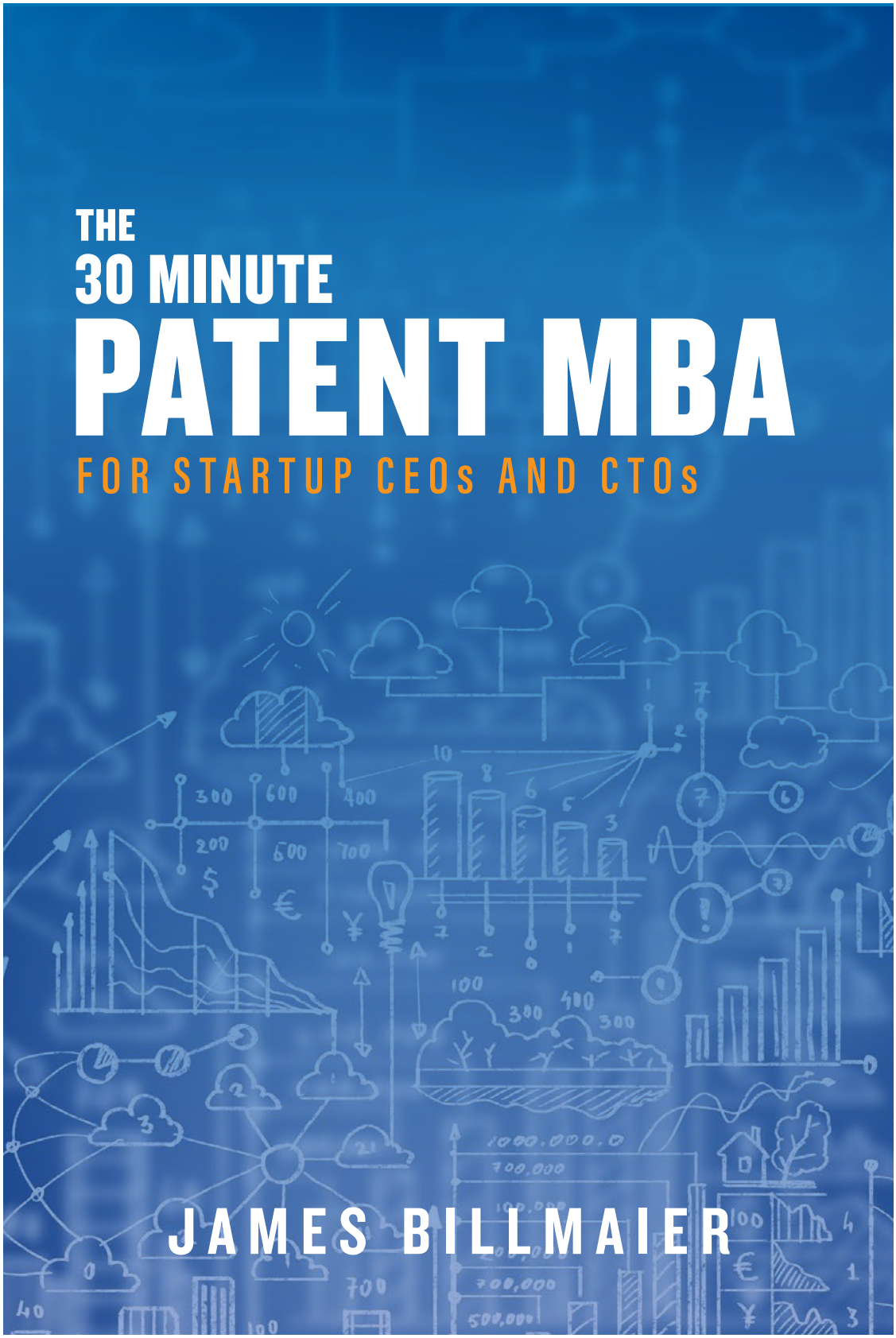
THE 30 MINUTE PATENT MBA

FOR STARTUP CEOs AND CTOs



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Introduction

This mini-book is **NOT** intended for lawyers. It is for business leaders, technologists, and/or entrepreneurs working in early stage startups to midsize businesses—basically any company that does not have a dedicated Intellectual Property (IP) staff and a multi-million dollar IP budget. If you are a business leader in a company with the resources to have dedicated patent staff, you should read the book entitled *Inventioneering* by James Billmaier and Britt Griffith.

