# August 2020 Volume 36 Issue 08

PICKING UP STEADY

MAKER'S BUILDING SYSTEM A LEARNING TOOL FOR KIDS

King of Plant Protein DAVID JANOW'S JOURNEY SPARKED BY SCIENCE, SAVVY



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#### 3 Cheers For 3D Printing!



So, let me see if I can get through this column without mentioning COVID-19. Oops.

But ever since this worldwide scourge exploded early this year, *Inventors Digest* has focused on innovation's role in comforting the afflicted while protecting and saving lives.

We've already shown how 3D printing—an essential tool for inventors who build protypes—has had a prominent role in manufacturing masks, parts and respirators. Now a study by the European Patent Office verifies that 3D printing is not only the fastest-growing tech field, but that this trend predates the pandemic.

The study shows that the United States and Europe are leaders in the process, also known as additive manufacturing. For the uninitiated, 3D printing is technology that uses digital files to create products in layers. It is a highly versatile medium with great flexibility and scalability.

Multinational companies such as General Electric, Boeing, Airbus, Johnson & Johnson, and Procter & Gamble are among the leaders in 3D printingrelated patents, which are still relatively small in number but increasing dramatically in recent years.

As that list indicates, companies that utilize 3D printing come from diverse sectors: manufacturing, chemicals and pharmaceuticals, information technology, electronics, transportation, imaging, and consumer goods that even include food.

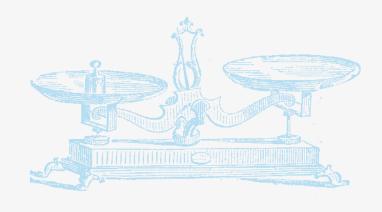
(You want a delicious diversion? Do a search on 3D-printed cakes.)

The EPO study is crammed with data, but we'll stick to the highlights in one paragraph so as to keep you reading: In 2015-2018, 3D printing patent applications grew at an average annual rate of 36 percent—more than 10 times the average yearly growth of overall patent applications at the EPO.

One irony from the study was that China accounted for less than 1 percent of 3D patents. Expect those ratios and numbers to grow in virtually all countries as our world becomes more dependent upon fast, reliable, flexible innovation.

*—Reid (reid.creager@inventorsdigest.com)* 

### American innovation needs to hit the gym









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

Make your voice heard now at SaveTheInventor.com





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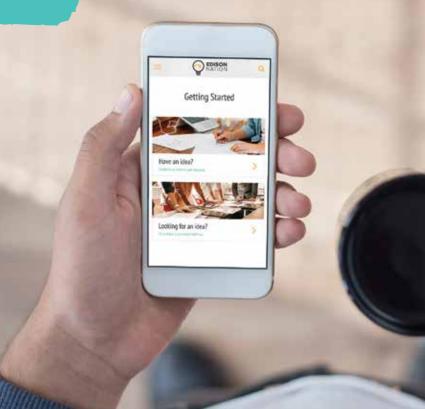
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#### CORRESPONDENCE

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

#### "Star of the Fashion Fix" (June 2020):

Upon being asked to be interviewed for *Inventors Digest*, I quickly familiarized myself with the magazine and eagerly said yes! I was impressed with the quality of the writing, the beautiful layouts and the caliber of talent.

Imagine being featured as a woman when the most recent statistics say only 12 percent of inventors are female. That statistic was news to me until Reid, the editor-in-chief, told me this shocking fact.

Working with Reid, writer Alyson Dutch and art director Carrie Boyd was a pleasure. They were professional and made the experience tremendously fun.

Alyson delved deeply into my trials and tribulations during the process of making my idea a reality. I learned to turn a deaf ear to naysayers who were frequently well intentioned because they were worried for me. In the end, the customer is



The Rolling Stones are the latest popular music act to publicly protest the unauthorized use of their songs at political rallies—although until recently, they have found you can't always get what you want.

That may be changing.

This is a copyright issue, of course; it also can be political. It's not news that ideologically, popular music acts generally do not align with conservative politicians.

Donald Trump has been using the Stones' iconic "You Can't Always Get What You Want" as he finishes his rallies. Trump has also used songs by Tom Petty, Prince, Queen, Neil Young, Rihaana, REM and others, much to the public chagrin of these artists and their estates. the ultimate arbiter. As Thomas Edison said, "Sale is proof of utility."

*Inventors Digest* is inspirational and encouraging to me as an idea person. They support new ideas and the people who dare to dream them.

In these turbulent times, in order to stay competitive as a nation, America's idea people are being threatened by those who want to take away freedoms and limit our possibilities. Only through our freedom is the American Dream guaranteed so that we



can create and build things that people didn't even know they wanted.

-AMANDA HORAN ANDERECK, CEO, SASSYBAX

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Via inventorsdigest.com, comment below the Leave a Reply notation at the bottom of stories. Or, send emails or other inquiries to info@inventorsdigest.com.

#### MUSIC + POLITICIANS = DISCORD

The news is the fact that artists are becoming more determined to avoid the use of their songs in this way.

A month before the 2016 presidential election, Stones frontman Mick Jagger said recording artists "can't stop" people from playing their songs at rallies. But now the Stones are working with performing rights organization BMI, which notified the president he will be sued if cease-anddesist demands are ignored.

It's not like the Trump campaign doesn't have other options. BMI provides licenses for venues to play many kinds of music, with a catalog of 15 million-plus songs that can be played at political events. But artists can opt out of having their music played at political events, which the Stones have done.

You may soon see more references to the 1946 Lanham Act, signed into law by President Harry S Truman.

This important but seldom-cited trademark protection prohibits "any false

designation or misleading description or representation of fact ... likely to cause confusion ... as to the affiliation, connection, or association of such person with another person." In 2018, attorneys for Aerosmith frontman Steven Tyler cited the law in an effort to prevent the Trump campaign from using the band's music.

It remains to be seen how much impact a more organized resistance will have on these long-running complaints.

Presidential candidates from Ronald Reagan to Bob Dole and even the moreliberal Barack Obama have faced similar objections. R&B tenor Sam Moore of Sam and Dave asked Obama to stop playing "Hold On, I'm Coming" during the latter's 2008 presidential campaign.

Moore wrote, "I have not agreed to endorse you for the highest office in our land." He later performed at Obama's inaugural ball.

## BRIGHTIDEAS

#### Re\_

#### INSECT-GROWING TRAYS FOR PROTEIN beobia.com

Re\_ is an insect-growing pod that let you create your own source of healthy and sustainable protein. It reduces your carbon footprint, waste, and is an alternative to livestock farming.

The easy-to-use system consists of five modular trays that can be placed in the home. You can produce between 100g and 300g of mealworms per harvest.

Mealworms are more than 54 percent protein, packed with essential vitamins, minerals and antioxidants. You can feed mealworms fruit and vegetable waste and use their waste as plant fertilizer.

The five-tray product will retail for about \$175, with shipping to crowdfunding Rewards backers set for November.

WindshieldWOW!

SIMULTANEOUS BOTH-SIDES CLEANER indiegogo.com

#### **POSSIBLE DELAYS**

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

WindshieldWOW! uses patent-pending magnetic paddles to clean a windshield's interior and exterior simultaneously.

The cleaning paddles bend and flex to facilitate firm cleaning pressure. Press a microfiber cloth on the exterior and interior paddles; spray cleaner on the cloths; and position the exterior paddle from the outside and line it up with the interior paddle. As you clean from the outside, the magnetic force makes the interior paddle move in unison with the exterior paddle.

The Gift Set with 10 microfiber cloths will retail for \$69; the Pro Set with 40 microfiber cloths and two extension arms with an attachment knob will retail for \$139. September is the expected delivery period.

#### TidyBoard CUTTING BOARD AND ORGANIZER

tidyboard.com

TidyBoard streamlines food preparation with strainers, catches and containers on the end of the cutting board. It can hang off the edge of a countertop or over the sink, an important convenience in small kitchens.

The cutting board acts as a lever to help hold the weight of the catch. TidyBoard's bamboo is antibacterial and maintains durability for years. You can chop fruits or vegetables without mixing scraps. Strain hands-free.

TidyBoard's collapsible containers save more than 50 percent of drawer and cabinet space, making it compact in use and in storage.

The basic TidyBoard kit will retail for \$99, with an estimated October shipping date for Rewards backers.

#### "Innovation becomes simply creating value by solving simple or complex problems timely."—PEARL ZHU

#### BIGSOFTI

LIGHT MODULE FOR PHONE PHOTOS, VIDEOS bigsofti.com

BIGSOFTIE is a lightweight lighting attachment for cellphones that projects soft,

diffused light for more attractive selfies, videos and video calls. It is built on the movie-making premise that big light wraps evenly around facial features, and soft light minimizes hard shadows so bumps and creases disappear. BIGSOFTIE comes with a universal clip that fits all leading smartphone, tablet and laptop brands. It also can fit cameras.

Three brightness and color settings are featured, with a 95-minute runtime at maximum brightness.

The standard product with lighting module and three accessories, including the universal clip, has an estimated December delivery date for Rewards backers. It will retail for \$99.

### **Starting** Their Engines

### WHO INVENTED AUTO RACING? AND WHY IS THERE SO MUCH MISLEADING INFORMATION ABOUT IT? **BY REID CREAGER**

**HEN NASCAR** made the daunting decision to restart its collective engines with a stock car race in Darlington, South Carolina, on May 17, it was a defining moment for the sport.

Even with empty grandstands because of COVID-19, the risk was significant. The first major U.S. sport to restart its season during the pandemic—in its case, following a 10-week absence —was closely watched by a fearful worldwide public.

The same couldn't be said for the Great Green Bay-to-Madison Steam Wagon Race of 1878. But it had a crashing impact on auto racing as the viable home of where it all began.

#### **Reward was the trigger**

Hold on for some sharp left turns here, because this gets tricky.

There is probably no inventor for auto racing, despite what you see when you ask that question via any major internet search engine. But some inventors indirectly played a role.

The sport's genesis can be attributed to Wisconsin's effort to promote machines that used a steam engine instead of a horse and buggy. (The inventor of the steam engine is in dispute. Choose from among an ancient Greek inventor named Hero of Alexandria; Edward Somerset, 2nd Marquess of Worcester, in the 1600s; and Scottish inventor James Watt between 1763 and 1775.)

In the October 1916 *The Wisconsin Engineer*, Wisconsin Secretary of State John S. Donald wrote that in 1875, the state "offered \$10,000 to any resident who would invent and construct a 'steam wagon' to accomplish these purposes."

According to the *Engineer*, one road wagon engine made in Oshkosh and another in Green Bay were entered in a 200-mile contest a few years later. The full names of these wagons' builders are not known.

The Oshkosh buggy reached Madison at a rate of 6 mph, faster than specified. The Green Bay wagon did not complete the trip.

#### Block-save, paste—no!

Fast-faster forward to our often amazing, sometimes inaccurately characterized internet "Age of information."

First, if you type "who invented auto racing" using any major internet search engine, up pops "Monsieur Fossier."

What? Who? Did he have a first name?

Apparently, millions of information seekers never bothered to wonder.

The sometimes helpful, often incorrect Wikipedia reports that the first organized auto racing contest "was on April 28, 1887, by the chief editor of Paris publication *Le Vélocipède*, Monsieur Fossier.

