem-registration-141185721293>

The 2016 American Academy of Arts and Sciences inductee is also an advocate for people with autism, as the back of her USPTO inventor card notes.

"In special education, there's too much emphasis placed on the deficit and not enough on the strength," Dr. Grandin said. "The world needs all types of minds."

Requests for the trading cards can be sent to **education@uspto.gov**. You can also view them at **uspto.gov/kids**.



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# 7 WAYS



## To Minimize the Cost of Prototype Manufacturing



Do only what is necessary based on your prototype's goal. Don't make a "Mercedes" if you only need a "Ford" for your testing purposes.



Do not build another prototype before finding ways to make changes and modifications to the one you already have.



Do not work on mechanical and electrical systems at the same time. Start with the electronics, because the mechanics are much easier and cheaper to modify.



If your product has large dimensions, begin with a smaller, scaled-down model. It will cost less but will still provide valuable information.



Use less expensive material for the initial model when acceptable. If your product is metal based, use plastic at first to reduce the cost and time required to make a prototype.



Use more automated machinery like 3D printers or CNC mills to expedite manufacturing.



If you DIY, use off-the-shelf components to create the first prototype and repurpose existing products instead of building from scratch.

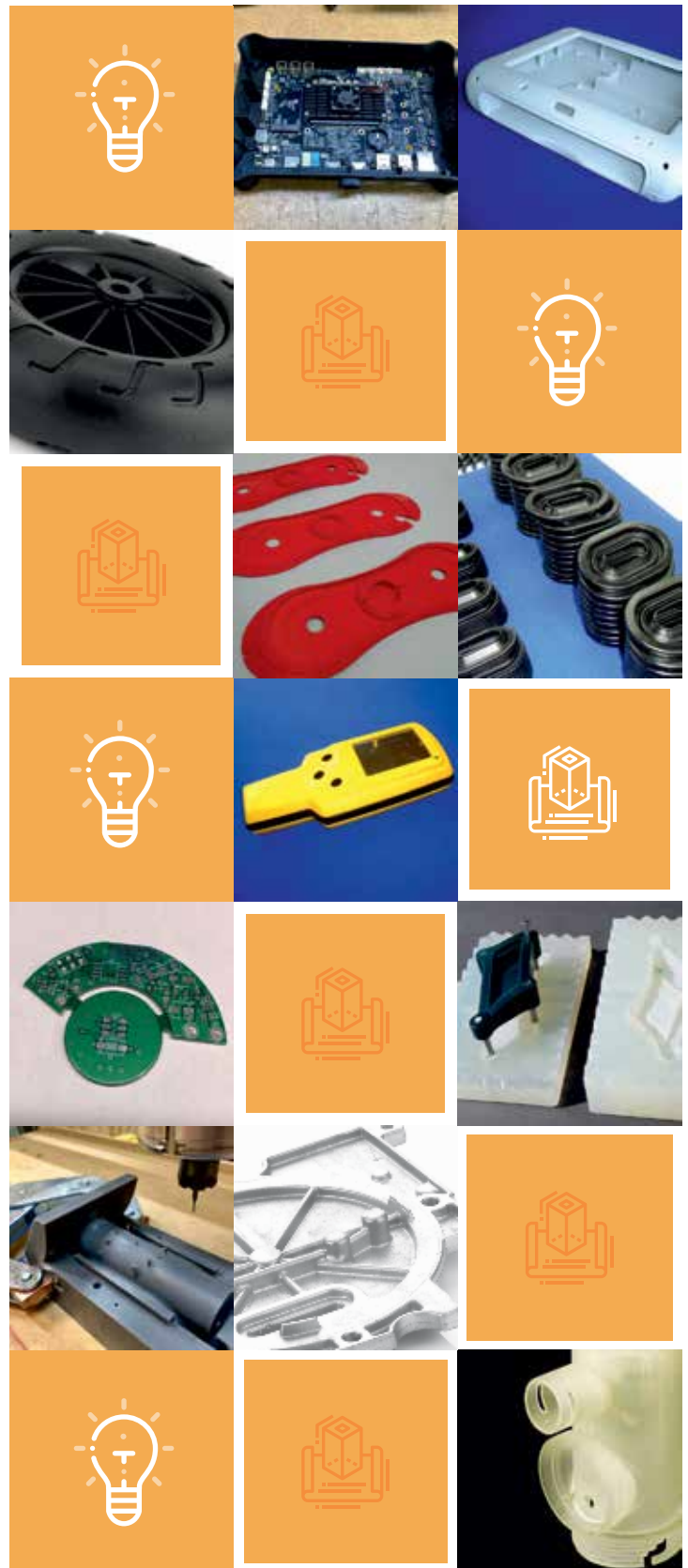
The right approach to prototyping saves you substantial resources in the long run, ensuring that your product hits the market with a very competitive manufacturing cost.

OUR TEAM WILL BE HAPPY TO HELP YOU MAKE THE RIGHT PROTOTYPING DECISIONS AND BE WITH YOU ALONG THE JOURNEY.



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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):

### "The 45 at 70" (June 2019):

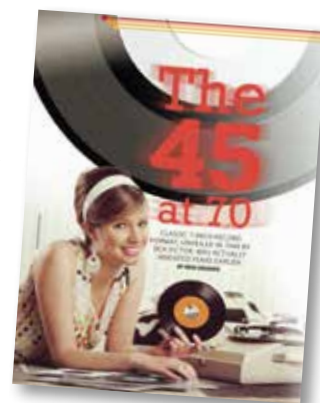
I know it has been over a year, but I wanted to mention that U.S. Patent 2,113,401 was filed in 1934 by an RCA engineer and contains this very telling paragraph:

"A still further problem in this respect is introduced by a possible new type of record which would be rotated at a speed of about 50 R.P.M. which would have a very wide frequency range, i.e., of the order of 60 to 10,000 cycles, which would have the grooves rather shallow and closely spaced and which would require a very light pressure upon the reproducing stylus to avoid

damaging the record as distinguished from the stylus pressure of the order of six ounces ordinarily used."

This shows that the roots of the (45 RPM) project go back at least 15 years (from the 1949 timeframe often mentioned as the year of invention).

—BRIAN KENNELLY



(Editor's note: The patent was filed by A.N. Goldsmith for "phonographic apparatus" and approved on April 5, 1938.)

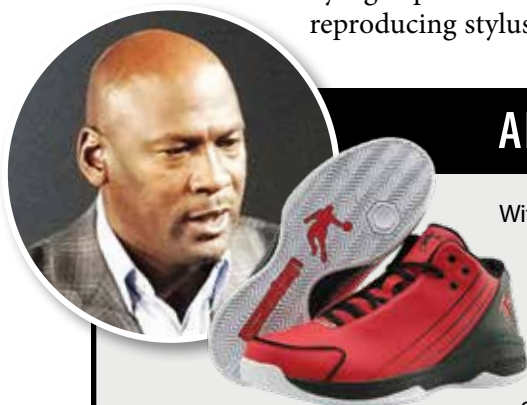
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## ANOTHER WIN FOR MICHAEL JORDAN—KIND OF

With six NBA championships during his playing career, **Michael Jordan** is often referred to as the Greatest of All Time (GOAT) in

his sport. He has always been consumed with winning.

His latest win came recently when a Shanghai court ruled for him in a trademark dispute with a Chinese sportswear and shoe manufacturer. But how much of a victory was it?

The Qiaodan Sports Co. had long been using the mark "Qiaodan"—the Chinese translation of the word "Jordan"—without permission while intending to deceive consumers into thinking the superstar endorsed its products, the Shanghai Second People's Intermediate Court ruled. The company has registered about 200 trademarks related to Jordan, including his former jersey No. 23.

The company was ordered to issue a public apology and admit it has no ties to Michael Jordan. Qiaodan also must pay Jordan \$46,000 for "emotional damages" and \$7,600 in legal expenses.

Multiple news reports say Jordan has filed 80 lawsuits against Qiaodan since 2012. (Maybe he takes this personally.)

So he's getting back only \$7,600 in legal fees? Does this figure only represent the latest round of challenges?

Anyway, Jordan gets a total of \$53,600 in this ruling. For you accountants keeping score at home, that's chump change for him: 0.00335 percent of his estimated net worth of \$1.6 billion.

Should the GOAT feel sheepish? Depends on which news story you read.

The headline on [fashionlaw.com](http://fashionlaw.com) read: "Michael Jordan Lands Significant Chinese Victory Against Qiaodan Sports Over Misuse of His Name." The headline on the respected [bananalP.com](http://bananalP.com): "Michael Jordan Faces Defeat in 'Jordan' Trademark Dispute in China."

The latter account emphasized that Qiaodan can't be forced to stop using Jordan's name entirely. China has a five-year window for disputing registered trademarks—and said window slammed on Jordan's ring-adorned fingers a long time ago.

Many of the company's Jordan trademarks date beyond five years, meaning Qiaodan could only be ordered to take "reasonable measures" to assure the public that those older trademarks have no tie to him. In other words, despite Jordan's efforts and legal victory, he still doesn't own the rights to his name in China.

At least we know the lawyers' bank accounts won.



# BRIGHT IDEAS

## OneClock

ARTISTIC ANALOG TIMEPIECE

[oneclock.co](http://oneclock.co)

OneClock is designed to wake you softly and comfortably, with original recordings not available elsewhere that gently increase in volume. There is no Bluetooth, WiFi, apps or connectivity.

The music features Jon Natchez, renowned composer and multi-instrumentalist of The War on Drugs. When OneClock's alarm is activated, its AI music generator randomly chooses one of the songs stored in the clock's solid-state memory and remixes it by adjusting the levels of each instrument or vocal for infinite combinations. You never hear the songs the same way twice.

The clock's retro analog design makes it an art piece as well. It will retail for \$350, with shipping for crowdfunding Rewards backers set for May.