The purpose of *The Patent MBA* is to quickly, and in plain English, convey the necessary information to early stage company leaders. Why? Because heretofore the topic of patents has been taught as an overwhelming complicated legal matter. As a result, business executives often de-prioritized obtaining patent knowledge, instead devoting their time and budget solely to the development of their product or service. If they do embark on an intellectual property business strategy, it's most often relegated to legal experts with little grounding in the product or business. In reality, invention, and the protection thereof, should be well understood—and embraced—by business leaders, and must be integrated throughout their company's product development and business operations. Patents are indeed technical and legal documents. However, patents are first and foremost a business tool and strategic asset. Patent knowledge is no longer optional for anyone attempting to build a valuable business.

As Shane Wall, Chief Technology Officer and Global Head of HP Labs, said:

> "When considering a partnership or acquisition of a company, it is assumed that they have properly protected their inventions…that is a big reason we are interested in them."

A strategy to build value and achieve a competitive advantage that does not include the protection of the company's inventions is the approach of amateurs.

Sustainable business success comes from a combination of things: It comes from delivering a compelling product or service that allows you to capture initial market share. It comes from understanding and reacting to continual market and technological shifts. And finally, it comes from defending your company's gains by erecting barriers to market entry from competitors.

This short book is designed to quickly provide you with the practical data and details necessary to enable the affordable creation of a twenty-first-century patent strategy for your business.

Why bother with patents?

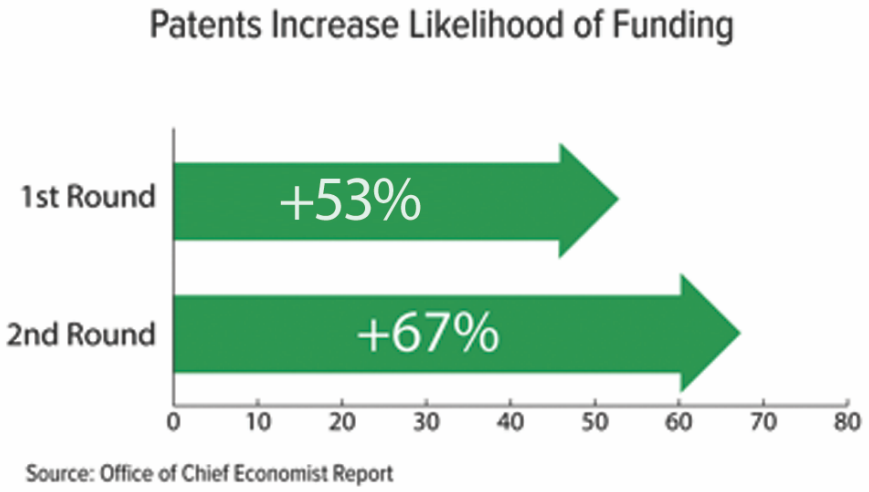
11 Reasons You Should Care About Patents

1. **Data proven substantial increase in likelihood of receiving funding**
2. **Data proven substantial increase in funding valuations and exit valuations**
3. **Data proven substantial increase in likelihood of successful exit**
4. **Protection during discussions with investors, partners, and acquirers**
5. **Competitive advantage vs. copy-cats and fast followers**
6. **Serves as a trade currency in IP assertion matters against your company**
7. **Stronger negotiating position in acquisition negotiations**
8. **Establishing "Patent Pending" or "Patented" for stronger market positioning**
9. **Patent process results in a superior product definition and value proposition**
10. **Demonstrates professionalism of management team**
11. **Team motivation**

Let's go into each of these in a little more detail.

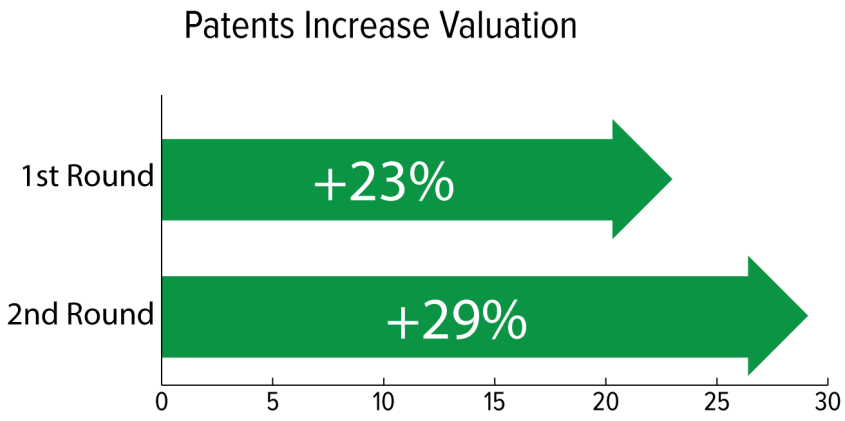
Data proven substantial increase in likelihood of receiving funding