"It ran 2 kilometres (1.2 mi) from Neuilly Bridge to the Bois de Boulogne. It was won by Georges Bouton of the De Dion-Bouton Company in a car he had constructed with Albert, the Comte de Dion, but as he was the only competitor to show up, it is rather difficult to call it a race."

Yet despite this one-man "race" and the absence of a first name by its organizer, dozens if not hundreds of websites have dutifully copied the Wikipedia rendering word for word.

#### **Researching the research**

Credit blogger Steve Bogdan of Las Vegas for not blindly accepting what is widely posted online and correctly researching back to the original material. His careful findings revealed:

"First, there is no Monsieur Fossier. There is, however, according to the French version of the Wikipedia entry for *Le Vélocipède Illustré*, a Paul Faussier who was a sports journalist, a ranked cycle racer, and a member of the Metropolitan Vélocipédique Company. And he did indeed organize what was supposed to be the first horseless carriage race between Neuilly and Versailles on April 28, 1887" per another French source.

The 1895 *Chicago Times-Herald* race, won by Frank Duryea with an average speed of 5 mph, is often cited as the first U.S. auto race. But Bogdan contends that the 1878 Steam Engine Race should stand as "the first documented, self-propelled auto race in the world."

Now the question becomes: Can a steam engine race be considered an auto race? If the requirement is solely any engine-powered race, Bogdan's claim would seem to be correct.

On the other hand, an automobile is defined as "a road vehicle, typically with four wheels, powered by an internal combustion engine (*Editor's note: not a steam engine*) or electric motor and able to carry a small number of people."

Bogdan's summation: "The first documented self-propelled auto race in the world took place in Wisconsin in 1878 (two entries/one finisher). The 1887 event that some claim is the first race was not



#### The 1895 Chicago Times-Herald race, won by Frank Duryea with an average speed of 5 mph, is often cited as the first U.S. auto race.

a race (one entry/one finisher). ... What was thought to be the first American auto race in November 1895 (multiple entries/multiple finishers) was actually the second American race—17 years after the Wisconsin race of July 1878."

And just like the cars on the track, the information goes 'round and 'round.  $\mathbf{O}$ 

#### **INVENTOR ARCHIVES:** AUGUST

**August 25, 1814:** British troops set fire to the buildings of Washington, D.C., but William Thornton, leader of the U.S. Patent Office, convinced them to spare the patents building.

The United States Patent and Trademark Office says that according to Thornton, he told the British that anyone who burned the patent models would be condemned by future generations. Blodgett's Hotel, home to the patent office and the General Post Office, was spared.

Thornton developed a patent reissue practice that was upheld by the courts and still exists. His opinion that patents should be kept secret until they expired was eventually overruled.

### Making **AIDA** Work

### THEORY AND STEPS THAT DRIVE ATTENTION, INTEREST, DESIRE AND ACTION IN A SELL-SHEET **by jack lander**

**'M GOING** to delve into some theory here, but I'll try to show the practical side along with it.

Why theory? Because when I review the sell-sheets of inventors I have coached on their preparation, I often find I've failed to convince them there are indispensable principles for how to convince a prospect to review your invention (product) in depth. And those principles are applied in four steps—the purpose and sequence of which are not to be violated.

So, whether your presentation is an elevator speech, a letter, a video or a sell-sheet, you are confronting a prospect whose interest is on something other than you and what you want.

In the worst case, you are intruding. But even when the interruption is polite, there is inertia in that interest. (A body in motion tends to remain in motion.)

If I'm deeply interested in a news item on TV, and my wife, Mary, asks me a question, most of the time I'll ask her to repeat it. My mind doesn't respond instantly. I hear her voice, but I don't get the full meaning she intended.

Another example: Suppose you are walking through an unfamiliar wooded area, and you hear a rustling that is obscured by trees and undergrowth.

You instantly stop. The sound has your attention. Your mood changes from serene to "fight or flight." You instantly wonder if the sound in the trees and underbrush presents a danger.

Your adrenaline is revved up, and you are on full alert to protect yourself or run.

The term "fight or flight" is not just a clever alliteration; it's a neurologist's term for an automatic, life-saving response. This response goes back millions of years, to a time when we were huntergatherers and hungry tigers might be waiting in the tall grass. Hopefully, your sell-sheet will not produce such an alarming response.

#### The four steps

**Step 1: Attract attention.** Get your prospect to switch from whatever his or her mind was occupied with to your item.

**Step 2: Arouse and switch interest.** Typically, your prospect is interested in something that hopefully will satisfy his or her needs and wants.

In most situations, you will be appealing to a person in business who has a larger need or want to make money. That immediate interest is in the means by which he or she earns the money.

You have the person's attention, and now you must be convincing that what you are presenting will also make money. So, you must convince the person to switch his or her interest from what was previously on his or her mind.

**Step 3: Create desire.** Your prospect may have had a superficial attraction to your product because of how you illustrated it and the written promise you have made in the tagline, but now you must convince the person that your product will satisfy potential customer needs or wants in order to make the sale.

Remember, you are pitching your sell-sheet to your product's eventual buyer. If you can convince the sell-sheet reader that millions of people will buy your product, the reader will automatically understand that such sales contribute to his or her own benefit. Thus, you must stress the major customer benefits.

**Step 4: Call to action.** In a magazine ad or a TV commercial, you ask your potential customer to "order now." You might offer a bonus of a second product free if the order is placed immediately, etc. Or you might put a time limit on your "special offer."

But your sell-sheet is usually used to convince the reader to license your patent. Therefore, you avoid



### Whether your presentation is an elevator speech, a letter, a video or a sell-sheet, you are confronting a prospect whose interest is on something other than you and what you want.

any of the retail tricks to get your potential licensee to "buy now." This step is the "soft sell." You merely state your contact information.

#### **The mechanics**

We've covered the psychology of creating a customer using a single sheet of paper. Now, let's look at the practical application of the theories.

Step one, "Attract attention," is achieved by two devices: a photo and a tagline, also known as a headline.

The photo belongs in the upper left corner for all of us who read left to right. The photo shows the product in action, preferably with the hands, arms, or even entire body of a person using the product.

The tagline belongs above it. It's the bold statement at the top of the sell-sheet, the first words your potential customer will read. And it is important to keep it brief—10 or 12 words, if possible, in order to achieve fast, easy reading and space for large letters.

The tagline should tell what the product is—especially if it is not instantly clear from the photo—and brag about the most important benefit. For example:

"The new FlexFlo garden hose won't kink ... because it can't." The photo mainly serves to attract attention and the tagline to arouse interest, although it is hard to separate the two. They work together to achieve Steps 1 and 2.

The third step is to create the desire to own a FlexFlo. Again, keep your sentences short and to the point for these benefits.

Readers are in a hurry and love short, bulleted statements. Four or five are great, but fewer strong statements are better than those that include trivial benefits. For example:

- The "accordion bellows" design enables sharp bends without cracking.
- The tough protective mesh coating prevents wear and tear.

The bulleted statements are positioned to the right of the photo, each using about the same amount of space.

The desire to own is further driven home by endorsements from users. If you can produce a small run of prototypes, and get people to try them and write you a few words about their experience, this will add credibility to your sell-sheet.

Most people allow you to use their full name and city/state. Avoid having all endorsements from your own state if possible. If you can't produce a trial run for people to actually try, ask your endorsers to state that they are eager to purchase a FlexFlo hose as soon as it is available.

#### LANDER ZONE



If your product provides benefits that you feel are important because they show the superiority of your product over your competitors'—but they require more than short sentences—you can slip in a paragraph after the bulleted points. And if you are sure that your reader will want to know technical details, setup instructions, guarantees, etc., you can always use the back of your sell-sheet for such information.

In other words, information that does not reveal major benefits but may be helpful to the reader should not dilute the benefits on your front page.

As for the last step, the "Call to action": In a TV or magazine advertisement designed to get sales, you often see incentives such as "Free shipping if you order before August 15." Your sell-sheet will be given to potential licensees, so you should not use such obvious bribes to try to get a sale (licensing agreement).

For your purpose in landing a licensee, this step's objective is to provide your contact information. This is placed at the bottom of the sheet.

#### It's human nature

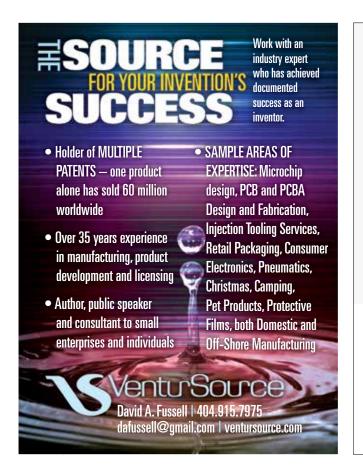
I didn't invent AIDA (Attention, Interest, Desire, Action). It was developed years ago by successful advertising executives as a timeless format for most successful ads and commercials.

Its basis is human nature—or psychology, if you prefer. And a sell-sheet is an imposing *advertisement* designed to appeal to sophisticated potential licensees.

If you would like a sample of a good sell-sheet to follow as you prepare yours, email me: JackL359@ aol.com. €

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.





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INVENTING 101

### Before You Invest,

### TALE 5 THIS LIST OF STRATEGIES CAN HELP INVENTORS AVOID RUNNING OUT OF MONEY BY DON DEBELAK

**B ECAUSE DEVELOPING** and promoting an idea into a market-ready product is expensive, inventors must be cautious from the start or they may run out of money before launching their products. These strategies can preserve inventors' capital.

#### Research

These simple steps can significantly improve your odds of success by allowing you to introduce a better product while limiting expenses:

- Start with a provisional patent application until you have thoroughly researched your idea.
- Do research with targeted customers to ensure they will buy your product. You can use Facebook group pages, in-person interviews at small trade shows, or a focus group study.
- Study the design of past products to learn which mechanical designs worked and which ones created problems.
- Study market pricing trends to see whether companies are adding features or cutting costs.

#### **Look for advice**

Every market has idiosyncrasies that an inventor new to the market won't know. Work hard to meet people in the market who "know the ropes" and avoid making major mistakes.

- Get trade magazines to see where regional meetings for your industry are held.
- Use score.org and sbdc.org to locate resources in your state.
- Contact trade magazine writers in your industry.
- Send away for literature on new products to find the names of local sales representatives with whom you can meet.

#### **Concentrate efforts**

Most inventions have many possible markets, and often inventors have many contacts from which to choose. But inventors can't chase every market and must choose a limited number of people to pursue.

Be especially careful of markets or contacts who have tried many possible solutions to their issues without success. Often, they have problems that can't be solved by anyone.

- Consider which potential users want your product.
- Determine which markets will be easiest to enter.
- Balance the resources you have versus the resources the market requires.
- Go with markets where you have insider contacts.

#### **Follow through**

Your contacts will lose interest in your idea and be wary of your capabilities if you do not follow up on schedule. Don't take on more contacts than you can follow up on, or you will lose their support.

- Connect with important contacts monthly.
- Keep a calendar for future events and actions you need to take.
- Prepare a newsletter (if only for yourself) once a month to show your progress.
- Have an action plan for problem areas you have identified. Include dates for the action plan on your calendar.

#### Watch pricing

Inventors often fail at setting their price at a point where they can make money. There are many issues regarding pricing—including production costs, the price the market will bear, and distribution channel discounts.