## POSSIBLE DELAYS

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

## HeimVision Assure B1

2K ULTRA-HD CAMERA

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

The HeimVision Assure B1 is an all-in-one smart home security hub with features such as two-way audio, 130° FoV, five-minute setup and more.

The system is designed to cover every corner of your home. You can connect up to four wireless cameras to one base station to monitor large spaces. The camera has a 130-degree field of view.

Designed with a smart PIR sensor, the system can identify any presence. The human-figure detection reduces false alerts to save standby time.

The basic hub and camera setup will retail for \$160. Shipping for crowdfunding Rewards backers is to begin in March.





## Tablift

### TABLET HOLDER

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

Tablift is a tablet stand that works in a bed, on a sofa, or any uneven surface. Its patented design works with almost any tablet (if a case is used, it must be less than 10mm thick).

The stand is great for binge watching in your most comfortable places. Its flexible positioning can help reduce eye and neck strain. Because it enables hands-free viewing, it can limit arm strain as well as enable viewing recipes in the kitchen.

Tablift is lightweight (2.5 lbs.) and small enough to pack into your luggage. Its flexible legs fold to compact size.

The tablet holder sells for \$39.99 online.



**"I thought I wanted to be an inventor but then discovered you couldn't study inventing!"**

—THOMAS HEATHERWICK



## IGGI

### SCIENCE-BASED MINDFUL EATING BOWL

[iggi.co](http://iggi.co)

IGGI is a portable, eco-friendly bowl that uses food psychology and "Calorie Cloaking" to help you naturally improve portion control for balanced meals, improved health and sustainable weight loss.

Using bowl guidelines, each serving has a maximum of 600 calories. IGGI has a false bottom that causes your brain to see 33 percent more food than is actually there.

The bowl's system blends into your normal eating routine to facilitate building portion control habits through consistent use.

IGGI will retail for \$100. It is scheduled to be sent to crowd-funding Rewards backers in August.







# Sticking Around

ON THE 80TH ANNIVERSARY OF ITS INITIAL IDEA, VELCRO STILL HAS HOLDING POWER **BY REID CREAGER**

**I F YOU WITNESSED** the crazy-cuckoo self-propelled flight on “Late Night With David Letterman” on Feb. 28, 1984, the image won’t let go.

Letterman began the segment affixed a few feet high against a flat wall full of the ubiquitous hook-and-loop fastening product known as Velcro®. His spacesuit-like outfit, covered in extra-strength Velcro, kept him in place.

That wasn’t all.

He was helped down off the wall and got a brief demonstration from a Velcro representative regarding the product’s many uses. Letterman also caught a Velcro basketball. With his chest.

The final demonstration became one of the iconic moments in the show’s history. A small trampoline was placed in front of the large Velcro wall.

Letterman got a running start, jumped on the trampoline,

sprung into the air toward the wall—and stuck face first against it, hands stretched above his head, as the audience roared.

## Walking an idea

This unforgettable demonstration of Velcro’s holding power (a YouTube classic) was a long way from a man walking in the woods with his dog.

That’s what George de Mestral, a Swiss electrical engineer, had done during a skiing trip when he conceived his invention in 1941. Technically, the burrs that stuck to his dog’s coat were nature’s invention; de Mestral wondered if he could adapt it to develop a practical use for it.

He examined a burr under a microscope and observed that each was covered with hooks that grabbed onto anything with a loop—such as fur, human hair, or clothing fiber.

After years of research on how to make a kind of synthetic burr, de Mestral came up with the idea of two strips of fabric: one with thousands of tiny hooks, another with thousands of tiny

## PATENT PATHWAY



**U.S. Patent No. 2,717,437, granted Sept. 13, 1955, to George de Mestral, was for Velvet Type Fabric and Method of Producing Same.**



## When Swiss electrical engineer George de Mestral noticed burrs stuck on his dog's coat, he imagined a practical application for a similar concept.



loops that would attach to the hooks. His name for it, Velcro, is a combination of the words “velvet” and “crochet.”

De Mestral got a Swiss and U.S. patent in 1955, and opened a Velcro USA plant in Manchester, New Hampshire, in 1957. It's still there.

### A bleeping what?

One of his product's most visible uses came in the early Sixties, when NASA astronauts used it to keep food packets, equipment and other items from floating away. But de Mestral's larger plan to see Velcro become a clothing mainstay—a “zipperless zipper”—flopped in more ways than one.

Jack K. Mates, Velcro USA's president, told the *Washington Post*: “We had petticoats falling off of gals and brassieres popping open.”

Detractors perceived Velcro as ugly. Some said it didn't stick long enough. Others complained it makes too loud of a ripping sound when removed.

In fact, Velcro's patent expired in on April 2, 1978. Velcro USA got busy improving its product and raising its profile, highlighted by the Letterman stunt.

The company got another shot in the arm when the U.S. Army added Velcro to its uniforms in 2004, according to *Time* magazine. But that only lasted six years: The product's little loops became clogged from dust in the deserts of Iraq and Afghanistan, and soldiers didn't like the ripping noise they made in places where quiet was rather essential.

Companies including 3M Corp. and Japan-based YKK have become competitors with similar hook-and-loop fasteners. They aren't rip-offs (sorry, couldn't resist) because of the expired patent, but they can't be called Velcro because that name is trademarked.

In 2017, the company launched a campaign to remind the public about its trademark rights, especially when competitors' products are

mistakenly called Velcro. A group of attorneys singing in a creatively outrageous original music video called “We \* the World” pleaded: “Don't just say Velcro. You call it Velcro, but I'm begging you, this is a \*bleeping\* hook-and-loop.”

### Don't take a flying leap

Velcro remains a consistent force in medical markets (blood pressure cuffs, hospital gowns) kids' shoes (no more shoestrings), and has numerous uses around the house and in the car. But let's get back to the fun stuff.

Should Letterman be credited as the inventor of Velcro jumping? Not long after his flying leap, the practice caught on with amusement companies and bars throughout the world. *Sports Illustrated* published a story on it in 1991.

We can't endorse Velcro jumping, because a wall or suit sans sufficient hook-and-loop fasteners could prove hazardous to your health. Or, per Letterman's most famous quote: “For the love of God, folks, don't try this at home.”

## INVENTOR ARCHIVES: MARCH

**March 4, 1754:** Physician **Benjamin Waterhouse**, the first successful practitioner of a vaccination for smallpox in the United States, was born.

Smallpox is the only infectious disease that has been eradicated. The last known natural case was in Somalia in 1977.

**March 11, 1791:** **Samuel Mullikin** became the first inventor to hold multiple U.S. patents when he was granted patents 7-10.

Mullikin created three machines, per mountvernon.org: “for threshing grain and corn,” “cutting and polishing marble,” and “raising a nap on cloths.” He also got a patent for “breaking and swingling hemp.”

There is no detail available for these patents, destroyed in a fire at the U.S. Patent Office on Dec. 15, 1836. The roughly 10,000 patents issued before the fire, the large majority of them lost, are known as X patents.





# Partnerships: True Stories

THEIR BLESSINGS AND HAZARDS ABOUND, SO HERE'S  
HOW TO MAKE THE RIGHT CHOICE FOR YOU **BY JACK LANDER**

**IF YOU PLAN** to produce and market your invention, one of the most important considerations is whether to have a partner.

I have started a number of businesses, two of which were with partners. I've also worked for partners and have witnessed partnerships form among inventors.

First, let's examine three essential purposes for having a partner.

- To support you psychologically;
- To support you with complementary skills;
- To support the needs of the business for cash or other tangible contributions.

## Think long term

By supporting you psychologically, I mean to restore your confidence if and when you have doubts, and help find solutions to problems that cause discouragement.

I suspect that most of us take the first steps in forming a business with enthusiasm and confidence. But somewhere along the way, we may encounter a difficulty that causes us to doubt whether we had made the right initial choice.

It's comforting to have a partner for sharing your doubts and who may be more objective about the difficulty. A bit of doubt now and then is normal, and shows that we are prudently cautious. But too much doubt can squelch your dream.

A partner must be more than your big brother. He or she should have skills that you lack. My experience had taught me that most highly inventive people are short on the knowledge, interest and will for marketing.

Among inventors, a product in search of a marketer is far more common than a marketer who is looking for a product. The latter is called an entrepreneur.

**A partner must be more than your big brother.  
He or she should have skills that you lack.**





If you lack the skill to design your product, including selection of the most appropriate materials, you can hire an industrial designer. Once the design is completed, you no longer need the industrial designer. But marketing is an ongoing challenge.

Partner with a person who will be valuable to your business mission for the duration of your business, not for a short term.

### **Tales from experience**

Several years ago, I started Shortrun Precision Fabricators in Laverne, California. We produced prototypes and small production runs of precision sheet metal components for the electronics industries in the Los Angeles area.

I needed more cash than I had in order to buy the essential machines, pay the two-month rent advance, and have enough left over for raw materials. A friend of my sister's was a bright fellow, mechanically inclined, and he had money to invest. So it seemed the best solution was to take him in as a partner, rather than give up my dream.

We worked together for about a year. I had taught him the fundamentals of producing, but when it came to starting a work project he froze. He appeared to lack the ability to decide the first step and dive in. And his fear of making mistakes impeded his ability to complete a job after I showed him how to start.

Coincidentally, a fellow engineer with whom I had worked previously was out of work, and stopped by to say hello. I didn't hesitate to ask him if he would be interested in buying out my then-partner if he were willing to sell. The three-way transaction occurred peacefully, and I had a new partner who duplicated many of my skills. Not ideal, but it worked well enough.

Thinking back on my problem, I should have searched for a marketing-oriented partner—an entrepreneur. The entrepreneurial mind is typically focused on organizing, measuring vital signs, and marketing. The entrepreneur is not nearly as sentimental about the product or service as most inventors are.