As an early stage company your odds of obtaining first round funding increases by 53% if you have invested in patents vs. early stage companies without evidence of a patent strategy. With investment in a patent portfolio your odds of receiving funding in the second round are further increased by 67% over early stage companies who did not use part of their first-round funding to create an IP advantage.



Data proven substantial increase in funding valuations and exit valuations

As an early stage company your valuation at the first round of funding increases by 23% if you have invested in patents vs. early stage companies without evidence of a patent strategy. With investment in a patent portfolio your average valuation in the second round is further increased by 29% over early stage companies who did not use a portion of their first round funding to create an IP advantage.



Source: Office of Chief Economist Report

Data proven substantial increase in likelihood of successful exit

As an early stage company with a patent portfolio your likelihood of a successful exit in the form of an acquisition increases by 83% vs. early stage companies without a patent portfolio. And your company's odds of achieving an initial public offering (IPO) vs. a company without patents is increased by 153%.

Protection during discussions with investors, partners, and acquirers

In a perfect world, a startup CEO would be able to count on the protection provided by a nondisclosure agreement (NDA) for meetings with potential investors, partners and acquirer. But the fact is that most potential investors won't sign NDAs, leaving the startup disclosing their "secret sauce" without any protection. Filing provisional patent applications on core ideas prior to disclosing ideas to potential investors allows the savvy startup CEO to protect their company value proactively, without relying on VCs to keep the startup's plans under wraps…remember, those VCs meet with hundreds of entrepreneurs every year.

Potential partners and acquirers are almost always larger and more powerful than your company. So they usually get to decide what the nondisclosure agreement contains. All too often, these NDAs leave little real protection against these organizations who learn from your meeting only to create or enhance their own internal developments. Ever hear of a residual clause? Filing and prosecuting patent applications on the inventive technology that gives your company market differentiation and competitive advantage will give these organizations pause before ripping off your ideas and give you a path to recourse should they decide to do so…more about that in the next point.

Competitive advantage vs. copy-cats and fast followers

The instant your company files a provisional or non-provisional patent application it can begin to mark the related products and services "PATENT PENDING". This simple mark gives copy-cat's pause. China's government is now taking patent infringement much more seriously. Those Chinese or other offshore companies whose sole business is to make cheaper versions of other's designs will more likely avoid copying, manufacturing and distributing a patented or patent pending product vs a non-protected product.

Serves as a trade currency in IP assertion matters against your company

As an early stage or medium size company one of the inherent advantages you enjoy vs. large entities is speed. However, large companies can use patent infringement assertion as a way to slow down or stop your company. If you have no patent assets, you have little trade currency with which to barter. With a well-built patent portfolio, you are actually in an interestingly strong position vs. large corporations. An injunction (stopping them from shipping one of their products due to infringement of your IP) is far more financially damaging to a public company whose shareholder satisfaction is directly tied to the company's financial results.

Stronger negotiating position in acquisition negotiations

I have seen a startup acquisition discussion go from a withdrawal of an offer: $0, to a completed deal of over $300M. This occurred during an M&A evaluation where the large company engineering team concluded and reported to its management that they could rebuild the same solution in 6 months for ~$1M.

While this is an extreme case, it is common for another party, once they have deeply studied your product or service, to conclude that they could rebuild it far cheaper than it cost you to create it. The truth is that you could probably rebuild your own technology at a fraction of the cost that was required the first time.

The happy ending to this story is that the startup company had patented their key inventions, making it legally dangerous for the large company to simply copy the technology and impractical to work around the patents. The large company consummated an acquisition of the startup for $300M!

Establishing "Patent Pending" or "Patented" for stronger market positioning

We have discussed how "Patented" or "Patent Pending" helps slow or stop fast followers from ripping off your special sauce. Additionally, a patent mark sends a signal to the market place that you and your team have brought something special to the market…something different and better than competitive products.

Patent process results in a superior product definition and value proposition

A common question asked in the process of creating IP around your company's product or service is "Why is your product/service better than what is in the market today?" or "What would your sales or marketing team say to a potential customer as to why they should spend their time and money on your product or service vs. your competition?"