- Set your long-term cost goal at 25 percent of your estimated retail sales price.
- Always asks suppliers for lower-cost options for your orders.
- Develop a clear understanding on how important features are to targeted customers.
- Avoid overbuying tooling to cut costs until you have met market demand. ♥

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

DARKO 1981/SHUTTERSTOCK



### Maxing Out Your Online Store

THE BEST WAYS TO SET UP YOUR WEBSITE FOR DRIVING SALES ON SOCIAL MEDIA **by elizabeth breedlove** 

**F YOU'RE TRYING** to sell your invention directly to consumers using social media, you'll need more than a smart social media strategy; you need a good online store, too.

It has to be easy for users to find your product(s), select what they'd like to purchase and check out of your store. With a bit of strategic planning, building an online store that converts visitors into customers can be quite easy.

#### **Ecommerce platforms**

For just \$18 per month, you can build a simple ecommerce store using Squarespace.

With Squarespace, designing a beautiful website is easy, and you can set up a fully integrated ecommerce store to sell your product or even gift cards. If you're willing to pay a bit more each month, you'll also have access to merchandising tools, an Instagram integration, abandoned cart recovery tools, advanced shipping features, advanced discount features and ecommerce application programming interfaces that allow you to set up custom integrations.

Shopify is another simple but robust ecommerce platform, starting at \$29 per month.

Shopify is designed specifically for ecommerce sites, as opposed to Squarespace—which is a website builder that also has ecommerce capabilities. Depending on your selected Shopify plan, you'll have access to features including unlimited product hosting, around-the-clock support, access to multiple sales channels, discount code functionality, abandoned cart recovery tools, reporting tools, shipping tools, point of sale options and more.

### Squarespace and Shopify are two simple, robust ecommerce platforms.



If you already have a website but need to add ecommerce functionality, you can use Shopify Lite to accept credit card payments on an existing site for just \$9 per month.

WooCommerce, unlike Squarespace and Shopify, isn't an ecommerce platform. It's an ecommerce plugin for Wordpress sites.

WooCommerce itself is a free, open-source plugin. However, you will need to account for the costs associated with a Wordpress site, including hosting costs, domain registration, Wordpress theme costs, and possibly the cost of a developer to build your site.

Because WooCommerce and Wordpress are both free, open-source softwares, the features and ecommerce possibilities are nearly endless. However, they are also more complicated to use, so you'll need more development experience to set them up compared to Squarespace and Shopify's ease of use.

#### **Ecommerce best practices**

Make your store easy to navigate. Start by putting your store in an obvious location. For example, make the URL something clear, such as yourwebsite.com/ shop. Then, be sure to link to your invention or your store on the home page, as well as in your website's main navigation menu.

Highlight with great photos. You will need highquality, clear shots that show off your product from all sides and angles. If you have the budget, also include "lifestyle" photos that show your product being used. This is where you can focus on use cases and show your customers why they need your invention and how they'll use it.

Include descriptive copy. As you're writing copy, be sure to cover all of your inventions' features and use cases. Mention the product's dimensions, weight, materials and any other pertinent specifications.

Use a secure, encrypted checkout process. The last thing you need for your business is a hard-to-use, unreliable or easily hacked checkout system. Your customers need to be confident that their payment information will be kept secure and there will not be a data breach. Squarespace, Shopify and WooCommerce all offer reliable, easy-to-use, secure checkout systems.

#### **Using social media**

Once you've got a great ecommerce site ready to go, you're ready to tweak your social media strategy and begin using your platforms to sell your inventions. Organic posts have the lowest barrier to entry for inventors trying to market their products. You'll just need to create a post directing people to your store. That said, these posts tend to have lower returns than paid media because you can't target them toward specific users.

If you go this route, make sure you follow general social media best practices with your posts. Use high-quality imagery that captures your followers' attention, and write interesting copy that drives your followers to your shop page where they can purchase your invention or product.

Paid media includes Facebook Ads, where you'll get the biggest bang for your buck. However, whichever platform you choose to advertise on, make sure you stick to those guidelines and recommendations. If you aren't sure what these are, you should be able to find information specific to each platform through a quick search on your favorite search engine.

If you aren't familiar or comfortable with running ads on social media, consider hiring an expert to do them for you. Your advertising budget will likely go much further and get you better results if a paid media expert handles it for you.

#### **Platform-specific features**

Some social media platforms offer specific features designed to make it easy to sell your products in an online store.

Consider Instagram. Instagram Shopping allows you to turn your organic posts and Stories into an easy-to-navigate online shop. You'll add a product tag to your posts, and when users tap on the tag they will be taken to a page—where they'll see an image of the product, a description of the product, the product's price and a link to your website, where they can purchase the product.

Ultimately, with a bit of strategy and a welldesigned ecommerce site, social media can be a great place to focus on selling your invention online.  $\heartsuit$ 

**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.



### **Psst.** Wanna Know Some Secrets?

TO TURN AN INVENTION INTO A STRONG SELLER, YOU MUST KNOW YOUR CUSTOMER **by alyson dutch** 

**•**, you had a brainstorm that is going to be (or already is) a new product or service.

You know that others like you will be so relieved once they see how you have solved that pesky problem. You developed the prototype, sourced a manufacturer and borrowed money to build a website. You're proud of yourself and feeling like a new future lies ahead.

Cheers!

Suddenly, your email box is inundated by marketers selling infomercials for \$60,000. The Kathy Ireland producers want to do a "story" on you for TV, and that's just \$1,200. You're tempted to spend \$15,000 on a full-page ad in a national magazine that usually goes for \$150,000. *Forbes* wants you to be part of its professional councils so you can have a byline on its dotcom; that's just another \$2,500.

Do you know how cost effective one choice would be over the other?

#### **Reaching the right people**

Secret No. 1: The development of any product or service without knowing who wants it and where you can find these people is a terrible waste of money.

After 30 years of launching new products, I have seen so many excited entrepreneurs who have great ideas that solve real problems. But the truly rare bird entrepreneur—the one with the highest potential for success—is *not* the one with the coolest mousetrap but the one who has figured out how to get his or her product to the people who need it.

Secret No. 2: Did you know that 85 percent of American businesses are developed by "craftsmen"? These are mechanics who start automotive repair companies, or cyber security specialists who create device protection products.

Craftspeople spend 100 percent of their work time doing the part of the business they know, but they ignore building operational and marketing systems. This is such a marked problem that I wrote a book that splits up that process into three parts, which I call The POM Principle. You've read about this in this space many times. P stands for product, O for operations and M for marketing. These are the three pillars needed to start and sustain any business in any industry, and at any time in history.

Secret No. 3: If you are spending all your time obsessing over your product, packaging (whether it be physical or virtual) and agonizing over a logo, this alone will not build a business.

The development of a product is probably about one-quarter (and maybe less) of what needs to be done to make it into something that will pay your mortgage and put your kids through school.

Now that I have you in a dither, calm down and keep reading.

#### Ponder these questions

The following exercise will put you in the driver's seat with a specific road map toward the Emerald City of success.

Read through each of these questions below. Then, go back to the first question, read it again, and start writing down the answer as it comes to you.

Do not edit your thoughts.

Let the ideas flicker up in your mind, flow to your shoulder, stream down your arm and right onto the piece of paper—without any judgment or changes. The key is to get them out of your brain first and edit later.

Here they are:

Who are my customers? Hint: If you say "everyone," I can guarantee that you will fail in business. You must get to the nitty gritty on these people. Get very specific and make guesses about who they are, what they do, what drives, delights or repulses them. Get clear on their habits, urges and attitudes.

Why is my product so perfect for them? What problem does it solve, and why do they care?

Where do my customers hang out? What are their interests?

What kinds of communities do they live in? What do they do for fun/work? Who are their friends? Of which professional associations are they members?

What media do they consume? Are they online most of the time, or do they read publications, watch

Get very specific about potential customers and make guesses about who they are, what they do, what drives, delights or repulses them. Get clear on their habits, urges and attitudes.

TV and listen to radio? Where on the internet do my customers congregate?

What are my customers' "pains"? Next to the "pains," list the attributes about your product that quells your customers' pain.

#### **Actionable steps**

Knowing about your customers, even if you are making educated guesses, is pivotal to giving them what they want and need.

If you have trouble figuring out where your customers are, make a list of where they are not.

For example, I'd say that fashion designers are probably not skiing in the winter or cycling mountains in the summer. They probably think about shopping as a pastime, as opposed to a chore. They are probably not at football games or getting dirty in the garden on the weekend.

Why is this important? Because this points you toward associations where you might make presentations, the magazines in which you request reports about your product, and the organizations whose websites you sponsor.

Once you have a good list, pare them down. Your customers come in three flavors: primary, secondary and tertiary.

Now make a list of the professional associations where your customers might be members. Get their websites. Call them and see if they have any in-house newsletters. Ask if they sell their mailing lists. See if they do special events where you can come speak to their members.

List the magazines or e-zines that your customers love. Read them. Find the sections where they might report about your product. Write down the names of the journalists who wrote those articles. Pitch them to report.

Now here's how this all ties together: Write a sentence about your product that includes the customer's pain and how your product solves it. Federal Express's unique selling proposition was: "When it absolutely, positively has to be there overnight."

This proposition becomes the basis of all your operations and marketing.

Start here and move one foot in front of the other. Eventually, you will have action items under each of the POM Principle categories.

Remember: Success lies with educated effort, not necessarily born talent. One of my favorite quotes is, "Education will not. Privilege will not. Experience may not. Tenacity will." ♥

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.



### Switching Gears

MAN'S INVENTION EVOLVES FROM TOY CAR TO A FUN AID FOR SPECIAL-NEEDS KIDS BY EDITH G. TOLCHIN

**ENJOY LEARNING** about new inventions when the inventors' PR firms contact me to assess my interest. I prefer covering baby and children's products because I understand them, having manufactured them for about 23 years.

Here's a kiddie invention that, while it's not typically in the categories I work with (textile and sewn kids' inventions), it has a twist to it. It started out geared toward one market and ended up with a big following in another. Mike Jones is the inventor of the Pumper Car.

### **Edith G. Tolchin (EGT):** Mike, please tell us about yourself, your background and how your invention came about.

**Mike Jones: (MJ):** I grew up in Utah and moved to Oregon after college. I started a concrete business, and while I was working I would always have these ideas. I think it was from growing up on the farm and fixing farm equipment.

When my son was about 7, my wife, Sig, and I bought him a scooter. I looked at the price and it was very expensive. I thought, "That's a really lame toy that you just stand on and push it down the road."

I thought that if you could stand on it and pump the handlebars back and forth and maybe have three gears on it, that'd be a fun toy. I just stood there and envisioned how I would do it. I went home

and built one, and that started the whole process. It went from two wheels to three wheels to the four wheels we have now.

#### **EGT:** Please describe the Pumper Car in detail, and how it evolved to a toy car used for many different therapies to help differently abled children.

**MJ:** The Pumper Car is a four-wheeled unit that you sit in like any little pedal car—but when you sit in the seat of this, you put your feet on the pedals on the bottom and your hands on the handlebars. Then you pull the handlebars back and push your feet.

It's all in one motion. It's like a rowing machine. We put it out in the toy market, but it was too expensive as a toy. It didn't take off very well as a toy.

We were just thinking of closing down the toy and shelving the mold when we did a survey of our warranty cards. Seventy percent of the warranty cards at the time were children's hospitals, schools and physical therapy clinics that had purchased the product.