Entrepreneurs seek the feeling of accomplishment from making a business successful. It's typically not greed that drives them but the accomplishment, like winning a game of chess—although there are exceptions.

Creative people often fall in love with their creations.

A neighbor of mine invented a hardware item that filled a niche for the construction industry. He tried for many years to work a full-time job and produce his invention.

Meanwhile, his family suffered from his dedication to the development of his invention, even when he was home. They lacked ordinary comforts due to his diverting of employment income into his business.

At one point, he had licensed his patent in order to stop producing and collect royalties. However, he had written his own license and had not had it reviewed by a lawyer.

About four years passed, and the licensee had failed to produce the item. My friend asked for the license back on the basis of nonperformance of the (verbal) understanding that the item would be produced within two years. In the end, he had to buy back his rights for \$25,000, which he obtained by taking a second mortgage on his home.

I ran into him in The Home Depot one day many years later and he was still struggling—making and selling a small volume from his basement shop—but the venture was nothing I would consider a practical success.

Another person I know invented a woman's laundry product that she insisted on producing. She struggled for several years, selling her product all over the world, but never in enough volume that she could earn a living. Her husband supported her and her business, always hoping that one day they would get a break.

I advised her that she must take on a financial partner to get the \$150,000 she needed to take the next major step, which would get her product into a certain chain of retail stores that wanted a version of it. She could easily have made the new version if she had the money.





## Your search may be inconvenient, but this is no time for shortcuts and impatience.

Don't get into sales or income forecasts. (These are signs of a dreamer or amateur.) Conclude with the main qualities you're looking for in a strategic partner. The word "strategic" emphasizes that you aren't merely looking for finance, in which case you would state "financial partner."

You're not a boss searching for an employee; you're searching for an equal partner. In exchange for the qualities you need in a partner, you are offering your complementary qualities that are of equal value.

One of your main initial concerns is that you are probably looking for someone who lives within a practical commuting radius. It's not likely that a potential partner located a thousand miles away will uproot and move for a risky startup opportunity.

But if you are further along in your business development and can prove its growth potential, websites such as [powerlinx.com](http://powerlinx.com) may produce results. Another site that looks promising is [press.farm/10-best-websites-to-find-a-co-founder-for-your-startup/](http://press.farm/10-best-websites-to-find-a-co-founder-for-your-startup/). I haven't checked out these websites except to be sure they are still reachable, so be cautious.

A lost dog has four legs, a tail, and it barks. I assume that you have two legs, no tail, and you talk. There's a kind of analogy here to your search for a partner.

The words "complementary" and "complete" come from the Latin word *complere*. You are searching for the partner who has the skill sets to complete your startup, the qualities you lack.

It may be a stretch, but I'll call this the lost-dog principle. Easy to remember, right? 🐕

She steadfastly refused to dilute her equity. Now, 26 years later, she is still selling at a low volume, barely paying the overhead.

So, you see why I am convinced that although partners are often a pain in the butt, the right partner is still the catalyst who may make the difference between a successful business and a break-even hobby.

### Choosing the right fit

How do we find the ideal partner? I suggest you start by dividing a sheet of paper into three columns:

- My skills;
- Tasks I hate to do, or for which I lack the expertise;
- Tasks I like, or at least tolerate.

From this personal inventory, prepare a resumé for the ideal candidate who will become your partner. Now, convert the resumé to an advertisement. Highlight only one or two of the essential skills needed, and post your ad. Any place that has a public bulletin board might work.

This process may seem identical to looking for a lost dog. Your search may be inconvenient, but this is no time for shortcuts and impatience.

Use your email for contacts. Ask for a resumé. Also, prepare a brief business plan for your business or proposed business; two pages should be a practical limit.

**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).





# Your Challenge: Be Doubly Perfect

SOME CONSIDERATIONS FOR SATISFYING YOUR CUSTOMERS—  
AS WELL AS YOUR INVESTORS **BY LAWRENCE J. UDELL**

**IT'S HARD ENOUGH** for inventors to come up with a product or service that is a perfect fit for consumers. But satisfying the needs of potential investors adds to the challenge.

During my more than 60 years inventing and introducing new products, I have learned a great deal from the consumer, retailer and new venture investor. All seek that “perfect product.”

Let us eliminate the marketing hype and examine this from the customers’ perspective as well as that of the investor—corporate, venture capitalist or private.

We should be realistic. According to Harvard Business School professor Clayton Christensen, each year more than 30,000 new consumer products are launched—and 80 percent of them fail. Other statistics set the failure rate at 95 percent.

There are various definitions of “new product”—but in my terms and for this article, it is a product that the potential buyer has not seen before and one that is not on the shelf as a “me too.”

A few simple examples are the cell phone (invented by my friend Marty Cooper), whose new book, “Cutting the Cord,” was recently released. The Hula Hoop and the Frisbee were also new products.

If you conceive of a brand-new product, can it be on the market long enough to discourage potential competitors? Even with an issued patent, can it be defended if necessary?

Let’s look at the potential perfect invention.

## From the customer’s point of view, the product must:

- Have large and immediate advantages. (Which one do you pick off the shelf? Is the package color influencing?)
- Address and fulfill strongly felt needs.
- Be easily accessible and easy to try.
- Be simple to understand without requiring a lot of instructions.

- Have benefits that are easily observed and easily communicated.
- Be compatible with existing standards and cultural contexts (safe to use and in compliance with legal requirements)

## From the investor’s point of view, the product must:

- Cost significantly less to make than its possible dollar return.
- Have customers who are brand loyal (less sensitive to price).
- Be habit forming, yet safe and non-reusable.
- Be explained in 10 words or fewer (or with a single picture), simple enough for anyone to understand.
- Have significant pre-existing orders and a very large market potential.
- Be proprietary and market-ready today (requires no R&D), with issued patents.
- Weigh little, be manufactured and delivered easily, and sold in bulk (a mass merchandising product).
- Have an experienced, accomplished management team.
- Have many enthusiastic mentors and “champions” who are committed.

Of course, it is nearly impossible to check all these boxes—but if you can check the vast majority of them, you could be on the right track. 📦



**Lawrence J. Udell** is founder/chairman of the California Invention Center and founder of the Licensing Executive Society, Silicon Valley Chapter. He is a teacher, lecturer and consultant who has created more than 35 corporations. He consults to Fortune 500 firms and smaller businesses.





## PART 2 OF 3: PODCASTS

# Starting Your Own

5 STEPS FOR LAUNCHING PODCASTS THAT PUBLICIZE YOUR INVENTION AND PROVIDE IMPORTANT CONNECTIONS

BY ELIZABETH BREEDLOVE

**P**ODCASTING CAN BE a novel way for inventors to connect with their customers, promote their business, spread the word about their invention and network with like-minded people and companies.

Ready to take the plunge and start a podcast? Here is what you'll need to do.

**1 Choose a topic, determine a format, and make a plan.** Your podcast can be about nearly anything, so long as you have enough to say about it. Think about what you know the most about, what subjects your personal connections are experts in, or what you enjoy talking about more than anything else. Tie that into your business or what you're inventing, and you've got a solid topic for a podcast.

Once you have a general topic in mind, consider other logistics of your podcast. Will you talk about a specific topic, interview guests, or find a co-host? Will you keep your episodes around 15-30 minutes, or go for a long-form podcast closer to an hour? Will you release a new episode every week—or two? Sporadically?

**2 Pick a name and start branding yourself.** A good podcast name is simple and easy to remember but also a bit catchy and creative. It needs to be unique so that your audience can easily find you in a podcast directory, and it should be memorable for the same reason. Make sure that it represents your topic or content and suits the overall tone you want to set.

Once you have a name, you can work on other brand collateral. Work with a graphic designer

to create a logo for your podcast; if you don't have a designer, you could find a freelancer to do it using sites such as Upwork.com or Fiverr.com. Then, have your designer use your logo to create cover art that will be listed with your podcast in the podcast directories.

You'll also need to build a website. If you don't have the budget to hire a developer to build it for you, you can use a simple website builder such as Squarespace. This site will be a place to host your podcast and your show notes, and provide general information about your podcast.

**3 Figure out the technical stuff.** Start by ensuring you have the equipment needed to record. At a minimum, you'll need a basic microphone and recording software. Set a budget, then find a mic with good reviews at your price.

As you get deeper into the world of podcasting and your audience grows, you may find the need to upgrade.

There are many different recording and editing softwares, but Audacity is great for beginners. It's free and easy to use, and should suit your needs well—especially if you're starting out.

If you don't feel comfortable editing the recording yourself, you can use Audacity (audacityteam.org) to record and then outsource editing to someone else. There are many great freelance editors on Upwork and Fiverr.

If you plan to have a co-host or incorporate interviews into your show, think through how to do this. Generally, there are two methods: Record the conversation using a service such as Skype or Zoom, or each participant can record the conversation with his or her







## Various sites can help you in areas such as finding a graphic designer, building your website, choosing recording and editing softwares, and determining a hosting platform.

own mic and then send the recording to the editor to piece it together.

You'll also need to decide where to host your podcast files. Buzzsprout.com is a great entry-level podcast hosting platform that also sends podcasts to some of the most popular directories such as Apple Podcasts and Spotify; helps you monetize your podcast; tracks analytics, and much more. There are many other podcast hosting services.

**4 Make a content calendar and prepare for your first several recordings.** Take time to plan your initial episodes after you have considered the podcast's basic framework—such as topics and the format you will use—as discussed in Step 1. It's a good idea to plan the first few episodes in detail but also have a general roadmap so you know where to go once those initial episodes are finished.

Next, record the intro, outro and any other sound bites. Your intro should mention who you are, what your podcast is called, and what it's about. Your outro will be similar but should also include a “thanks for listening” and some sort of call to action—such as an invitation to subscribe to the podcast, to share it with someone, or to carry on the conversation elsewhere.

Now you're ready to start recording!