Most startups have a notion of the answers to these questions but often it cannot be stated in a crisp, clear, and succinct fashion. Companies often spend tens of thousands or hundreds of thousands of dollars on consultants to help them create well thought out plans and messages to describe those plans. startup companies that don't have a rock-solid handle on their vision of their market differentiation will waste huge sums of money with misdirected company effort in product development and marketing.

The patent process forces deep thought and documentation on what is different and better about what your company is attempting to build. This is far cheaper than bringing in a marketing consultant or the wasted company efforts trying to decipher a hazy vision. It's an unintended upside of working through the patent process early…and when completed, your company not only has a very clear idea of its special sauce, it also has the legal means to protect that special sauce in the market place.

Demonstrates professionalism of management team

Patent applications are impressive documents. They contain specifications for how the special sauce can be developed and they contain drawings and other figures that express detailed thoughts and plans. Smart investors conduct a thorough assessment of how your engineering processes and methods are performed. They take a deep dive into your go-to-market plans and business model, etc. The smartest investors, and you want the smartest money backing your company, investigate your company's competitive advantage, including protecting your company's most valuable inventions. This is not just studying a patent application or two that you may have in process, but rather the continual, repeatable and sustainable process and culture of protecting your company's IP assets. Amateur founders and company executives deal with this in an ad-hoc manner whereas professionals practice a disciplined approach to patents and trade secrets.

Team motivation

Being a named inventor on a granted patent comes with a sense of pride. Patents allows members of your team to build demonstrable value in their careers and can be combined with simple and inexpensive invention reward programs that enhance employee satisfaction (specifics on reward programs to come). Establishing a culture of invention early on in your company's development increases the flow of innovation within your team and simultaneously increases the value of your venture.


The United States of America

The Commissioner of Patents and Trademarks

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extension.

Acting Commissioner of Patents and Trademarks

Why don’t all startups patent their inventions?

Clearly, there are overwhelming advantages to obtaining patents and trade secrets. Despite this, many startup CEOs and management teams do not make it a priority to protect their business’s most vital assets. Here are some of the (mostly bad) reasons we frequently hear:

- **It is too expensive**
- **We don't have the time**
- **We thought software isn’t patentable**
- **We don’t want our competitors to see what we are doing**
- **Members of our team don’t believe in patents**
- **We use Open Source**
- **Patents have no value for startups because we can’t afford to enforce them**
- **I don’t think we have any protectable IP**

It is too expensive

This is the most frequent reason given for not pursuing patents, and this argument is not without merit. Startups are always resource-constrained. Cash is precious, and the company’s existence is often predicated on the CEO’s ability to make those dollars stretch as far as possible. Executive teams are offered a false choice of either developing their product and market OR legally protecting their innovations. This is true only because the traditional law firm costs for drafting and prosecuting patent applications do not fit with a lean startup budgetary constraints. Many firms still charge via billable hours, shifting the risk onto the client and making it difficult to plan expenses.

Additionally, organizational structures employed by most law firms are bloated and horrendously inefficient...and those costs are passed on to the client. Modern, smarter patent approaches leverage technology and deliver patents efficiently while increasing quality. This allows forward-thinking patent professionals to employ affordable, fixed-fee structures, which allow early-stage companies to both develop their product/service AND protect their intellectual property.

We don’t have the time

Time is another resource that is heavily constrained in a startup. Small teams juggle titanic amounts of work, so adding one more item to the “to-do” list of an already overtaxed engineering team seems like a fool’s errand. In reality, the patenting process should be an integral part of the engineering process. Further, much of the documentation an engineering team already prepares in their regular work process is actually highly useful in preparing a patent application, and having a patent helps to ensure that products developed by the engineering team are not wasted effort.

We thought software isn’t patentable

The court decision pertaining to *Alice v CLS Bank* led to wild speculation that software might not be patentable. However, successive court decisions have reaffirmed the patentability of software, and computer-related patents continue to be a huge portion of the patent office’s total volume of work. Your competition understands that software innovation is very patentable.

If we disclose our secret sauce our competitors will just change something minor and copy us

People are sometimes concerned that when a patent application is filed, it will be made public and allow competitors to see what is being done. However, if the application is not going to be filed in multiple countries, an applicant may request that the application remain unpublished until it is granted.