We delved into that and found that most of the major hospitals were using our product in therapy and had some pretty incredible stories on how to help children. We wanted Medicare and Medicaid coverage so these children with special needs could acquire one. Normally, a family with special needs is financially strapped.

During that process we knew that we needed an Institutional Review Board study. The University of Hawaii started one on autism but ran out of funding. We couldn't send them money, or it would have looked like we were buying an IRB study.

The University of Michigan had used them in day care centers in Michigan, and it wanted to do an IRB study. The University of Hawaii determined that the

"We found that most of the major hospitals were using our product in therapy and had some pretty incredible stories on how to help children." –MIKE JONES

Mike Jones (shown with his wife, Sig, and grandchildren Hallie and Abbie) came up with the idea for the Pumper Car after he and Sig were disappointed by the "lame" usefulness of typical scooters.



The Pumper Car's rowing machine motion has proven physical and psychological benefits for special-needs children and now seniors are interested, too.

product met approximately 29 special needs from the letters we sent, and its focus was on children with autism. The University of Michigan focused on children with Down syndrome, and its finding was that this motivates children approximately 200 percent over anything it used to give a full-body increase in intensity and duration of exercise.

### **EGT:** Is this something adults could use for enjoyment? As senior, I've seen low adult tricycles in adult communities.

**MJ:** Yes, we have since almost Day 1. Every adult in the senior center said "I would like one of these for me," so we started down the path and we've made probably 13 different prototypes of an adult model. We settled on two that we would like to bring to market in the near future.

#### **EGT:** How many prototypes did you make before you decided on the final one?

**MJ:** That's a very good question. Anyone who's done inventing of any type realizes that many, many prototypes are made. I would say a minimum of 15 different prototypes, and we're still making prototypes of different versions. I haven't stopped making prototypes since I thought of this idea.

**EGT:** Where are you manufacturing? Have you had any problems with the required production safety testing in accordance with the Consumer Product Safety Improvement Act of 2008? What certifications did you need for the Pumper Car? **MJ:** We started manufacturing this in St. Louis, but since it was a petroleum-based product and gaso-line costs went way up, we moved the manufacturing to China.

We have passed all current safety standards. We always like to have a product meet or exceed testing standards for products. For our last testing, we had to test the whole scope of what products need for pediatrics and children. We met or exceeded all.

### **EGT:** I watched the video on your website and thought perhaps you might add a seat belt for added safety because some children may need this. Your thoughts?

**MJ:** We feel it is not necessary currently. The only thing we have designed was a seat belt for truncal support for kids with special needs. We have had over 20,000 units in the marketplace with no reported injuries. I think that's a safety testing itself.

### **EGT:** Have you done any crowdfunding? Are you seeking a licensing agreement, or do you wish to continue the business on your own?

**MJ:** We have over the years. Anyone who has gone through product development of this extent realizes it takes quite a bit of cash to put these models out. We have about \$2 million per product in investment, just getting them to market.

#### INVENTOR **SPOTLIGHT**



Phoenix started using the Pumper Car to help her with mobility challenges, but her parents had no idea it would light up her face the way it has. Are we thinking license agreement? We're probably going to try and seek a hybrid of that. Until then, we are conducting the business on our own.

EGT: Please share your patent process. Any complications? MJ: Anybody who is building something like this and patenting something realizes there are complications, and the first one was the hardest because I had no idea what

I was doing. It was very, very expensive and just like anything in life, you learn as you go. You try not make the same mistake twice.

Regarding complications, we submitted 21 claims for a utility patent on the Pumper Car. The patent office responded back there was absolutely no way they were going to accept any of them. We strongly encourage inventors to get a patent attorney, as they helped us get 19 of the original utility claims accepted.

#### **EGT:** How is the product sold? Retail, website or Amazon? Pricing, different models?

**MJ:** We have two different models now, and we are about to introduce a third model—The Original Pumper Car (ages 4-12).

Pricing is around \$400. We invented the Junior model (ages 2-5) because we were asked repeatedly by consumers for a smaller model so that children with disabilities or special needs could get involved earlier. It retails for \$349. ♥

Details: pumpercar.com

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





#### **1** GET IT MADE

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## Healthy

#### DAVID JANOW USED SCIENCE AND SAVVY TO DOMINATE THE PLANT PROTEIN MOVEMENT **by alyson dutch**

HERE'S A LOT TO BE SAID FOR REBELLION. David Janow became the kingpin of plant protein as a result of being ousted from the nest of his parents' business and a family squabble. A combination of this, an acute curiosity and impossible-to-extinguish resourcefulness contributed to Janow's rise to the top of the food industry: His Los Angeles-based Axiom Foods has become the largest maker of plant proteins in the United States.

Today, plant protein—specifically, organic brown rice protein—is exploding as a food ingredient at the forefront of a global food revolution. Axiom Foods stands at the precipice of this development, which is quickly overshadowing the use of meat for human protein needs. Plant proteins are being used in thousands of products, from cereals to snacks to baby foods to beverages—even skincare. A seismic shift is under way as consumers who eat meat are beginning to choose plant-based food products. According to the Good Food Institute, plant-based meat products were worth \$801 million last year.

#### A wild food irony

Unlike many famed entrepreneurs, Janow has an extensive education in biology, law, and has an MBA. His education and experience combined to rethink a food ingredient originally used for animal feed.

While working with his family on Wall Street, trading commodities on plant protein for the pet feed

#### "I know that none of the other fashionable plants could ever touch the plentitude of protein (in rice) needed to supply the biggest food makers in the world." –DAVID JANOW

industry, Janow noted an irony. He wondered: Why were companies fractioning out the highly nutritious elements of the whole grain, yet harvesting the emptycalorie white part to polish for human consumption?

That row with his family served as the ignition switch to further explore this question. By 2005, Janow had hightailed it from his native New York to Los Angeles, and Axiom Foods was born.

Axiom came to market with an organic brown rice protein ingredient and a yellow pea protein, just as the plant lifestyle diet trend was dawning. Around this time, food allergies in the United States had spiked to all-time highs. He is also the inventor of a natural fractioning process that uses enzymes to separate the protein, and a patented organic rice protein called Oryzatein<sup>®</sup>.

According to the Food Allergy Research and Education institute, approximately 32 million people in the United States have food allergies. In a research paper published in the Journal of American Medical Association on the National Institutes of Health's website in 2019, that amounted to 10.9 percent of all adults in America. Many of those allergies are considered "potentially life threatening."

Second on the list of allergenic foods is milk, the base of whey protein. Wheat is another allergen, the inherent gluten of which has become a profoundly serious issue in the past couple decades.

#### **Customers flock**

As with many inventors, success was not instantaneous. Janow has said that self-financing an industry that was ahead of its time, and his attempts to educate the public, almost had him bankrupted by 2009.

But orders from protein power brands began coming in. At first, Janow's proteins flooded into the protein powder supplement category, becoming a staple ingredient in lieu of the old gold standard of animal-based whey protein. The market quickly adopted rice and pea.

Of all the global crops, the ones that grow the largest volumes are first wheat, then corn and rice. Among these three, Janow leveraged the fact that so much rice is grown in the world and cornered the market with it as the most commercially viable plant protein—the plant with the highest percentage from which protein could be extracted. This means fewer waste streams.

Other makers were bringing novel plant proteins to market made from cranberry, pumpkin, hemp, chickpea and many other types of plants. "I know that none of the other fashionable plants could ever touch the plentitude of protein (in rice) needed to supply the biggest food makers in the world," he says.

Today, many protein powders on retail shelves jostle to showcase anything but animal ingredients, with more than 85 percent of these companies buying Axiom's ingredients.

Although consumers have emphatically embraced plant proteins as a way to eliminate another animal-based product from their diets, some hard-core athletes, including body builders, had a difficult time accepting that animal protein was not needed to power their bodies.

Undaunted, Janow hatched an idea to help pro athletes over that hump by creating a "Plant vs. Animal Protein Challenge" with 11 Mixed Martial Arts fighters, most from the Ultimate Fighting Championship.

A series of videos documenting some of the most celebrated athletes caught fire. Orders started rolling in from NBA and NFL teams and players.

About a decade into this, the biggest packaged food companies came forward searching for non-allergenic food ingredients.

Janow's background in biology has played a big part of his success. By 2013, he had attracted food scientists to do clinical trials on rice protein to compare it to whey. They showed that rice protein compared favorably over and over again.

"My life was then filled with food scientists who really knew what to do with this stuff," Janow says. Specifically, they needed to replace gluten-laden wheat and corn, which had fallen from favor as the public vilified any genetically modified food. Axiom Foods has become the largest maker of plant proteins in the United States. Plant proteins are used in thousands of products, from cereals to snacks to baby foods to beverages—even skincare.

Growing

#### **Obvious benefits**

Janow could see the potential for plant protein from several aspects. First was that the consumption of protein in a food form is something required by the human body to survive. "Obviously, this was a compelling factor in my entrepreneurial march forward," he says.

He considered other novel proteins such as sacha inchi, an exotic from South America, but

> remained focused on the crops that would produce enough to feed the world: rice and peas.

The naturals industry has come a long way since the fruit and nuts health stores of the 1970s and early '80s, the latter when Whole Foods was founded (1980). There are now more than 500 Whole Foods stores in the United States.

When consumers increasingly choose natural foods over a bag of chips at mobile marts, "it's obvious that a tipping point is in motion." – DAVID JANOW



#### **DAVID JANOW**

**Born:** Riverdale, N.Y.

**Title:** Founder and CEO, Axiom Foods

Home: Los Angeles

**Education:** JD/MBA, Fordham and Pace University; biology major, University of Miami Awards: INC 500, NutraAwards, Eco Excellence Awards, Ernst & Young Entrepreneur of the Year semifinalist

Interests: Golf

Favorite book:

"Lord of the Rings"

Today, growth of the natural foods segment outpaces the overall food and beverage market growth, at 5 percent to 1.7 percent. It's hard to imagine that a convenience store would be a place to find natural foods, but consumers are increasingly choosing these kinds of products over a bag of chips at 7-Elevens and mobile marts.

"When trends like this start to happen, it's obvious that a tipping point is in motion," he says.

Janow's products are in hundreds of those products sold on every retail shelf.

Another factor for his devotion to the industry is a global macro fact. Global warming estimates are pushing populations to smaller parts of the northern hemisphere, and urbanization is on the rise. This means there is less space to raise cows for protein.

Speaking of cows, the environmental impact of animal farming is on track to use more water than will be available—not to mention their methane-making fluffer-doodling, which raises temperatures.

Even to global-warming skeptics, one cannot ignore the fallout. Two of the largest makers of animal protein, Cargill and Tyson, have begun limiting their animal farming and invested in plant protein products.

#### Keeping market share

A big part of Janow's mission and expanding the brand is educating the public and the media.

Last year, he hosted CEO Summits at the Natural Products Expo in Anaheim. Such showcases were developed to bring the industry together and open the kimono so the press could understand the impact of the naturals channel. This also helped continue to develop the reputation he had created with his products.

But Janow is far from the only one in this business; he says "Competition is getting stiff." This furthers the importance of his company's reputation as a premier producer of organic and extraordinarily high-quality ingredients.

"One of the biggest problems in our industry now is that it's become so mainstream that bad players are making organic claims," he says.