**5 Publish and share, share, share.** After your first episode has been recorded and edited, it's time to push it live!

This part should be simple because you've already determined your podcast host; you'll just need to upload the file. If you aren't using a hosting service that submits it to podcast directories, you'll need to do that as well.

Publish show notes on your website. This will include a link to the audio as well as links to anything you discussed on the show, perhaps even a transcript.

Use all available channels to spread the word about your podcast. Promote each episode on your social networks, to your email lists, on your site and anywhere else you can.

Initially you may not have many listeners, but that's OK. Just keep producing content and sharing it wherever you can, and you should see your numbers grow and your content get better.

As your numbers grow, you may even find an opportunity to monetize your podcast with ads. Happy podcasting! 🎧

**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.





# Old Favorite, New Meaning

WOMAN FINDS UNEXPECTED BENEFITS WHILE REVIVING KIDS' CRAWLING TOY FROM THE 1960S **BY EDITH G. TOLCHIN**

**N**EW BABY PRODUCTS are all over the place! More are being developed as parents stay home due to the pandemic, a situation in which necessity became the mother (and father) of invention.

In this case, Stacey Kohler of Wauconda, Illinois—president of Kiddy Crawler, LLC—rediscovered a 1960s invention called the Crawligator and found added need for it.

**Edith G. Tolchin (EGT): What is your background? Have you invented anything before?**

**Stacey Kohler (SK):** I was in the earth-moving business for 30 years. I have experience in heavy equipment operations and material handling processes.

In 1993, after I witnessed the devastation from the flooding caused by the Mississippi River overflowing its banks, I invented the Sandbagger. I instinctively envisioned a “hopper”-type configuration that could fill multiple sandbags simultaneously be tractor loaded and transportable. I had the support from a very talented friend who fabricated a prototype.

Within two weeks we were field-testing two Sandbaggers in Ste. Genevieve, Missouri. Using women and children volunteers, they filled 36,000 sandbags in a weekend!

The Sandbagger was proven by the Missouri Army National Guard to do the

work of 40 men. The Sandbagger is now being used by military installations and municipalities around the world.

**EGT: How did the Crawligator come about?**

**SK:** Originally created by a major toy company in the 1960s, the Crawligator became a popular crawling toy for infants by helping to naturally develop mobility, gross motor skills and muscle strength. When I was a child, there was a Crawligator in my house.

When I became a grandmother five years ago, I wanted to buy a Crawligator for my granddaughter. I began to search for the once-popular toy and soon discovered it was no longer available. What happened to the Crawligator? Where did it go?

During my research, I became aware of the importance of tummy time for a baby's development. Studies continue to show the importance of crawling and developmental milestones.

It was at that moment I realized there was a void in the marketplace for a tummy-time toy that promotes crawling. I decided to go to work to bring the Crawligator out of extinction, design it to meet today's child safety standards, and bring it to market.

**EGT: What are advantages of this product over other similar baby products?**

**SK:** Swings, bouncy seats, baby walkers, exersaucers and car seats are just a few of the other products available for babies. Extended time throughout the day in any of these items may lead to issues currently referred to as “Container Baby Syndrome.”

The Crawligator helps naturally develop mobility, gross motor skills and muscle strength. It also can be beneficial to babies with special needs.







**“I realized there was a void in the marketplace for a tummy-time toy that promotes crawling.” —STACEY KOHLER**

An infant “container” is any device that limits movement of a baby. Overuse of equipment can result in even greater impact and delays for the baby, including flat spots on the head known as plagiocephaly.

The Crawligator provides mobility and promotes natural crawling movement, builds strength, and develops gross motor skills. The sleek, contoured surface allows the child to rest comfortably on their stomach while using their arms and legs to reach and push. It encourages bilateral coordination as the child’s arms and legs make reciprocal movements, or a crawling motion. There are no similar products on the market that provide mobility like this.

You can learn more about the benefits of the Crawligator in an interview with a pediatric physical therapist on the Crawligator website.

**EGT: How is the Crawligator helpful to babies with special needs?**

**SK:** The Crawligator is helpful to all babies and infants building strength and motor skills on their way toward learning to crawl. It also has shown

to be a great tool for children with developmental delays—something I didn’t really expect and turned out to be a nice surprise.

When a child is already at risk for developmental delays due to prematurity, Down syndrome or other medical concerns, overuse of “containers” can result in even greater impact and delays for the baby.

Many of these children need assistance with mobility and are typically in the crawling stage for a longer period. The Crawligator enables these children to have the independence to explore their surroundings while building strength.

The proof of concept was when I demonstrated the Crawligator at the Academy of Pediatric Physical Therapy’s annual conference. It immediately sold out!

Pediatric physical therapists report that they have noticed an immediate improvement in a child’s response when using the Crawligator. At that moment I realized this was more than just a toy. There is a real need for this product now more than ever.





## Pediatric physical therapists report that they have noticed an immediate improvement in a child's response when using the Crawligator.

**EGT: What materials are used in the Crawligator?**

**SK:** The Crawligator is made of a polypropylene plastic material. It's designed to move just above a hard floor surface on ball caster wheels.

**EGT: Where is the product manufactured?**

**SK:** I am very proud to say the Crawligator is made in Volo, Illinois. The ball caster wheels are manufactured in China.

**EGT: Please share your experience with safety standards for baby products. What type of third-party testing is conducted?**

**SK:** It took three years of research and design, design review, different types of prototyping, laboratory testing, tooling and final product testing. Intertek Labs was the testing facility for baby products.

I incorporated safety features mandated by the CPSC (Consumer Product Safety Commission) on the infant walker standard into the Crawligator design. The Crawligator was tested to several baby product safety standards and failed because it was a new innovative product that did not fit into an existing category.

Today, the Crawligator meets all current child safety standards.

**EGT: Is the Crawligator patented?**

**SK:** The Crawligator has a utility patent. I researched many patents to find the language needed to write my patent application. I saved thousands of dollars by using a patent agent instead of a patent lawyer. I used the savings to expedite my patent application.

**EGT: Have you tried any crowdfunding?**

**SK:** No, I have not tried crowdfunding yet. I was advised that it is a lot of work to manage a crowdfunding campaign, and I alone did not have the bandwidth to manage. However, I raised \$50,000 in a pre-seed investment round.

**EGT: What have been your biggest obstacles?**

**SK:** My biggest challenge has always been funding. I bootstrapped this project on a very conservative shoestring. I was not eligible for bank financing since I had not been in business for a minimum of 2 years. The struggle was real.

Thanks to my determination, I met some great people who led me to find my initial investors and we built a small team to help take the company to the next level.

**EGT: What advice do you have for inventors seeking to manufacture a baby product?**

**SK:** Don't give up your day job! It is not an easy road to travel, especially by yourself.

Find a couple of mentors to help keep you on track and moving in a forward direction.

Join a networking group to learn from inventors who have faced similar challenges.

Don't take "no" for an answer. Determination, stick-to-itiveness and tenacity are all qualities needed to succeed. 🍀

*Details: [thecrawligator.com](http://thecrawligator.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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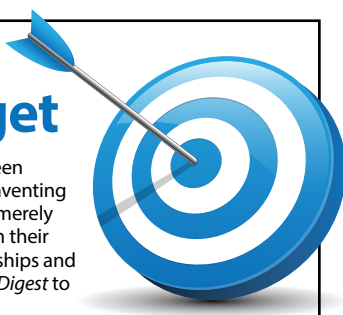
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# 3D's WOW FACTOR



FATHER AND SON'S SCREEN DEVICE GIVES ENTERTAINMENT AND INFORMATION A NEW LOOK **BY JEREMY LOSAW**

Sometimes, coming up with a realistic invention idea is harder than assembling Rubik's Cube. Other times, it's a walk in the park. Literally.

Savva Osipov remembers that day a few years ago with his father, Ilya Osipov: "We were just walking in the park and this idea—magical idea—came from the gods of a Rubik's Cube, but with screens. Then we thought about if it is even possible to do that."

The eventual result was WOWCube®, a three-dimensional screen device that allows users to play games and view data in a unique way.

The cube-shaped device consists of eight equal pieces that snap together via a proprietary magnet system. The attachment system allows for the halves to be twisted and locked in a similar manner as a Rubik's Cube.

WOWCube features a suite of sensors that can interact with applications and games that run on it. The device is primarily for entertainment and to play games, but it has modes to display data such as photos, weather, time and stock prices that are sent via Bluetooth from a smartphone. It is even certified by STEM as an educational toy.

## Early breakthroughs

The father and son's extensive history of electronics know-how and tinkering—along with a love of puzzle games—laid the foundation for that day.

Ilya Osipov had a career as a programmer and helped develop a media website in his native Russia. He eventually sold the company and moved to the United States.