Even if you do wish to file your patent application in countries beyond the United States, a provisional patent application is only published in conjunction with the publishing of a non-provisional patent. This process will provide about 2.5 years of complete confidentiality of your filed applications… usually long enough to create and begin marketing your product/service.

I don't believe in patenting. I am philosophically opposed to it

Remember, just because you are a conscientious objector to the patent system doesn't mean you aren't a target. Regardless of whether or not a person believes in gravity, a fall from an airplane without a parachute will very likely result in serious injury or death. Further, just because a CEO is philosophically opposed to creating proprietary value, does not absolve them of their duty to their employees and shareholders to protect their company's assets and value.

We use open source software as the basis for our product

Despite what some people believe, open source and patenting are not mutually exclusive. Many companies that use open source software and build value on top of it, create patentable material on top of the publicly shared code. Red Hat, a leading producer of open source software reportedly has more than 10 issued patents, and 163 pending patent applications in the US alone.

In its "Patent Promise", Red Hat has stated its opposition to the philosophy of patents, yet acknowledges their necessity in the current system, and pragmatically uses patents as a shield against their competitors.

Patents aren't valuable because a startup company can't enforce them

Patents are valuable regardless of the size of the company, and likely even more valuable to a smaller company. Having strong IP increases the likelihood of success in litigation, and the stronger the likelihood of success, the more likely it is that there will be a respected law firm willing to take the case on a no-upfront payment success based model. There are actually funds set up that finance the cost of a solid patent case and only collect if the case succeeds.

It is a common misconception that just because you "aren't doing anything wrong," that you won't be sued anyway. From a defensive perspective, having a patent portfolio gives a startup bargaining chips to play in the event that they are sued for infringement, while no portfolio leaves few options and even less leverage.

Our product/service doesn't contain any patentable inventions

Identification of IP is something that many people struggle with, and we will address that more in depth later. But, suffice it to say that if you have technology (hardware, software, etc.) which is allowing you a competitive advantage, it is likely that you have IP. We highly recommend that you use an invention discovery tool or speak to a patent professional to help tease out the valuable IP that you may have.

What exactly is a patent?

A patent is a twenty-year government-granted monopoly for an invention. It gives your company a competitive advantage in the marketplace.

In the United States, a patent (from the filing date of the non-provisional application) is a twenty-year government-granted monopoly for an invention, which is a product or a process that provides, in general, a new way of doing something or offers a new technical solution to a problem. One very important distinction that many people do not understand is that **a *patent does not directly give your company the right to ship your product. Rather, a patent potentially allows you to stop someone else from shipping their product.*** If you have evidence that another company, without your agreement, is making, using, or selling your invention in the same country that awarded your patent, you can then ask the courts to stop it from doing so.

The US is now a "First to File" nation, meaning that **the right to the patent for a given invention belongs to the first person to file a patent application for said invention**. A First to File system increases the urgency with which inventors should act upon protecting their intellectual property.

As a result of this urgency, **it's often wise for businesses to file provisional patent applications** prior to converting them to non-provisional patents.

A few reasons why this is a smart move:

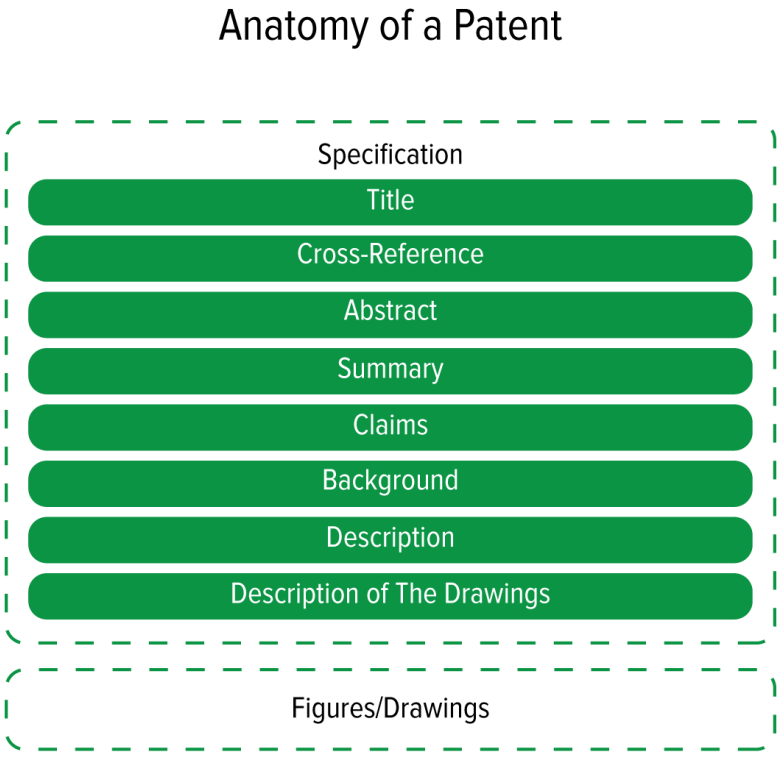
- Provisional patent applications are lower cost than non-provisional applications
- Provisional patent applications are faster/easier to produce/file than non-provisional applications
- Provisional patent applications buy you 12 months of "patent pending" protection status, during which you can hone and perfect your idea before deciding to pursue a more expensive, time-consuming non-provisional patent application. (Before that 12 month deadline, you must either convert the provisional application into a non-provisional patent application, re-file the provisional application which resets the priority date, or abandon the idea).