"Conventionally grown products are so much cheaper. Since this (naturals) is such a huge commodity now, there are all kinds in this business—some that are willing to look the other way when something is labeled as organic, but obviously the price says that can't possibly be true."

In 2018, the naturals industry reached \$158 billion in sales.

"So it's like any other industry that becomes mature. It's harder to maintain integrity, but we are committed to this no matter what happens."  $\heartsuit$ 

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MAKER'S TOY CONSTRUCTION LEARNING SYSTEM IS A WORLDWIDE SUCCESS BY JEREMY LOSAW

PICKING UP

**HIS DISCOVERY WAS AN ACCIDENT**—a happy accident. Now Erik Thorstensson is pinning some of his professional future on a STEAM toy learning system.

A product designer and serial maker from Sweden, Thorstensson specializes in building things using waste materials from manufacturing processes. The founder of the School of Ridiculous Inventions on YouTube began his self-called "invention phase" in 2012-14, starting with a trip to India. His goal was to show people how to use his novel techniques and modified die cutter to make useful things—in this case, clothespins by converting them from trash. But he found that clothespins were just as much of a commodity in India as they are in Sweden; no one cared about making them from trash. Then Thorstennson noticed what the kids were doing with the 10,000 pre-made colorful clothespins he brought with him.

"They took the clothespins that we gave them and started using them as a construction toy," he says. "That (construction toys) is something that they don't have. I thought, 'We should make a better construction toy than this."

The eventual result was Strawbees, a STEAM building system that uses drinking straws as the primary medium.

#### **Connected creativity**

The heart of the system is an innovative straw connector that has a central hub with one to five tapered legs. The geometry of the connectors is specially designed so that the straws stretch over the legs to lock the straws into place and allow the creation of 3D shapes. Watching kids at play during a trip to India gave Erik Thorstensson the inspiration for Strawbees, a STEAM building system anchored by drinking straws. The beginner kit includes 100 connectors and 100 straws, with larger kits available. Some of the kits even have special straw connectors that resemble feet and eyes to allow the creation of different creatures.

There is also an electronics kit that uses a circuit board dubbed the Quirkbot, which has Strawbee legs to allow it to be built into a straw structure. It can be used to read sensors or drive LEDs and servos. Classroom kits are available.

The rise of STEM and STEAM education in the past decade (the latter adding arts to the original concept of science, technology, engineering and mathematics) has changed the toy landscape. The demand for parents to provide enriching toys has given rise to new brands and product lines, and existing brands have added STEM/STEAM themes to their current offerings.

However, these toys can be expensive, inaccessible to the masses, and not allow for maximum creativity and learning possibilities. Thorstensson's learning system allows children to learn about linkages, motion and electronics in a fun way, and gives them infinite building possibilities.

#### **Ignoring his skeptics**

Strawbees did not happen overnight. After his original vision for the clothespin concept failed, Thorstennson returned to Sweden to continue work on other ideas.

The local science center approached him for help in building an icosahedron (20-sided 3D shape) from straws. He designed a connector that he could cut from plastic with his die cutter—and in doing so unknowingly created the first prototype of the Strawbees connectors about a year after the India trip.

Thorstennson thought the idea was great, but his business partners were not convinced the prototypes were anything more than whimsy. He proved them wrong.

He visited the United States for meetings at the MIT Media Lab before taking his die cutter and straws to Maker Faire (a festival for open-source makers) in New York City. He did not register for a booth but found an unused table, set up his cutter, and started making straw structures.

The response was overwhelming. "I got tons of kids everywhere I set up. So then someone from

Opposite page: Kid judges whoop it up at Bett, a major education technology show in London.

Below: Robotic Inventions for the Micro:bit, adding to the capabilities of Strawbees, are used in the classroom. Erik Thorstensson's learning system allows children to learn about linkages, motion and electronics in a fun way, and gives them infinite building possibilities.



Maker Faire realized that I'm not really an exhibitor but they thought it was so good, because of the activities that get people to make."

Kids' identification with the system was so strong at the New York event that a 9-year-old attendee came up with a name for it. "On a Sunday, a kid came up to me and said, 'You should call it Strawbees because they connect straws and can be anything. And it sounds like strawberries, and everyone loves that.""

#### **Soaring momentum**

The amazing reception at Maker Faire led Thorstennson to officially launch a crowdfunding campaign on Kickstarter in 2013. He did not have any budget to run the campaign, so digital assets were made with cell phone cameras. He built the page and did the media himself.

The result was a campaign with 1,743 backers pledging \$91,660. Strawbees was then cofounded by Thorstennson and Erik Bergelin.

After the initial success, Thorstennson wanted to expand Strawbees to have electronics capability for building quick electromechanical systems. He collaborated with other makers in Gothenburg, Sweden, to create a microcontroller in the shape of a five-sided Strawbee. They dubbed the new product Quirkbot, which launched on Kickstarter in 2015 to the tune of \$72,190 and 670 backers.





#### **STEM AND STEAM**

The acronym **STEM** (science, technology, engineering and mathematics) is widely credited to Dr. Judith A. Ramaley, a former director of the National Science Foundation's education and human resources division.

She wrote in 2001 that it is "impossible to make wise personal decisions, exercise good citizenship, or compete in an increasingly global economy without knowledge of science and the ability to apply (it) thoughtfully and appropriately."

The NSF says specific stem disciplines are engineering, math, biology, psychology, economics, agricultural sciences, and other behavioral sciences. STEM-focused curricula are used in the United States, Australia, China, France, Taiwan and the United Kingdom, among other countries.

Why does this matter to inventors?

There is obvious evidence that STEM (and STEAM) curriculum further innovation via an added emphasis on new ideas, flexibility and critical thinking.

The Pew Research Center says that women may be underrepresented in some STEM careers but are excelling in others—"matching or exceeding their share in the overall U.S. workforce."

Females make up three-quarters of health care practitioners and technicians. And the U.S. Department of Commerce's Economics & Statistics Administration reports that women who work in STEM make 35 percent more money than women in non-STEM occupations.

**STEAM** is an updated acronym that takes the disciplines of STEM and adds arts (science, technology, engineering, arts and mathematics).

Allegedly coined by the Rhode Island School of Design, STEAM simply provides a broader range of interests than STEM. Despite some academic references to "the STEM/STEAM debate," there is no irrefutable proof that either program is superior. And it certainly does not mean that STEM teaching methods are outdated.

A National Endowment for the Arts study that followed students from their sophomore year of high school to their mid-20s found that a knowledge base and appreciation for the arts stemming from a STEAM education approach translated into a more accurate pathway to college.

Those students were more likely to apply to more colleges than nonarts students, and 21 percent more likely to attend a postsecondary institution than non-arts students.

However, the arts students were just as likely to pursue STEM majors as non-arts students and just as likely to receive scholarships as non-arts students.

Renowned innovators holding degrees in STEAM education areas include YouTube Chief Executive Susan Wojcicki, who majored in history and literature; Logitech Chief Executive Bracken Darrell (English) and Jack Ma, the leader of Alibaba in China (bachelor's degree in English).

STEAM is the most popular variation of STEM. Among others is STEMM, which adds music instead of arts.



Sample projects show the creative possibilities of the Coding and Robotics Starter Kit, and the Maker Kit. The patent strategy for such a simple product has been tricky for the 2014 Maker of the Year. Although Thorstennson has patents on the Strawbee shape, it is very difficult to defend a patent on a product that is intentionally very easy to make.

A few counterfeit Strawbees systems have come to market but have failed fairly quickly. Thorstennson says having a strong and trusted brand, as well as good content and support for the product, have allowed the company to stay successful despite having intellectual property that is easy to copy.

Strawbees has become a worldwide success. It won the 2018 Nordic EdTech Award, recognizing the best Nordic educational technology innovation. It has been endorsed by the United Nations and has allowed Thorstennson to bring STEM/STEAM education to developing countries in an inexpensive and meaningful way. Immense media coverage has included his appearance on "Today," giving him a speaking platform as an advocate for "invention literacy."

The Strawbees team continues to innovate on the product; it has collaborated with STEM microcontroller platform Microbit for a planned summer launch of Microbit kits. Strawbees is also working on sustainable materials such as wood-based polymers and other ecofriendly materials for future generations of the product. €

Details: Strawbees.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/.



#### **STEM/STEAM AND COVID-19**

Irony of ironies in our new COVID-19 world: Although STEM/ STEAM has helped the United States enjoy its status as a world leader in science and technology—and arguably *the* world leader in science and technology—another country is quickly gaining ground.

China.

A recent report from the National Science Board shows that China has increased its investments in research and development by an average of 18 percent since 2000, compared to 4 percent by America.

From the president of the United States to health experts to the scientific community to educators and more, the emphasis on innovation has never been greater as the world seeks a vaccine for the coronavirus. Proponents and educators in STEM/STEAM disciplines contend that the focus on this education should grow with the emergence of the coronavirus.

Calvin Mackie, president and founder of STEM NOLA in New Orleans, recently wrote in *Forbes* about the urgency for STEM access and education. He said lack of access to STEM fields can

have direct impacts on access to technology and connectivity, as well as access to health care and preventative medicine.

- He wrote that in pre-COVID-19 America:
- More than half of U.S. high schools did not offer calculus.
- Four in 10 did not offer physics.
- More than 1 in 4 did not offer chemistry.
- More than 1 in 5 did not offer Algebra II, considered a gateway class for STEM success in college.
- Only 1 in 4 high school seniors in the United States attend schools that offer some type of computer science course.

As the virus crimps world economies, these numbers could grow in negative ways.

Mackie concluded that "STEM skills are not only necessary for the jobs and careers vital to solving the coronavirus crisis and treating its victims, but they're also critical for most jobs of tomorrow."

## YOUR COMPANY,

SAFEGUARDING YOUR INTELLECTUAL PROPERTY VIA EMPLOYEE HANDBOOKS AND ENFORCING POLICES

Your company's intellectual property (IP) is a valuable asset in need of strong protection. In the first of a two-part series, we'll explain how to protect your company's IP with employee policies. The second part will cover legal agreements.

All companies have intellectual property. When most people think of IP, they think of copyrights, patents, trademarks and inventions. But customer lists, marketing strategies, pricing, financial statements, and supplier and vendor lists are also IP. Essentially, every company—large or small—has valuable IP at stake.

**Policies to include in your employee handbook:** Employee handbooks are an important training tool. Your handbook should be a resource for both management and employees.

Employee handbooks can be your first line of defense against IP theft. That's because if you end up in a lawsuit over IP misuse, you'll need to prove that you informed your employees of what you consider to be IP and how it should have been handled.

Here are a few IP protection policies every employer should consider, at a minimum:

• **Physical document policies.** Ensure employees know that documents should not leave the workplace without explicit permission (and that such documents are always company property). Also incorporate document purging policies, requiring specific employees to archive documents within a certain timeframe, and remove loose documents from printers, copiers, scanners, and fax machines.

• **Technology and internet policies.** Share your data encryption policies with employees and restrict access to sensitive information. Notify employees that company software, intra-net, programs, applications, email and other technology are property of the company. Also ensure employees are not sending or receiving company information on personal devices or via personal email.