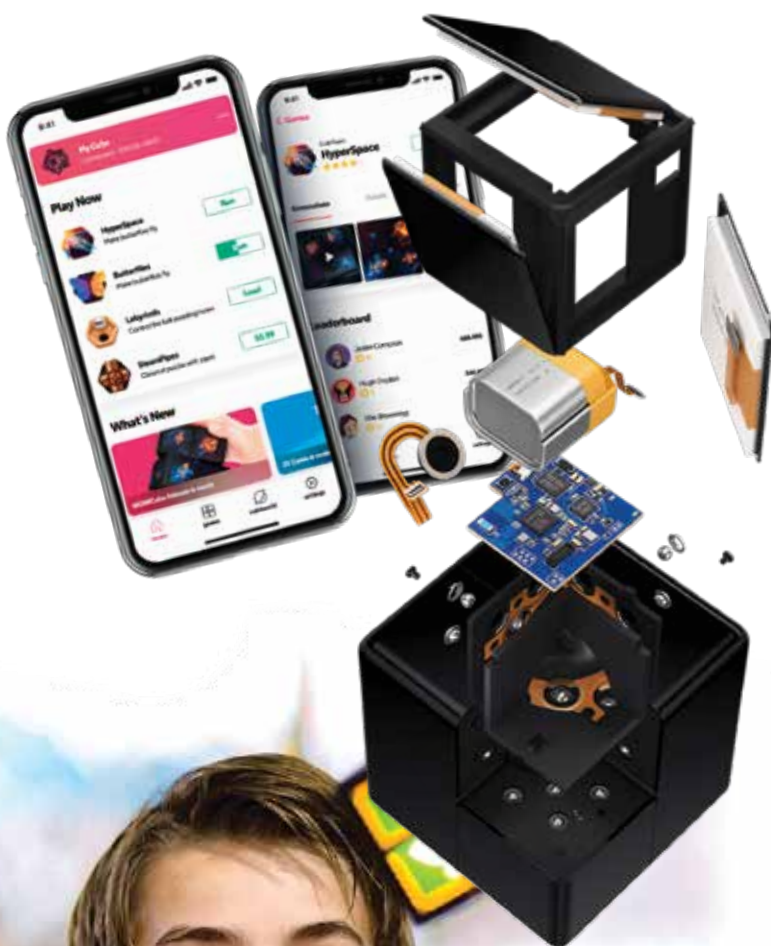
Suddenly, he had a lot of free time on his hands. He began to develop 3D mechanical puzzles for fun and became so good at building them that he was able to license some of his designs to companies that produced and sold them via ecommerce.

Savva Osipov grew up in this creative environment and began to tinker and play with electronics, too. He even created his own minimalist gaming system from a microcontroller and 3D-printed parts.

With their idea of taking electronics displays beyond interaction in a single plane, Savva and Ilya began working on a prototype to see whether the concept was viable. They started with an Arduino as the brain for the device and built a 3D-printed case to house the screens.

Savva Osipov inherited his love of and acumen for electronic games from his father, Russia-born Ilya Osipov. Their WOWCube features a suite of sensors that can interact with applications and games that run on it. The halves can be twisted and locked in a manner similar to Rubik's Cube.





This first prototype was not able to play a game, but the screens reacted to sensor inputs and changed the color gradient based on the readings—which proved the core concept that they could control the screen via motion on the device.

Excited by this breakthrough, they did a search for competitive products and existing patents. Although they did find a product that resembled dominos with a screen, they found nothing similar to what became their concept. So they kept developing.

One of the biggest challenges was how to keep the segments locked together but still have the rotation of the cube feel right for the user.

To solve this challenge, Ilya used his background building physical 3D puzzles and came up with a system of spherical magnets to hold the cubes together. This also had a pleasing locking feel and virtually no friction or mechanical parts to risk wearing out.

## IP and production

Intellectual property is a big part of the strategy for Ilya and Savva. They filed a suite of patents around the magnetic connectors, overall design and technical layout.

They knew they wanted to grow internationally, so they filed in Europe and key Asian countries such as Japan in addition to the United States. Ilya notes that a patent portfolio is especially important for hardware startups and has helped WOWCube raise almost \$2.5 million in investor funds.

With such a unique device, it was important to get help from manufacturers as soon as possible. Ilya built an engineering team centered around Shenzhen, the electronic device manufacturing capital of China. The team there took over the engineering of the physical and electrical aspects of the device, as well as building the custom applications required to interact with the 24 screens.

Designing each of the eight segments that make up the WOWCube was a key breakthrough.

“Every part is the same. It’s very important to mass production [to have] absolutely the same part[s],” Ilya says.





## The device is primarily for entertainment and to play games, but it has modes to display current information.

The two even had to build a custom case, which is a series of connectors that snap onto the edges of the device to keep the screens safe when it drops.

The WOWCube launched at the 2020 Consumer Electronics Show to rave reviews. Showgoers were impressed with the technology; distributors from all over the world were interested in carrying the device.

“We had an unbelievable success. We had a few hundred pre-orders every day,” Ilya says.

Father and son built 150 units and gave them to influencers and developers to test out. This has also helped to boost interest in WOWCube, inspiring developers to create new applications to run on the platform.

### Heady 2021 plans

Ilya and Savva are focusing their efforts on bringing WOWCube to market this year.

They are freezing improvements on the device for now to allow the manufacturing to proceed but are still working with developers to create games and apps. They are taking pre-orders via their website and are considering a launch on crowdfunding in the spring.

Early planning stages for the next generation of WOWCube are underway. Ilya and Savva are also looking into other ways that the device can be used, such as making it a controller for VR or other devices. 📺

Details: [wowcube.com](http://wowcube.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/).



Opposite page:  
A system of spherical magnets holds the cubes together. WOWCube features a mobile app for loading games and apps, changing settings, and getting updates.

## ICONIC INSPIRATION

The best-selling toy of all time is Barbie (more than a billion dolls sold), according to [therichest.com](http://therichest.com) and [pivotint.com](http://pivotint.com).

Hold on. Goodto.com says Cabbage Patch Kids is (are?) the best-selling toy ever.

Nope, says [buzzfeed.com](http://buzzfeed.com). It's Rubik's Cube, with more than 350 million units sold worldwide.

(Make that 400 million units, says [ruwix.com](http://ruwix.com).)

Let's just say that a whole lot of Rubik's Cubes have been sold.

The impetus for the WOWCube was the colorful, square, now ubiquitous creation that hit the world market in 1980. Its inventor needed a month to solve it before mastering it, eventually learning how to solve it in less than a minute.

There are seemingly as many fun facts about Rubik's Cube on the internet as there are possible configurations for the toy. Many of these facts are repeated on different sites, but the *New York Post* presented them in an especially entertaining way:

**It's a Communist block.** It was invented in 1974 by 29-year-old Hungarian sculptor and architecture professor

Erno Rubik, when his country was under Soviet domination. Originally, it was made out of good old proletarian wood instead of flashy capitalist plastic. The corners were rounded.

**As many as one out of seven citizens of Earth has tried to solve it.** That's a billion people, according to [rubiks.com](http://rubiks.com). But that's not the truly mind-blowing number, which is this: The puzzle has 519 quintillion possible combinations. That's 519,000,000,000,000, 000,000. That number is even higher than the number of times Alec Baldwin has lost his temper in public.

**It's not just a cube. It's a thing of wonder.** According to his website, [rubiks.com](http://rubiks.com), “Erno has always thought of the Cube primarily as an object of art, a mobile sculpture symbolizing stark contrasts of the human condition: bewildering problems and triumphant intelligence; simplicity and complexity; stability and dynamism; order and chaos.” Top that, Cabbage Patch Kids!





# Alight with Inspiration



FAST-GROWING CANDLE COMPANY  
A TRIBUTE TO MOTHERS' LOVE AND SPIRIT **BY REID CREAGER**

**A**RIELLE RICCI was beyond exasperated. If only her mother was there to console her. "I started making candles in my kitchen in 2014," she told *Inventors Digest*. "My first batch was a total flop. The candles wouldn't even light. I was devastated."

But a spiritual light always burns steadily within Ricci, who was 11 when her mother died. She and her husband, Chris Ricci, were both young when they lost their mothers. Both died from cancer. Both loved candles.

Seven years later, their inspiration of love, grace and kindness remains the primary force behind Nashville-based Nellamoon, one of America's fastest-growing candle companies. Arielle opened a retail store in the historic small town of Nolensville five years after the e-commerce company started taking off.

"I remember giving Chris's mom a candle before we started the business and seeing the pure joy she had when she lit it!" Arielle said. "Our candles serve as a beacon of hope and a way to help others through tough times. Each

time you light one, it's a reminder to shine bright and live your best life."

It's also a reminder to aim higher. Despite her early frustrations, Arielle didn't succumb to the temptation of cutting corners in making her candles—just as she has never settled for anything less than a goal of living that best life.

Born in Baton Rouge, Louisiana, Arielle spent most of her childhood in Mississippi. "I remember my mom telling me that as a little girl I would change out my earrings and clothes a few times a day and dance around in my outfits," she wrote on the company website. "Things haven't changed much."

She received her degree in apparel, textiles and merchandising and a minor in business from Mississippi State University. Arielle also spent a year studying the fashion design program at the University of Rhode Island, where she lived among 40 international students from around the world and was exposed to new styles.

After two summers interning with Ralph Lauren's creative fashion styling team in New

PHOTOS COURTESY OF NELLAMOON





York City—and jobs that ranged from administrative assistant to yoga instructor—she moved to Nashville in 2011 and began pursuing a career in the fashion and entrepreneurial industry.

That's when, as she wrote, "My love for all things creative, fashion, health and wellness plus artisan candle making" led to the start of Nellamoon (Nell was her childhood nickname; moon is a symbol to honor her mother).

### High standards, hopes

Of course, Arielle ultimately recovered from that first candle batch—a literal hot mess—and after "about 2 months of consistent trial and error, I had perfected the recipe and created my first custom scent: Nashville.

"There's a very particular science behind candle making, and all-natural soy wax—which is what we use—is even more challenging than most waxes. We don't use any binding agents or chemicals, which makes the science even more important, but it sets us apart from the competition. We want our customers to experience a

clean and safe candle which won't fill their home with toxic and dangerous fumes."

She has become an expert on all things candle since those frustrating early days. The business's growth reflects as much.

"I made candles for three years in my kitchen and moved into the garage while the business was just getting started. I personally don't make the candles anymore, but our amazing production team hand-pours every candle right here in Nashville.

"As CEO, I oversee every facet of the company, so I'm still very involved. I do still create each scent and absolutely love that process.

"Our team consists of 15-plus amazing members and growing. We believe the people make the place, and I couldn't do this without each and every one of them! Our culture is all about love, and that energy gets transferred into each candle poured."