What is in a patent application document?

A patent is constructed in three sections: the claims, the figures and the description. The most important of the three sections is the claims. We say this for two reasons.

First, the claims comprise the legal description of the invention, and therefore dictate the actual boundaries of your intellectual property ownership. The rest of the patent is simply there to support the claims.

Second, most CEOs read a part of a patent description, such as the summary or abstract, and believe they understand the legally protected invention. Most often they do not. Summaries and abstracts can sound really good, much better than the inventive claims warrant, when in reality the summary and abstract may not accurately convey what is protected.



There are two types of patents:

- ***Utility*** patents are the most common type of patent filed. Utility patents protect functional aspects of an invention.
- ***Design*** patents protect the appearance or ornamental design of an invention.

Beyond patents, there are **other forms of intellectual property** that are worth briefly mentioning:

- A ***trade secret*** is information that gives a business a commercial advantage in the marketplace and is the subject of reasonable efforts to keep it a secret. Unlike a patent, a trade secret requires no registration and has no expiration date. (One of the world's most famous trade secrets is the formula for making Coca Cola, which has remained a tightly held secret for more than one hundred and twenty-five years.) To qualify as a trade secret, the invention must conform to three rules: (1) It cannot be generally known to the public; (2) It must have economic value derived from being kept secret; (3) The company must make efforts to maintain the secrecy of the invention. The most straightforward way to create a trade secret is to draft a patent application but not file it with the USPTO. Instead, mark the application "Confidential/Trade Secret" and then protect and monitor access to it. Just as your employees and contractors sign IP assignment rights transfer

agreements for relevant inventions, those who have access to trade secrets should acknowledge the importance and confidentiality of the company's trade secrets.

- A ***copyright*** grants the creator of an original work exclusive rights for its use and distribution for a limited amount of time.
- A ***trademark*** is a distinguishable design that identifies products or services of a particular company from others. Unlike other forms of IP, trademark rights are typically derived from the use of said design.

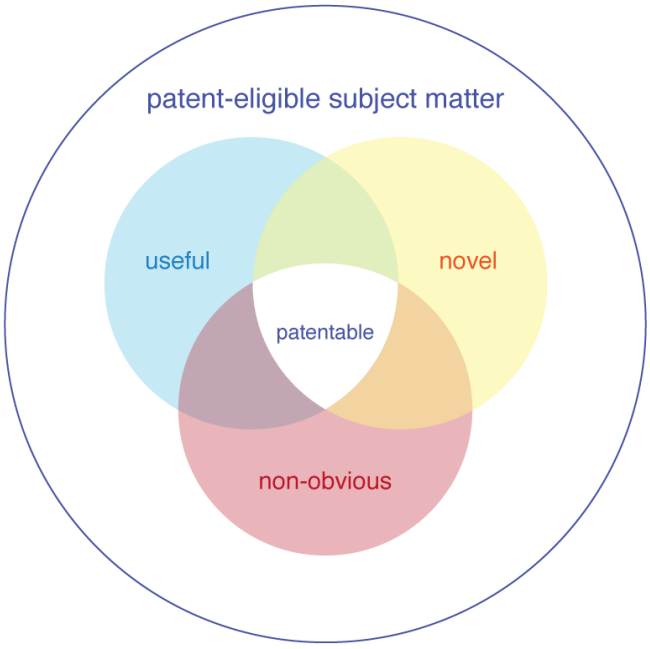
Note: For the purposes of this document, we won't go into great detail on copyrights and trademarks, but a brief chat with a legal professional can help you determine if copyrights and/or trademarks are a worthwhile path for a business to pursue.