• Third-party policies. Some businesses will have to share IP with third parties such as suppliers or partners, out of necessity. If this is the case for your company, ensure they are

aware of your IP protection policies. Make sure they know they need to protect your IP with the proper controls to prevent unauthorized access, misuse or theft. You'll also want third parties to sign a contract protecting your IP, a topic we'll cover in Part 2 of this series.

Implementing IP protection policies: Putting your policies in writing is only the first step. Proper implementation, training and enforcement is everything.

It's important to educate your employees about the significance of IP, the risks posed by IP breaches, and how to safely use company technology.

In particular, inform employees of the risks associated with using personal cell phones, home computers or personal email to perform company business. More likely than not, they don't have the same IT security on their personal devices that you employ at the workplace.

Fortunately, IT experts can help you set up monitoring systems to track where your IP is being sent (such as if employees are forwarding company documents to personal email).

Just as you should secure your IP physically—restricting access to rooms where IP is housed—you must restrict digital access to IP. Use passwords to access sensitive documents and utilize data encryption. Have an IT professional ensure any applications, cloud services or file-sharing services offer the highest levels of security.

If you would like to ensure your IP is adequately protected with clear employee policies, seek the advice of an IP professional who can help you draft policies that make sense for your company.

This information was provided by the Michelson Institute for Intellectual Property, an initiative of the Michelson 20MM Foundation that addresses critical gaps in intellectual property education to empower the next generation of inventors. Michelson 20MM was founded thanks to the generous support of renowned spinal surgeon Dr. Gary K. Michelson and Alya Michelson. To access more resources, please visit MichelsonlP.com.

Nothing in this article shall be construed as legal advice, or as creating an attorney/client relationship.

THE MICHELSON INSTITUTE FOR INTELLECTUAL PROPERTY

) MICHELSON 20MM

COLLEGE STUDENT WINS #MICHELSONIP UDEMY LEARNER WRITING CONTEST

**GETTING IT** 

First, they learned about intellectual property's indisputable value on innovation. Then, they were asked to put it into words.

Students of the Michelson Institute for Intellectual Property's course, "Intellectual Property: Inventors, Entrepreneurs, Creators," told their stories in a contest that ended in June. This was well timed in the context of innovation challenges during these unprecedented times. Jaseem Bhatti, who wrote the winning entry, discussed how IP is

and will be part of his invention journey. He won a \$500 cash prize and the privilege of having his essay published in *Inventors Digest* and on the Michelson IP blog.

Jaseem was born and raised in Saudi Arabia. He received an Associate of Science degree in engineering from Houston Community College and is now a senior. An avid reader who says he invents to try to solve real-world problems, Jaseem is working on a security robot that could also track and report people's temperatures in public places to help us stop COVID-19. His winning essay:

> **THE WORLD IS INNOVATING** every second. The mobile phone in your hand will boast hundreds of new features in its next iteration.

Each invention generates a unique piece of intellectual property (IP). In this century of fast transformation, those who want to make their mark with new innovations must learn about intellectual property in order to protect their ideas.

I was first introduced to the importance of intellectual property by my mentor Ravi Brahmbhatt, the director of student innovation at Houston Community College (HCC). He recommended that I learn about intellectual property by reading a book called "The Intangible Advantage: Understanding Intellectual Property in the New Economy." Ravi guided me through the IP protection process and introduced me to the right people. In my case, I was extremely lucky to receive support from the HCC Fabrication and Innovation Lab, where people like Roland Field, the lab supervisor, helped me create my first prototype of a delivery drone.

The lab staff guided me through each process of designing, building, and eventually 3D-printing a prototype. Although a working prototype is not required for patent filings, this experience demonstrated the importance of knowing the technical aspects of my invention.

The best part of the HCC Fabrication and Innovation Lab was that it was all free.

Yes—you read that right. It was all free—from the 3D-printing filament to the excellent services.

"The Intangible Advantage" also helped me understand the real-world problems faced by inventors when filing for a patent. After enrolling in the Michelson Institute for Intellectual Property's Udemy course based on the same book, I was able to refresh my knowledge and learn a few new things in the process.

Intellectual property education didn't just teach me how to protect my innovation; it also showed me that I need to be able to explain the technical aspects of my ideas.

The difference between a child's conception of a toy versus that of a person with an intellectual property rights background is knowledge of the product's inner workings. In other words, you can design a new breed of jet engine on paper, but until you can prove how it works, the design won't be taken seriously.

This is where intellectual property comes in; it doesn't just provide you with exclusive rights to your invention, it also guides you on how to explain the process of how your invention operates.

Intellectual property awareness has not only saved me money by empowering me to file my own patents, Jaseem Bhatti learned about intellectual property by reading "The Intangible Advantage: Understanding Intellectual Property in the New Economy," the first IP textbook for ordinary citizens and college students.

it also helped me take home awards in two invention and engineering competitions.

One was Houston Community College's Innventathon@HCC, where I designed an anti-flooding truck that stops floods by increasing the velocity of water flow in the sewers. And the second was the "Extreme Redesign: Engineering Post-Secondary Education" competition in which I designed a mechanical toy inspired by the Boston Dynamics robot.

In the latter, I placed third out of 70 engineers who took part in the contest. My key to winning was the explanation and design—which I learned through studying IP.

People with inventive ideas must learn about intellectual property. Just imagine if Nikola Tesla had never bothered patenting his AC-power inventions. We would only find DC-power plants in our cities, and the cost of electric power would be much higher. Electricity might only be a luxury for the rich.

I personally believe that no invention is "big" or "small," but that each has the potential to put its mark in history. It might take centuries for the world to see the worth of an invention, but it will be realized eventually.

Leonardo da Vinci serves as an example. The people of his day thought of him as a delusional dreamer with ideas that were impossible to become a reality. It took society five centuries to realize how his inventions are the foundation of modern human history.

We should all treat intellectual property education as a method for acquiring knowledge, because in the end the only thing that will remain won't be your money, it will be the knowledge you acquired.

As the ancient mystic and poet Rumi once said: "Two there are who are never satisfied—the lover of the world and the lover of knowledge." • This four-legged mechanical toy designed by Jaseem Bhatti was inspired by the Boston Dynamics robot.

Second-place winner Brieanna Singletary won a \$200 cash prize and \$20 worth of Udemy credits to a course of her choice.

Brieanna is a newly licensed attorney in North Carolina. With the help of Michelson courses on Udemy, she gained the confidence to begin helping small businesses protect their brands online. When she is not doing trademark work, she creates exciting content online.

Third-place winner Quanda R. Graves, better known by her poet moniker Until, won a \$100 cash prize and \$20 worth of Udemy credits to a course of her choice. A Los Angeles entrepreneur, she is the owner of QS Simple Treasures & Greetings LLC. She published her first book in 2014, "I Just Want to Write."



#### PART 1 OF 2 Bluetooth Power HISTORY AND CORE CONCEPTS OF REVOLUTIONARY TECH THAT IS ESSENTIAL FOR PROTOTYPERS BY JEREMY LOSAW

#### **HERE ARE MORE BLUETOOTH**-enabled devices in the world than people.

Such is the importance and widespread adoption of the short-range wireless technology. More than 2 billion Bluetooth products have shipped each year since 2013, topping out at approximately 4 billion devices last year and growing.

The technology has a massive influence on our daily tech lives. It is the core technology that powers so many of our devices: speakers, headsets, headphones, phones, keyboards, mice, lights, door locks, fitness trackers, and other smart devices. As I write from my desk, I count no fewer than six Bluetoothenabled products in my immediate field of view.

Bluetooth is a powerful technology that allows devices of disparate design to communicate with one another. Apple can talk to Fitbit; Samsung can talk to Sony.

Because it is device agnostic and versatile, it has become the de facto wireless technology for so many smart devices. And since it has been adopted worldwide, product developers and prototypers should know how it works, when and how to use it, and how to build prototypes that use it.

In this two-part series, I will discuss the history and core concepts around Bluetooth before delving into details of the communication protocol and easy ways to create Bluetooth-enabled prototypes.

#### Specs and capabilities

Bluetooth is a wireless communication standard for peer-to-peer device communication. It is meant for generally short-range personal area networks (PAN).

The Bluetooth logo is a reference to King Harald, and is an amalgam of the runes of his initials. The technology can carry different types of payloads, such as sensor data, sound, and even video. The range is usually about 30 feet, which is perfect for speakers and headphones (one of its most popular uses). But depending on the device, setup can be up to 1,000 meters.

Bluetooth comes in two different flavors— Bluetooth classic and Bluetooth Low Energy (BTLE). More on this later.

As of this writing, the latest release of the standard is Bluetooth 5.2. It uses a frequency of 2.4GHz, which is the same as WiFi. However, it has lower bandwidth and range—and thus has lower power requirements than WiFi. It is viable to run Bluetooth devices from battery power, whereas WiFi devices usually need to have access to continuous wall power.

The name Bluetooth is a reference to the 10th century king of what is now Denmark and Norway, Harald "Bluetooth" Gormsson. He was known for uniting Nordic tribes under a common kingdom which is fitting, given that Bluetooth technology helps to unite different devices under a common standard. The angular Bluetooth logo is an amalgam of the runes of Harald's initials.

#### '90s origins

Although Bluetooth devices have been popular in consumer applications for about the last decade, the development of protocol has its roots in the 1990s.

Researchers at Swedish technology company Ericsson were the first to develop the shortrange wireless communication technique using UHF (ultra-high-frequency) radios. Jaap Haartsen is listed on many of the early patents and considered the grandfather of the technology.

> The original goal was to find a wireless alternative to RS-232 cables that use a 9-pin connector commonly found on printers more than a decade ago. They were also a common way to transmit data between computers and devices and are still used sometimes in industrial applications.

It was not until the turn of the millennium that Bluetooth was ready



for the consumer space. The first Bluetooth product was a hands-free headset, a sort of precursor to the ubiquitous jawbone style earbuds. It was launched at COMDEX, the Computer Dealers' Exhibition trade show in 1999, and won Best of Show.

Two years later, the Sony Ericsson T39, a flip phone with the classic early-aughts monochrome screen, became the first cell phone with Bluetooth inside to make it to store shelves.

#### **Counting 1 to 5**

The launch of the first Bluetooth devices coincided with the publication of the Bluetooth 1.0 standard in 1999. This paved the way for Bluetooth chips to become available to device makers; the chips were immediately integrated into many different types of products.

The first standard allowed for maximum data speeds of just 721 kbps, but in application this was often much lower. Since then, there have been four additional top-level releases of the Bluetooth standard.

Bluetooth 2.0 upgraded the core transfer speed to 1Mbs and increased maximum range from 10 to 30 meters, as well as easier pairing.

Bluetooth 3.0 offered an optional high-speed data transfer that actually used WiFi to boost transfer speeds to 24 MBs.

Bluetooth 4.0 is the first version in which there is a differentiation between Bluetooth Classic and Low Energy. It improved maximum range to 60, and has better IoT device support. This brings us to Bluetooth 5, launched in 2016, which added longer range as well as lowenergy support for audio devices. Despite the number of upgrades and enhancements to the protocol, the core data rate is set to 1Mbs. This allows for maximum backward compatibility for legacy devices. The ubiquitous Bluetooth speaker allows us to listen to tunes anywhere in the world within 30 feet of phones.

#### **Evolution to ubiquity**

In the two decades since the launch of the first Bluetooth-enabled cell phones and devices, the technology has matured from being a quirky tech feature to a mainstream and globally used protocol.