**Arielle Ricci made her first attempt at candle making in her Nashville-area kitchen in 2014. Now her company, Nellamoon, has a retail and online store. "There's a very particular science behind candle making, and all-natural soy wax—which is what we use—is even more challenging than most waxes," she said.**



With more than 100,000 candles made and sold to date, Nellamoon has been sold at the trendy Face, Maxi B and JW Marriott. The product is also popular with celebrities; reality TV star and fashion designer Kristin Cavallari sold them at her Nashville store, Uncommon James.

"Next year we'll be applying for the Inc. 500 list," Arielle said. "But we're more interested in using business as a force for good rather than our valuation, which we believe makes us even more valuable and allows us to grow at an accelerated rate."

### **Sweet sensory assault**

The elegant appearance of Nellamoon candles and their vast variety of exotic scents—which include tobacco vanilla, cacao, desert cowboy, to name some—reflect a premium product.

(Nellamoon.com also features a line of clothing.)

Arielle says her favorite candle "really depends on my mood and the season. That's why we created the best-seller set, which is a curated bundle of all our best-selling and favorite scents.

"We also have a lot of seasonal scents, which people love. They typically sell out within days of launch, so we're starting to build extra inventory well in advance now."

The current star of the line may be The Boyfriend Collection, "which consists of our matte black 13.5-ounce jars with five amazing scents. I love this collection because it's sleek and sexy. The collection has an upscale look, and at a great price point! It's one of our fastest-growing lines as well."

In addition to the intellectual property associated with the company name and products,

**"Our candles serve as a beacon of hope and a way to help others through tough times. Each time you light one, it's a reminder to shine bright and live your best life." —ARIELLE RICCI**





“we’re currently working on a patent for a unique type of candle that we can’t wait to tell you about. It’ll certainly change the candle game forever!”

### Grace amid challenges

There is an unmistakable bigger-picture component to Nellamoon.

The company donates some of its profits to at least a half-dozen charities. They include the Nikki Mitchell Foundation, a local, music-based organization that helps raise awareness about pancreatic cancer.

Arielle’s peaceful demeanor is palpable, even in discussing frustrations and obstacles with the business: “There have been plenty of challenges, but I’d say what has helped me the most is having a growth mind-set.

“Personal development has been key to getting me to where I am today. We see challenges more so as opportunities to be creative, which really allows us to handle them with grace and less stress.

“Perception is reality, so we try to focus on turning what most people would see as negatives into positives. That’s part of the culture at Nellamoon.”

She further waxes philosophical about her spirituality.

“It definitely helps me through the ups and downs of entrepreneurship. I trust in God and know that everything will always work out. I love sharing things that have helped me and hope to inspire others who may need support through their trials and tribulations.”

But whether an inventor/entrepreneur is spiritual or all bottom line, she advises them to “Focus on you, what you’re building, and be original. Just as racehorses wear blinders so they don’t get distracted and trip, we stay laser focused on our own growth so there are no distractions to get us off track.

“We’ve been told many times that we wouldn’t be able to succeed in such a saturated market, but we continue to prove those people wrong. Persistence, patience and grit is key to building a sustainable business.” 🍃



### WHO INVENTED CANDLES?

There is no definitive answer as to who invented candles, or when. The National Candle Association says the earliest use of candles is often attributed to the ancient Egyptians. They made rushlights or torches by soaking the pithy core of reeds in melted animal fat.

However, these instruments had no wick, like a true candle. The Egyptians were using wicked candles in 3,000 B.C., the NCA says.

Historyoflighting.net says the earliest candles were made from whale fat in China during the Qin Dynasty, around 200 B.C.



### HER CAREER MAKES SCENTS

One of the things Arielle Ricci always liked about candles is how their scents can take her imagination to faraway places.

There is a clear connection between scents and their effect on the human brain.

“Scents can have positive effects on mood, stress reduction, sleep enhancement, self-confidence, and physical and cognitive performance,” Theresa Molnar, executive director of the Sense of Smell Institute, says on candles.org.

In fact, the website has a chart that lists suggested candle fragrances for emotional afflictions ranging from anxiety to impatience to fatigue.





# 'Anti-typing' JOYS

PROTOTYPING BURNOUT? TRY BUILDING AND DISCOVERING FOR THE FUN OF IT **BY JEREMY LOSAW**

**P**ROTOTYPING can be very rewarding, yet it is just as often a slog.

Prototyping is discovery through doing. It requires seemingly endless cycles of building and testing in pursuit of making a new technology work. Weeks, months, and sometimes years of building prototypes can be frustrating and lead to innovator burnout.

When I find this happening, I turn to activities I call “anti-typing.”

These activities are more about building and discovery for their own sake, free from having to create an innovative and monetizable solution.

## Two fun flavors

There are two flavors of anti-typing I enjoy. One is taking things apart; the other is building things from kits. Both are rewarding in their own ways because they can build skills and be a restorative tonic for inventor burnout.

Taking apart products is a great way to learn how products are engineered to be built at scale—and also a lot of fun. It often takes years for a product to make it into the marketplace, the result of myriad decisions from engineers, designers and marketing professionals along the way.

Looking under the hood is a joyfully voyeuristic activity that reveals clues about how a product was made.

You can see details of how the parts were molded and the witness marks on the inside of the parts from unpolished steel tooling. You can observe the way plastics are ribbed out, how the screw bosses were formed to keep consistent wall thicknesses

and respect the direction of how the tool opens and closes. You can see the electromechanical systems with the requisite motors, gears and switches to make it perform its intended function.

With so much creative problem solving housed inside of every consumer product, it is no wonder you often hear engineers and designers say they took something apart “just to see what was inside.” Even taking apart broken products is a useful activity; you can find clues as to how it was used or misused and how it may have broken.

This may reveal the cause of failure. More important it may also provide inspiration for solving problems in your prototyping activities.

## A broken lesson

A kitchen mixer of mine recently failed. After making a cheesecake and not letting the cream cheese soften enough, the mixer took extra stress from the unsoftened cream cheese stuck to the blades. After that, it started making grinding noises and only one of the mixing blades would spin.

I suspected the gears had failed. This was confirmed when I looked inside to see that one of the drive gears had damaged teeth that were keeping it from spinning.

There was no way to fix it, but it was a great way to see what parts were vulnerable to non-standard use and to get to see the guts of the product.

## Recipe for learning

The other kind of anti-typing I like is building something from a kit or a recipe. When you build a kit or use a tutorial to build something, the result is known and there is a fixed endpoint.

Building electronic kits keeps all the fun with none of the pressure of making design decisions.







There are two flavors  
of anti-typing I enjoy.  
One is taking things apart;  
the other is building things from kits.



Although you are not iterating to find a solution to a problem, it is a way to prototype a process and learn tools that can be useful when working on a real innovation.

For example, you may buy a bag of chocolate chips from the grocery store and use the recipe on the back to make a batch of chocolate chip cookies. The process is defined; the end goal is a known state.

However, after making that recipe a few times, you have gained the experience using the tools and going through the process. Then you have the confidence to start tweaking the recipe. For the next batch you may add a dash of cinnamon, a little more butter to soften them up, or some coconut flakes.

The kit—in this case, in the form of a recipe—provides a formula that helps you familiarize yourself with a process that once known can be manipulated and improved.

### A known result

What I love about building kits is that the pressure is off. With a known and desired result, there is no anxiety or ambiguity about the next step.

Kits provide guardrails that allow you to enjoy the experience of creation without the expectation of solving a problem or the fear of a bad design decision.

When you build an electronics kit, you are unburdened from having to calculate the resistor values, spec components for a PCB, or develop custom code. You can just enjoy the build and explore the fully developed code to see how it drives the function of the circuit.

When you build a model racecar, you are unburdened from the pressure of having to design the full-scale car with the expectation of winning a race. You can enjoy seeing the design of the car in 3D and imagine the design decisions that led to the final result.

We can often fall out of love with or be burned out from our passions from time to time. Prototyping is no different. Stretching can relax our muscles, and meditation can soothe our minds.

Similarly, anti-typing activities can help re-energize us by bringing back joy to building things and giving us new knowledge for accelerating our prototyping pursuits when we are ready to begin again. 🌀

Building a model car has a known result that can reveal design details of the real car not conveyed in photographs.

Inset: Taking apart this broken 3D printer revealed some interesting drive components and manufacturing techniques.



# Excuses, Excuses

EVEN DURING THE WORST OF TIMES, TENACITY (AND MORE) CAN SEE ENTREPRENEURS THROUGH **BY ALYSON DUTCH**

**E**CONOMIC DOWNTURNS. The pandemic. There will always be reasons we are afraid to go after our dreams.

But after working with startups for most of my 30-year career, I can tell you: They are all excuses.

Sorry for a little tough love, but you need to hear this.

If you are going to start a business, learn to adapt and find your way around outside factors that appear to be obstacles. Many times in history, businesses won—including the 1929 stock market crash.

The No. 1 quality of a successful inventor-entrepreneur is relentless tenacity.

One of my favorite quotes about this came from Calvin Coolidge: “Nothing in this world can take the place of persistence. Talent will not: Nothing is more common than unsuccessful men with talent. Genius will not; unrewarded genius is almost a proverb. Education will not: The world is full of educated derelicts. Persistence and determination alone are omnipotent.”

I’ve shortened it to this: “Privilege will not. Education will not. Money will not. Tenacity will.”

## Don’t fear fear

Welcoming fear into our lives and learning to feel it is also key. Fears can seem very real, but for them to subside we must move through them—let them be felt.

Moving through emotions like this is another especially important skill for entrepreneurs to master. If we deflect it, it will only persist. Roosevelt said it so well: “The only thing we have to fear is fear itself.”

Adaptability is another crucial quality. It can create a

deep education process that will benefit every part of your life.

Adaptability is the one quality intrinsic to every living being that made us to who we are today. It is at the crux of evolution. Animals adapted to different environments and over time grew legs, wings, teeth and claws to protect them from predators.