How do we know if we have a patentable idea?

At the most basic level, an invention must fulfill the following requirements to be considered for a patent:

The subject matter must be **patent-eligible**. Section 101 of the U.S. Patent Act, found in Title 35 of the United States Code, states that "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."

1. The invention must be **new or novel**. If an invention was known to the public prior to an inventor filing a patent application, the invention cannot be considered new or novel, and is therefore not patentable. In other words, a patent cannot be granted if it prevents people from doing what they had previously been free to do. This requirement for novelty exists to ensure that existing inventions, also known as prior art, are not patented again. All information relevant to a patent's claims of novelty that has been disclosed to the public, no matter the form in which it was presented, is considered prior art.
2. An invention must be **non-obvious**. This means that an invention must be a non-obvious improvement over existing products or practices. If it is deemed that an invention could easily be discovered by someone of "ordinary knowledge" or follow from "normal development" in a given field, the invention is not patentable. Additionally, if the invention is simply a routine or predictable combination or application of existing technology, it is not patentable.
3. An invention must be **useful**, meaning that the USPTO's patent examiners must determine that an invention has a specific utility.



Now knowing what it takes for an idea to be patentable we will assume that your solution is useful. Why else would you be creating it? We will focus the patentable invention investigation on patent-eligible, novel, and non-obvious to determine if your technology or processes contain inventive material.

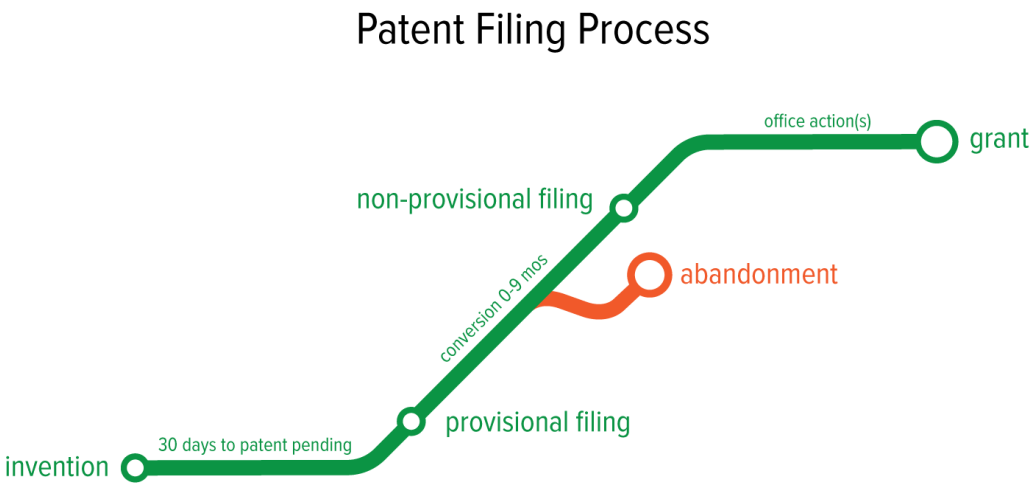
Generally, when reviewing your product and roadmap for patentable inventions, you should focus on your most significant differentiators and competitive advantages. What do you want your sales and marketing people to be telling potential clients? Is your company's solution faster, cheaper, smaller, easier to use, etc.? How did you make it so or plan to make it so?

When trying to determine where in your technology there may be good IP, often an engineering team is unaware that what they have created is novel and non-obvious. It's been our continuous experience that talented engineering staffs frequently dismiss the possibility of their creation being patentable. This is an area where automation can really help.

Automated invention discovery tools can compare product information to a vast database of prior art and help give you an idea of whether or not patentable material exists within your solution. It can also be helpful to have a patent expert examine your technical material and/or hold a brief invention investigative session with your key engineers. It is best to do this prior to publicly disclosing your innovations or offering for sale products that contain your innovations.

Going forward, have your engineering team document new projects and upgrades and designs in enough detail to have someone of a similar skill level to be able to reconstruct it without too much experimentation. This enhances future invention disclosures and will provide a pre-made basis for your next set of provisional patent applications.

How does my company obtain a patent?