Whereas the devices were once very finicky, hard to connect and prone to losing connection, they are now easy to use for the un-tech savvy. They are residents in our homes and our cars, and new-generation phones easily connect to devices anywhere in the world.

With the advent of the low energy standard, we are seeing new types of devices that can live off a single battery for five years or more and can thus be put into harsh or relatively remote environments. They are also being leveraged in retail environments where Bluetooth beacons can notify our phones of flash sales or provide additional product information.

The applications are endless. Any new product that is electrified needs to at least consider adding Bluetooth to its featureset.

In Part 2, I will explore in more detail how Bluetooth devices communicate with each other and some easy ways to prototype them.  $\heartsuit$ 



# Good Patents and Science

PERCEIVED VALUE OF INNOVATION HAS A STRONG LINK TO OUR HEALTH AND WELL-BEING **by Louis Carbonneau** 

**S SUMMER 2020** approached, the world showed cautious optimism about a return to normal—only to discover more turmoil and heartbreak: a new uptick in COVID-19 cases and being acutely reminded that we still have systemic racial and social wounds.

We are coming to realize that our attempts to return to some semblance of normalcy as soon as possible were premature and ill advised. This virus is making us pay dearly for having underestimated it.

Who wants to hear about patents amid all this?

But if we provide some context, the health of our patent ecosystem does still matter. For instance, our leaders and the policies they enact, now more than ever, must be driven by good science. Failure to do so can result in deaths, and the stark contrast between science-driven economies and those that are not is laid bare for everyone to see.

As most already know, the work product of good science is innovation—and the best objective metric to value innovation remains the patents that are filed as a result. Thus, if patents have no perceived value, the urge to innovate vanishes, good science grad-ually falters, and it is then replaced by a myriad of unproven theories. Ring a bell?

Therefore, it does make sense to focus on and care about the underlying value of intellectual property, as it is directly connected to our long-term pace of innovation and the resulting strength of our economy and public health.

So now that we have come full circle, let's look at a few notable events that happened in "our" world.

Meanwhile, stay safe and keep others safe by wearing a mask!

#### Lawsuits increasing

We have clearly entered bear territory despite the stock market's best efforts to prove otherwise. And as happened the last time we had a recession, patent lawsuits are trending up in the United States and elsewhere. This is no surprise, as patents are generally seen as recession-proof assets.

Non-practicing entities—those holding a patent for a product or process with no intention of developing it—are accelerating their acquisitions, most of the time on a low-risk, hybrid-based model that is primarily structured as a revenue-sharing model with the previous owner. More on this later.

Among a sea of newcomers, one new phenomenon worth mentioning is the gradual emergence of what some have dubbed the "Mega NPEs."

In this category, two names stand out: **Fortress Investment Group** —which acquired one of the few successful publicly traded IP companies, Finjan Holdings, for a reported \$44 million (which apparently included \$30-plus million in cash reserves)—and **Acacia Research**.

A reinvigorated Acacia Research (taking cues from investor and activist board member Starboard) recently snagged beleaguered investment firm Woodford's 19 biotech patents for \$284 million. This came on the heels of another giant acquisition of a large chunk of the former Yahoo patent portfolio for another \$300 million. This is more than a half billion dollars spent on patents in a few months.

Fortress and Acacia have been very active litigants this past year, to a point where **Apple** and **Intel** felt compelled to file an antitrust suit against Fortress on the basis that stockpiling patents and bringing lawsuits against alleged infringers was anti-competitive. After the Department of Justice sided with Fortress, a judge recently questioned the soundness of such a complaint.

In a sense, these two deep-pocketed NPEs understand that you can only fight fire with fire and have taken off the gloves. This is unlike the model that **Intellectual Ventures** tried to pursue in the past decade when it aggregated a large number of patents in some specific technology silos—thinking it would be sufficient for people to buy in its volume licensing model without having to assert its patents, except in rare occasions. When it did not work, IV was left with tens of thousands of patents that it is still selling.

#### **Buyers and sellers**

Our good friends at **Allied Security Trust** (AST) were kind enough to share with us an internal report showing patent buying activity in the past two years.

## A study of patent acquisitions during the past two years confirms that large operating companies still favor opportunistic acquisitions.

The data are quite interesting and confirm what we have been seeing and saying for a certain time: Although large operating companies have largely vacated the patent acquisition market as a way to build their portfolio, they still favor opportunistic acquisitions.

AST was the leader in deals in 2018-19 with 57 (involving 226 assets). **Samsung** was next, with 30 deals involving 765 assets. Media behemoths **Alphabet** (owner of Google) and **Apple** had deals involving 124 and 54 assets, respectively.

One caveat: The data are based on recorded patent assignments that could have been transferred in the context of an M&A deal, in which patents might come along for the ride with other assets and people. Nonetheless—and though we are still a far cry from five to 10 years ago when many Fortune 500 were still gobbling up patents ferociously—it is heartening to see that level of activity between large operating companies.

Without a doubt, NPEs are the ones taking the relay, although Intellectual Ventures (just one acquisition in 2019, down from nine in 2018) has reversed courses from being an active buyer to one of the most active sellers of patents. This trend accelerated in the first quarter of 2020 with IV's sale of more than 3,000 patent assets to U.S-based firm **IPInvestment Group** (IPIG), which has become a major player almost overnight with such a large purchase.

#### Q1 numbers

In the first quarter of 2020, there were 340 deals involving 6,525 assets, 305 sellers, and 303 buyers.

Electronics and communications were the leading categories in the secondary patent market during the first quarter, accounting for more than 50 percent of the transacted assets.

Sales by IV accounted for 54 percent of those deals, while 33 new NPEs bought assets in that quarter. Liberty Patents, K.Mizra, ImberaTek, Sonrai Memory, Freede Solutions and Micropairing Technologies, to name a few, were involved in large transactions based on the number of assets.

But some NPEs have also followed in the footsteps of IV and become sellers themselves; **Daedalus Group** and **Inception Holdings** sold 67 and 56 assets, respectively.

For those interested in what kind of patents transact most often, there were 74 deals in health care and pharma, 64 in industrial, 47 in software and 46 in electronics. (Deals in electronics involved a whopping 1,676 assets.)

Areas such as pharma are very active in what looks like the transfer of very small portfolios—whereas buyers in other areas, such as electronics, appear to find some safety in large numbers of assets per deal.  $\heartsuit$ 

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.



# **Confidentially** Speaking

AGREEMENTS ARE PREFERRED BUT OFTEN PROBLEMATIC, SO A PROVISIONAL PATENT APPLICATION IS CRUCIAL **BY GENE QUINN** 

**ANY INVENTORS** seek some kind of patent protection so they can stake claim to their invention. Filing at least a provisional patent application (PPA) is a necessary strategy, because when you file a patent application you are articulating your invention and getting on record with a filing date that cannot be taken away from you with respect to whatever is in your patent application.

A PPA is a great first step, particularly if you are going to need some assistance later to develop your invention. It is also a good first step because you do not need a confidentiality agreement when dealing with a patent agent or patent attorney, because the law already requires that information learned from clients or even prospective clients must remain confidential.

So, even if you seek the advice of a patent attorney or patent agent and never wind up hiring one, he or she is legally required to keep your information confidential.

Most attorneys do not sign confidentiality agreements and are invariably scared away from representing those who ask for them.

It is urban legend that attorneys steal inventions. There has never been a single provable case of an attorney stealing an invention. So if you are caught up on an attorney or patent agent signing a confidentiality agreement, finding reputable assistance will likely be difficult.

Sure, you can find a patent attorney here and a patent agent there who will sign a confidentiality agreement, but those who worry about attorneys stealing inventions despite the legal requirements imposing attorney-client confidentiality are routinely viewed as difficult clients who are likely to be problematic and perhaps even sue the attorney if a patent is not obtained.

Patent practitioners do not need the hassle of representing someone whose first request is to set up a lawsuit if something goes wrong. Many patent practitioners are not interested in representing independent inventors, so don't present as a prima donna when seeking legal assistance—at least not if you want to obtain high-quality representation.

#### **Application no guarantee**

Back to the need for a confidentiality agreement after filing a patent application.

It is important to understand that no exclusive rights will attach to your invention unless a patent is awarded by the United States Patent and Trademark Office. Filing a patent application—whether a provisional patent application or a nonprovisional patent application—is an important first step that works to legally define the scope of your invention, but no rights attach at the time of filing.

After you have a patent application on file, even if it is a provisional patent application, the need to obtain a confidentiality agreement lessens but does not go away. You are always better off getting a confidentiality agreement signed when possible.

However, after you file a patent application you can use the coveted term "patent pending"; this should scare away many potential competitors. Typically, no one wants to spend the time, money and energy associated with making and selling a product when a patent could pop up and be used to shut down the operation.

That said, there is no reason that others could not use, make and sell your invention before the issuance of a patent. Additionally, if you file a patent application and inadvertently do not include as much description as is required and should be present, you could significantly harm yourself by telling others about your invention without a confidentiality agreement in place.

#### Showing your cards

Many people are not going to sign confidentiality agreements. This is not necessarily because they plan on stealing your invention but because in many cases, they are creating liability for themselves. The same holds true even after you have filed a patent application.

However, you can show interested individuals your patent application once you have filed the application and still have some level of assurance. You should get a confidentiality agreement if you can, but at least you have defined your invention and secured your priority date; this relates to whatever



## You do not need a confidentiality agreement when dealing with a patent agent or patent attorney, because the law already requires that information learned from clients or even prospective clients must remain confidential.

is present in the disclosure at the time you filed the patent application.

So, even if the person you are showing would be inclined to do something nefarious such as rush to the USPTO with your invention, he or she could never get a priority date as early as the one you have.

Of course, the sufficiency and comprehensiveness of your disclosure are crucial. Don't skimp on your first patent application! You cannot update your application unless you file a new application; if you leave something out, it is out, and not yours.

Even if you file a second or subsequent patent application, that which was left out of the first application gets a new priority date. In the patent world, having the earliest priority date is always best.

#### The executive summary

If you are apprehensive about providing a copy of your patent application after filing without a confidentiality agreement, perhaps you should consider providing an executive summary of the invention, together with a few of the illustrations you filed. This would give the investor, potential partner or licensee something to evaluate substantively but not the core description of your invention.

This could entice someone who was otherwise unwilling to sign a confidentiality agreement into signing. It may not work that way, but you are still holding as a secret the specific details about your invention while trying to see if the other party has an interest.

Despite these risks, it is at least somewhat common to show serious investors the patent application you have on file. They might not want to actually see the application and instead might just ask you questions about it, but some will want to at least take a look to thumb through it so they can get a sense of whether it is a quality patent application. Others might want to talk to your patent attorney, or even see a patent search report or patentability opinion.

Remember that investors—particularly those you will most want to talk to—are notorious for not wanting to sign confidentiality agreements because they can talk to so many different inventors that they are bound to come across someone who could think that their idea was stolen. And the investors you most want to talk to are in high demand, so they don't need to sign a confidentiality agreement because everyone wants them to consider their idea/invention.