Since the moment we were born, we have learned to adapt to our environments. As babies, we cried when we needed food or love and learned how to get what we needed without language. These urges are so strong that as we mature into adults, we become clear reactions of what we got/didn’t get as infants.

Many of us have witnessed the blustery person who walks into a restaurant and grouches loudly when he or she doesn’t get a preferred table. These people are used to pouting and demanding, turning into adults who are clear reflections of their past based on how they adapted—or didn’t.

## Living examples

A couple examples of how tenacity, accepting fear, and adaptability can overcome adverse circumstances such as this pandemic:

Kym Gold, the cofounder of True Religion jeans (*Inventors Digest* January 2021 cover story), hatched a home brand called Style Union Home for the first time in her fashion career at the beginning of 2020. Though she was waist-high in product development and ready to launch in March, COVID-19 had other ideas.

Instead of quitting, she put her head down and focused more deeply than ever on product mix, perfecting the messaging and graphics for a great website. She took risks, hiring a marketing team to lay the foundation that she would need when it ended.





In terms of messaging, she discovered that what she was doing was more germane than ever because the world was at home and looking to beautify environments. The company is thriving.

No amount of planning could have produced that result, but her ability to adapt, be present and tenacious won.

Anthony Peraino had just heavily invested in quite a bit of marketing for his luxury skincare brand, CIREM, when the pandemic hit. One might imagine that attempting to sell a luxury beauty product at a time when people were losing their jobs and were threatened by the coronavirus was a death knell for a company like this. But no!

Peraino was one of the first entrepreneurs I saw pivot quickly by creating a hand sanitizer. As the company's marketing agency, we at Brown + Dutch created a campaign to get that product, along with samples of his luxury skincare, into the hands of nurses in the five main hospitals in the company's native Los Angeles. We built publicity and social media around it. The company not only survived but thrived.

Imagine how many companies pivoted to create masks, plastic partitions for retail, and how the grocery and take-out business exploded. Zoom's business increased by 355 percent.

Entrepreneur is not a title you get because you start a business; it is an earned experience that's heavily weighted on how hard you push, adapt and take responsibility for your success.

### Heed Emerson

Speaking of self-responsibility, I have a recommendation. Read the classic essay by Ralph Waldo Emerson, "Self-Reliance."

Emerson is thought of as a poet, but he also was a deep and powerfully wise philosopher whose words in that essay ring through my being every single day.

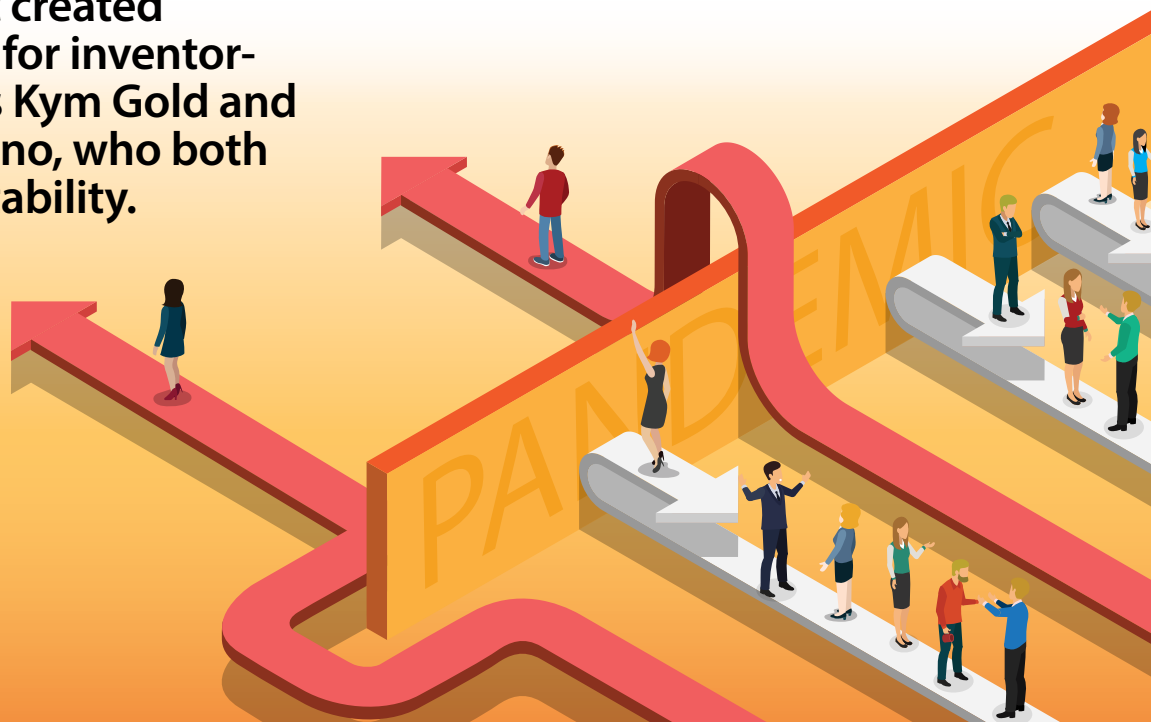
Being an entrepreneur will be a massive proving ground for you. I've seen thousands of product ideas come across my desk. It's never the product that makes for a success but the people behind it.

So when you see obstacles, you need to learn to build the muscle that says: "How can I make this into lemonade?" 🍋

**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.



**The pandemic created opportunities for inventor-entrepreneurs Kym Gold and Anthony Peraino, who both showed adaptability.**







# This Game Has to Stop!

PUBLIC MARKET'S OVERREACTIONS ON IP COMPANY VALUATIONS BECOMES A DANGEROUS GAME OF CHICKEN **BY LOUIS CARBONNEAU**

**M**AYBE SOME of you have witnessed the David-vs.-Goliath tug-of-war between individual day traders and institutional hedge fund investors over artificially raising the GameStop share price or systematically shorting it. Add to this fray the millennials' favorite trading platform Robinhood, now caught in the middle and having to raise over \$3 billion in a crunch to recapitalize itself.

Some of the most powerful hedge funds are hemorrhaging money playing a dangerous

game they are not used to losing, and a few have capsized. This is a real testament of new forces using tools at their disposal to fill a vacuum left by the absence of proper regulations to deal with the vast power of hedge funds and their behavior.

Meanwhile, this game of chicken has generated stratospheric valuations for companies whose fundamentals would not raise an eyebrow in normal times. If you invested \$10,000 in GameStop stock on January 20 and resold it a week later, you would have netted close to \$100,000. Not bad, considering the interest rates.

However, the current clash (which borders on a financial crusade) can only end with many of the players losing a LOT of money—whether because a few of the diehard day traders suddenly turn greedy and start selling for huge profit, or hedge funds start falling like dominos and pensioners across the country whose money they manage find out that someone was playing roulette with their savings.

Either way, as we witnessed in 2009 and so many times before on Wall Street, the small guy generally ends up holding the bag and the GameStop charade is already coming to a painful end for many.

## Blackberry roulette

Which brings us to Blackberry, which has also been the subject of wide variations in its valuation recently for reasons that, albeit less extreme, show again that you cannot always trust the public stock market to value a business—especially an IP company. This is why so many publicly traded IP companies (PIPCOs) have gone private in recent years. It is hard enough to satisfy a short-sighted market, let alone one

## SMART LICENSING DEAL

Recently, defensive patent buyer **RPX Corp.** licensed about 18,000 patents from former IP behemoth Intellectual Ventures, apparently for a sum in the low nine figures.



As a result of that transaction, all RPX members (estimated between 300 and 400) should automatically be licensed to that portfolio from now on, which will nip in the bud a fair amount of potential patent litigation.

From a market standpoint, this is good for a few reasons:

- It shows that RPX, one of the most sophisticated shops when it comes to valuing patent risk, still sees significant defensive value in the right assets.
- It provides a valuable comparable for other licensors, with the caveat that each portfolio is rather unique and this one is likely a hodgepodge of many unrelated assets.
- It neutralizes a large body of patents that IV would have otherwise shopped around and sold for pennies on the dollar upfront to a non-practicing entity, as many past transactions suggest.

While this still may happen—since RPX only took a license to the portfolio, after all—it will be at a much smaller scale, given that most Fortune 500 companies are now licensed. As such, it also helps reduce the extra inventory of patents glutting the market (many of which have come from IV) and contributes to rebalancing supply and demand. This should help keep valuations up, as they have in the past year.





**If you invested \$10,000 in GameStop stock on January 20 and resold it a week later, you would have netted close to \$100,000. Not bad, considering the interest rates.**

that does not have a clue about your business.

As most know, Blackberry (formerly known as Research in Motion) is a Canadian company known mostly for its eponymous phones that were all the rage in the early 2000s. This led to a famous case in which the company ultimately paid a huge ransom to a non-practicing entity (NPE).

As historical reference, the NPE accused Blackberry of infringing its patent and paid dearly to avoid being enjoined from selling its phones in the United States (the patent in question was later declared invalid, but the NPE got to keep the money). Over the past year, roughly half of Blackberry's revenues—which have higher profit margins than selling products and services—came from the monetization of its vast patent portfolio.

Blackberry was losing significant money after three quarters in 2020, with a net loss of roughly \$800 million. Not exactly a stock one might normally expect to see investors flock to.

But Blackberry's stock had been relatively stable in the past year, hovering mostly around \$5.00 per share, which gave it a market cap of roughly \$2.5 billion for most of 2020.

Ironically, when Blackberry reported a spike in revenues on September 25, 2020—the result of \$32 million in licensing revenues (most of it pure profits) from a 2017 deal with Teletry, it did

not even register a blip on its stock price. Same reaction (or absence thereof) when the company announced it was planning to divest its whole patent portfolio, a major shift in strategy.

Normally, a company will do this when it feels it has reached the point of diminishing returns on its assets; the sale in bulk of a patent portfolio of this size (near 40,000 assets) is often considered a fire sale. Remember, we are talking here about selling the company's cash cow in one sweeping deal.

Still, no immediate reaction from the market, even as the announcement started to attract some press. Then even stranger things started happening.

In the days preceding the December 3 reporting of Q3, investors speculated a bit and sent the stock soaring to \$8.52 a share. After Blackberry released its results and likely in view of increasing losses, the stock came down to between \$6 and \$7 per share.

Then, on January 15, 2021, the press picked up that Blackberry had settled a long-standing patent litigation with Facebook. If one accounts for the fact that Blackberry was also a defendant in Facebook's counter claim that it infringed its own patents, those in the industry would expect the ensuing settlement to be likely a draw—where both suits are dismissed and the parties enter into a limited cross-license with no money being exchanged.



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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:

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Best wishes, Jack Lander

## Are you getting dizzy yet?

Still, investors are speculators at heart, and they were trying to find some magic in the announcement. As a result, they soon sent the stock soaring. When they saw this, some hedge fund managers who did not like the fundamentals of Blackberry started souring on the stock and shorting it.

In turn, this sudden negativity by hedge funds dragged the Blackberry stock into the ring of the GameStop war raging, and small traders started buying it in a frenzy to counter the downward movement. In a matter of days, the stock had exploded to trade over \$25 a share and reached a high point of \$28.26 on January 27—a more than 500 percent bump over its average annual price in a matter of days!

Then, traders shifted the focus of all their rage and limited funds on GameStop. Meanwhile, Robinhood was announcing some restrictions on a few stocks, including BlackBerry, which in turn limited people's ability to buy it or buy more than a few shares at a time.

As a result, the Blackberry stock came down as quickly as it had gone up. On February 2 it closed at \$11.55, down almost 60 percent from a week earlier—all this for a company whose business fundamentals and business model has been fairly the same for the last year.

The short of it—one might say the "big short"—is that even if one factors out the sudden variations caused by the war between traders and institutional investors, the public market does a very poor job of understanding events related to IP companies. Either the public overestimates or completely misses the significance of any given announcement by these companies.

Which brings us back to the Warren Buffett Rule No. 1: Only invest in what you can truly understand. ☺

**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.





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# After Iancu

A USPTO DIRECTOR CANDIDATE WITH BIG PHARMA TIES  
COULD BE TIMELY—AND PATENTEE FRIENDLY **BY STEVE BRACHMANN**

**I**T'S LIKELY that the new U.S. presidential administration's selection for director of the U.S. Patent and Trademark Office will not become clear for at least a couple months. Many members of the U.S. innovation community, however, are well aware of the high stakes in play with that selection.

The tenure of outgoing Director Andrei Iancu was lauded across many sectors of the U.S. patent system, perhaps with the exception of the tech sector. As we consider candidates for the next USPTO head, perhaps we should look to the political moment in which we find ourselves to guide our search.

## Biden role unknown

President Joe Biden's stance on intellectual property has been fairly inscrutable, and the few mentions of IP in Biden's campaign platform did little to answer any questions on what to expect from the new president on patent policy.

Industry insiders have suggested several candidates with ample experience at the agency, but political headwinds often play a major role in the nomination process. News reports indicate that Big Tech has been playing a role behind the scenes in placing allies in senior roles within the Biden Administration, and the lack of attention paid by the mainstream media to the USPTO could make it a prime target by corporations seeking political influence.

Yet there are reasons to believe that Big Tech won't be as successful in advocating for a USPTO director who can pursue favorable policies at the agency.

The political moment for Google, Apple and other tech titans is much different now than during the Obama Administration, when those firms were becoming more successful but weren't mired in legal actions brought by antitrust regulators.

## The SEP factor

Of course, although the current political moment may involve less movement on patent policy related to smartphones and software technologies, there are some fluid areas of patent policy that anti-inventor corporate interests may try to influence.

A change in presidential administration also brings the possibility of a new direction on standard-essential patent (SEP) policy, especially where it comes to enforcing fair, reasonable and non-discriminatory (FRAND) obligations on SEP owners. After the Obama Administration pursued actions on SEP policy that favored tech implementers over patent owners, the USPTO and the Department of Justice under the Trump Administration relaxed the threat of antitrust enforcement against SEP owners over licensing practices.

It's not hard to conceive how pro-corporate groups might use the changing political headwinds to push for appointees with favorable political views on SEPs. Automotive manufacturers, for example, are seeing major industry changes involving new propulsion systems and autonomous driving modes that are turning more of those companies into implementers of technologies invented in other sectors.

So, if connections to the automotive sector—or corporate sectors disfavoring SEP rights more generally—should raise red flags, which politically connected appointee should most patent owners prefer to see?

What industry sector in the current political moment could produce a USPTO director nominee that has a good shot at retaining pro-patentee, Iancu-era reforms?

## Influential sector

One possible answer is the pharmaceutical industry.



Intellectual property policy may not have played a large role in the recent presidential election, but the COVID-19 pandemic certainly did—and will continue to influence public debate in coming months as vaccines continue to be rolled out to the public. American companies Pfizer and Moderna have been in the lead on developing COVID-19 vaccines approved for use by the Food and Drug Administration.

Last March, a study published by *The Journal of the American Medical Association* found that the median cost of research and development for each drug approved by the FDA between 2009 and 2018 was \$985 million.

“Strong and reliable IP protections have supported America’s robust innovation ecosystem by promoting discovery, development, affordability and access to new treatments and cures,” Tom Wilbur, a spokesperson for the Pharmaceutical Researchers and Manufacturers of America, told IPWatchdog. “As our industry continues to expand vaccine production and deliver medicines to patients in need, reliable IP protections have been critical in supporting multiple research and development and manufacturing ramp-ups on COVID-19 vaccines and therapeutics.”

Hans Sauer, deputy general counsel and vice president of Legal, Biotechnology Innovation Organization, added that “less than 10 percent of drug candidates that begin human testing are eventually approved by the FDA. Strong IP protections—like patents, regulatory data protection, and robust international trade agreements—help offset these business risks and provide the prospect of returns on risky and sustained investments, thus encouraging investors to put money towards future cures.”

Unlike many other sectors, pharmaceutical developers often have small portfolios protecting valuable chemical compounds. This gives them an innate understanding of



## Pharmaceutical developers have an innate understanding of the importance of maintaining certainty in patent validity.

the importance of maintaining certainty in patent validity.

These same risks cannot be appreciated by most of Big Tech or the automotive industry, where large patent portfolios cover mainly incremental technological advances. Here, innovation risks are mainly posed not by product failures but through increased infringement liability by operating as market incumbents in rapidly advancing sectors.

Strong patent rights that are enforceable against infringers are crucial for firms that engage heavily in research and development activities. Now is a perfect time for the pharmaceutical sector to inform the public debate on how enforceable patent rights encourage a strong innovation economy.

If the world’s economy is able to reopen in 2021, it will largely be due to the fact that American firms enjoying strong patent rights just won the fastest race to a vaccine ever seen by modern science. It’s possible that parties within the U.S. patent system who want to retain many of Director Iancu’s reforms might find a champion for their interests from the pharmaceutical sector. 📌

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





## IoT Corner

Vulnerabilities in IoT security were brought to a unique spotlight last October when hackers found a way to remotely control a Bluetooth-enabled adult novelty.

The hackers found a major vulnerability in the authentication protocol that controlled the device and were able to gather data on users including location, phone number and password. The hackers then blackmailed their victims by locking the devices and demanding a Bitcoin ransom equivalent to about \$270.

Qiui, the maker of the device, updated the app to close the loophole so customers would have no fear of further meddling by attackers. —*Jeremy Losaw*



## Wunderkinds

Not many 15-year-olds are featured on the cover of *Time* magazine. But **Gitanjali Rao**, named the publication's top young innovator for 2020 and its first "Kid of the Year," had that distinction in the December 4 issue. Gitanjali is not just an inventor; she's a scientist. In 2017, she won the 3M

Young Scientist Challenge for a device called Tethys that uses carbon nanotube sensors to detect lead in drinking water. In 2018, she was awarded in the TCS Ignite Innovation Student Challenge for inventing Epione, which diagnoses early-stage prescription opioid addiction.



## What IS that?

It's a big peel-and-stick decal of two random senior citizens riding in a golf cart. This wall art, said by the makers (Wallmonkeys) to be safe for painted walls, measures 18 inches wide by 12 inches high. So there. We gave you the "What IS That?" We cannot give you the "Why is That?" We only have 46 pages.

**9,874** The number of patents or patent applications held—at last count—by Kia Silverbrook, Australia's most prolific inventor. (Thomas Edison had 2,332 worldwide patents.) Silverbrook, who has 4,700-plus U.S. utility patents, says it's no big deal: "It's like having a lot of legal contracts."

## WHAT DO YOU KNOW?

**1** Which female inventor had the nickname "Lady Edison"?

- A)** Tabitha Babbitt    **B)** Hedy Lamarr  
**C)** Marjorie Joyner    **D)** Beulah Louise Henry

**2** **True or false:** If a published work doesn't have a copyright notice, you are free to use it.

**3** Which classic sportscar innovation debuted first—the Mustang or the Corvette?

**4** **True or false:** When the BlackBerry was invented, its name was chosen because of the way the keyboard buttons resemble the drupelets that make up the blackberry fruit.

**5** Dr. Gholam A. Peyman, who invented LASIK eye surgery, received the National Medal of Technology and Innovation from which president?

- A)** Trump    **B)** Obama  
**C)** Bush (George W.)    **D)** Clinton



**ANSWERS:** 1 D. She had more than 100 inventions. 2. False. Use of a copyright notice is optional for works published after March 1, 1989. Just because a work has no copyright does not necessarily mean it is not protected by copyright. 3. Mustang, 1964; Corvette, 1967. 4. True. 5. B.



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