#### Help is out there

If you need to do the preliminary patent work on your own due to cost constraints, see the Invent + Patent System. It helps individuals create and file a provisional patent application themselves, using a step-by-step process I invented to teach law students how to write patent applications. ©

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



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### **EYE ON WASHINGTON**

# 2

# **IP Life** in the New World

SINCE COVID-19, U.S. COMPANIES WITH ROBUST COMPUTER SYSTEMS SHOULD THRIVE **by gene quinn** 

**S INCE MARCH, 2020** has brought so much upheaval and disruption that it is almost hard to contemplate. In the future, entire written treatises and dissertations will seek to understand the socioeconomic, psychological and inter-personal dynamics brought to bear.

For now, individuals, families, business leaders, government officials— everyone, really—are left to figure out what is next in this ever-changing landscape before us, which in the United States has become more complicated by domestic unrest in virtually every major city.

Are these disruptions the new norm? Doubtful. This, too, will pass. One Italian virologist suggested that COVID-19 is mutating to become less lethal—as is common with many viruses, particularly coronaviruses. And violence in the streets seemed to be waning at this writing.

#### What now, Silicon Valley?

With states opening slowly and erratically, many businesses— of all sizes—remain cautious.

Plans to return to pre-COVID normal are being discussed, but how can you get employees into the office when the U.S. Centers for Disease Control and Prevention continues to recommend social distancing of at least 6 feet? With many offices in high-rise buildings and elevators being only so large, the logistics of getting staff into and out of the office safely are daunting—let alone the reality that there is no plan for social distancing when using mass transit, for example.

Luckily, many corporations and firms have discovered that their employees have been nearly as productive—if not more productive—working from home.

Facebook is moving toward a permanent remote workforce. And if Facebook is making such a move, many other Silicon Valley tech companies will follow suit, as will corporations and law firms all over the country.

But what will become of Silicon Valley? It exists because large tech giants have located there, bringing hundreds of thousands (if not millions) of jobs into the area. It has caused real estate to be among the most expensive anywhere in America.

If Facebook and other Silicon Valley tech companies are not going to physically be located in "the Valley," what becomes of the real estate market?

#### **Real estate hit**

And what becomes of the real estate market in major U.S. cities that have long been home to law firms and

corporations? Is it really necessary moving forward to be paying \$60 or \$70 or \$100 or more per square foot?

Substantial overheads created by physical locations could easily be cut, making physical locations one of the first casualties of the post-COVID U.S. economy. That would be wiser than cutting research and development budgets, which, when budgets are tight, are frequently where the C-suite looks for savings—a strategy that can only be characterized as shooting oneself in the foot.

Of course, most companies just can't help themselves. When money is tight, the order from the C-suite is to stop innovating. Despite the need to readjust priorities and support remote workstreams, 70 percent of respondents to a recent survey reported having to put IT projects on hold due to the lockdown.

"With less time and fewer resources to innovate, businesses are challenged to explore new technologies to deliver the applications that they require," writes [AI]thority.

#### **Position for transition**

Though predictions are always difficult, it seems certain that the post-COVID U.S. economy will look very different and feature many more employees permanently working from home. And perhaps the real estate market will look very different as well.

But what is not difficult to predict is that those corporations and firms that have robust computer systems and have a willingness to leverage cloud-based systems will be best positioned. We know this because those companies and firms that had the most robust computer systems and cloud work environments were best positioned as COVID-19 hit America, transitioning easily into what could very well become the new normal.

Of course, even those forward-thinking employers will need more stout and powerful systems to enable a truly allremote, all-secure workforce to deliver over the long term. Hacking and various other security threats have become omnipresent in 2020, and with a diffuse workforce, those threats will only escalate.

But finding the right employees—which will become essential if you are going to trust your workforce to professionally deliver from home—could become easier because your geographical area will become the world. €





# Hirshfeld Gets New **5-year Term**

COMMISSIONER FOR PATENTS WIDELY KNOWN AS AN ALLY FOR INNOVATORS **by gene quinn** 

**HE UNITED STATES** Patent and Trademark Office has announced that Secretary of Commerce Wilbur Ross reappointed Commissioner for Patents Drew Hirshfeld to a second five-year term.

The commissioner's original term was scheduled to expire in July.

Hirshfeld began his career with the USPTO in 1994 as a patent examiner, became a supervisory patent examiner in 2001, and was promoted in 2008 to group director in Technology Center 2100 (Computer Architecture Software and Information Security).

#### **Open to problems**

I have known Commissioner Hirshfeld for more than a decade, dating to when he served as chief of staff to then-USPTO Director David Kappos.

Without a doubt, Hirshfeld is dedicated to the patent system. Innovators on every level, from all technology

#### NEW DATES FOR IPWATCHDOG CON2020

This premier discussion and networking event, originally scheduled for March 15-18 in Dallas at the Renaissance Richardson hotel but postponed due to COVID-19 precautions, is now set for September 13-15. More than 90 invitation-only speakers are planned.

Details: con2020.ipwatchdog.com

areas—whether micro-entity, small entity or large entity have an ally on the 10th floor of the Madison Building at USPTO headquarters.

Based on my observations, he works each day to make the patent processes work better. Whatever your vision of a government bureaucrat, that is not Drew Hirshfeld. He is in a unique position to make a difference, and he and his team work to do just that. It is likely difficult for many to believe, but Hirshfeld has frequently told me that he wants to hear from the patent bar about irregularities and problems. Although not every problem rises to the level of bringing it to the attention of the commissioner's office, from time to time in the practice of patent law procedural irregularities inevitably arise.

"I can't fix what I don't know about," Hirshfeld has told me on more than one occasion. Patent practitioners who have had occasion to raise matters with him or his team have reported a helpful professionalism and genuine interest in listening and assisting when appropriate.

Hirshfeld's first term began on July 30, 2015. In an interview with *IP Watchdog* shortly after, he said: "We've always focused on quality as far as I've been here.

"What we have been asked to do in recent years is ask how can we take a more 'out of the box' approach to quality, right? Is there anything that we could be doing with the goal of continuous improvement? And so to me that's an absolutely wonderful position to be in for anybody asking how can you do your job better."

Hirshfeld testified before Congress last October that some of the major challenges facing examiners are the need to "navigate changing jurisprudence in the constraints of a rigorous production system," and the ever-expanding universe of prior art. However, he reported that USPTO Director Andrei Iancu's guidance on patent eligibility had "gone a long way" and that the examiner corps was "in a much better place now."

#### **Key support from within**

Secretary of Commerce Ross said in the July 13 announcement: "I am pleased to reappoint Drew Hirshfeld as the commissioner for patents at the United States Patent and Trademark Office. Commissioner Hirshfeld has made great contributions toward the mission of the patents organization, and I am confident he will continue to do so throughout his second term. The patents organization is vital to America's intellectual property system, and I commend Commissioner Hirshfeld's leadership and service."

Iancu added:

"Commissioner Hirshfeld and his team have done an excellent job in recent years of improving patent pendency, quality and overall operations while helping to implement significant changes to examination guidance in many areas, including patent eligibility. I am confident that under his ongoing leadership, the patents organization will continue the efforts we have recently undertaken and operate at the highest levels of excellence to meet the needs of our everimportant and ever-evolving intellectual property system."

Earlier, Hirshfeld held the positions of deputy commissioner for patent examination policy and chief of staff to the undersecretary of commerce for intellectual property and director of the USPTO.

"My mission is to constantly adapt and improve the way the patents organization operates to ensure that we provide the best customer service possible," Hirshfeld said in a press release. "I look forward to continuing to work with our leadership team to ensure that we meet our goals each year."

Hirshfeld received a Bachelor of Science in Mechanical Engineering from the University of Vermont, and a J.D. from Western New England College School of Law. He told *IP Watchdog* in 2015 that he worked as a computer programmer after getting his undergraduate degree, went to law school, then worked for a law firm before joining the USPTO. ♥

#### **TRADE SHOWS AUGUST 2020**

**Editor's note:** Both the Independent Garden Center Show (McCormick Place, Chicago) and SuperZoo Show (Mandalay Bay Convention Center, Las Vegas), originally scheduled for August 2020, will not return until 2021 due to the COVID-19 pandemic. These were the two August events that appeared in our 2020 U.S. trade shows calendar in the January edition of *Inventors Digest*.

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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

#### **INVENTIVENESS**

## **IoT Corner**

Researchers at Israeli security firm JSOF have reportedly revealed key security vulnerabilities that threaten millions of connected devices.

Wired.com reported that the 19 security flaws, dubbed Ripple20, affect the TCP/IP stack (the communication protocol that allows internet devices to communicate) and expose devices to potential malicious attack. The at-risk code was traced to a small Ohio firm called Treck that provides software for IoT devices.

The number of infected devices may reach into the hundreds of millions, possibly affecting companies such as HP, Intel and Caterpillar. Although there have been no confirmed hacks attributed to Ripple20, the exposures may allow hackers to gain control over said devices with the potential to wreak havoc in medical and other industries. —Jeremy Losaw

## **Wunderkinds**

Concerned about contaminated water more than 1,000 miles away from her home, **Gitanjali Rao** of Lone Tree, Colorado, decided to act. At 12, she won the 2017 3M Young Scientist Challenge for a device called Tethys that uses carbon nanotube

sensors to detect lead in drinking water. This was after she learned that nearly 100,000 residents of Flint, Michigan, drank contaminated lead water for more than a year. In 2018, she won a prize in the TCS Ignite Innovation Student Challenge for inventing Epione, a tool that diagnoses early-stage prescription opioid addiction.

# DANCING with CATS

# What IS that?

Yes, this book really does include pictures of people dancing with cats. One testimonial: "I put this on my coffee table as a conversation piece. People love it. People crack up. I never have to worry about entertaining awkward people because they just pick up the book and forget I'm even there."

# \$20,000

The amount that trademark "squatter" Martin McCaulay of Alexandria, Virginia, spent to trademark 14 different team nicknames that would be alternatives to the Washington Redskins. The NFL team will change the 87-year-old name.

# WHAT DO YOU KNOW?

Which celebrity got a design patent for an ashtray?

A) Lee Marvin C) Dean Martin B) Lawrence WelkD) Joan Rivers

**2** True or false: Tom Petty donated his winnings to charity after the Red Hot Chili Peppers song "Dani California" was found to resemble his group's "Mary Jane's Last Dance." **True or false:** An idea is patentable.

Which ridiculous and highly successful invention came first—the Pet Rock or the Flowbee?

- **5** With which invention or concept is Thomas Jefferson not associated?
  - A) Dumbwaiter
  - C) Pedometer
- B) Iron plowD) Dishwasher

**ANSWERS:** 1.B. The ashtray was in the shape of an accordion. 2. False. No copyright infringement lawsuit was filed. 3. False. Only processes and products resulting from ideas are patentable. 4. The Pet Rock, which could not be patented, was created in 1975. The Flowbee, basically a vacuum cleaner with clippers for haircutting, was patented in 1987. 5.D.

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Whether you just came up with a great idea or are trying to get your invention to market, Inventors Digest is for you. Each month we cover the topics that take the mystery out of the invention process. From ideation to prototyping, and patent claims to product licensing, you'll find articles that pertain to your situation. Plus, *Inventors Digest* features inventor pros and novices, covering their stories of success and disappointment. Fill out the subscription form below to join the inventor community.





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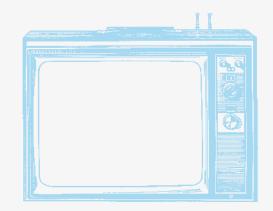
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