Your provisional patent application allows you to file a "mini" version of a patent application at a point where you may not have all the kinks worked out. This lets your company lay claim to your inventions as soon as possible, giving you an early priority date while you continue to develop the idea. You then have up to 12 months to decide whether or not to file the full (non-provisional) patent application, and incorporate any intervening developments into the non-provisional application, while retaining the early priority date.

A provisional application will not be reviewed by the government patent examiner until after the non-provisional application is filed, at which point it is important that a provisional application has enough detail to allow the examiner to determine that the information disclosed in the provisional application supports what is disclosed in the non-provisional application. It is extremely important to have a high quality provisional application drafted and filed. Amateur efforts in this process can cause more problem than benefit.

After a non-provisional application is filed, the application will be assigned to an art unit (a small division of the patent office which examines applications on related subject matter). Using an accelerated process (Track One), a response can come very quickly and a patent may be granted in less than a year…think FedEx for patent applications. The standard application process typically takes ~20 months before it lands on an examiner's desk and another year or so to process the patent application.

The examiner's job is essentially to test your patent application and find some reason to reject it. The examiner does this by comparing your patent application to the technical rules on patent drafting as well as comparing it to previously published patent specifications and public literature (referred to as "prior art").

Once an examiner completes an examination they most often issue a rejection and the inventor or his representative (patent professional) must respond to the rejection through what is known as an office action and office action response.

An office action is a formal written correspondence from the patent examiner containing the issues he or she has with your application. Your company's representative will read the examiner's remarks and make arguments about the application's patentability or may make amendments to the patent application to address the basis for the examiner's rejections.

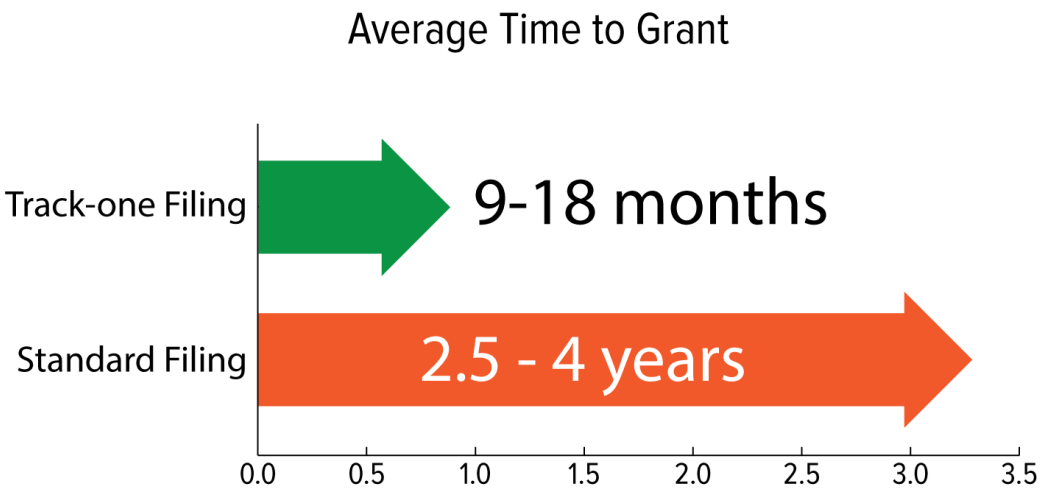
While the rejection rate can vary widely between art units and examiners, it is not uncommon for an application to undergo three or more cycles of exchanges with the patent office before your patent application is granted an allowance or your company gives up and abandons the effort. In the event that the application is allowed, then you pay a fee to obtain the final granted patent.

Once granted, the final patent is published, listing the inventors and/or your corporate entity as the owner of this intellectual property.

Congratulations, your company now has the first granted asset in your patent portfolio.

How long does it take to obtain a patent?

And how much does it cost?



Source: Office of Chief Economist Report

One of the biggest questions people have about the patent process is "how long does it take?" often in reference to both the application process as well as the amount of time the inventor must spend away from his normal tasks.

The standard patent process itself takes an average of over three years. However, an increasing number of companies are beginning to use what is known as the Track One accelerated process. This faster process (think *FedEx for patents*) guarantees a response from the USPTO within one year and final resolution within eighteen months.

Track One costs small corporations an additional upfront $2,000 per patent application. While the upfront cost is higher, we've found (as have others who have analyzed the process) that the total cost can be the same or even less than for non-accelerated applications. Additionally, the grant rate is consistently and significantly higher for Track One applications.

The inventor time typically required as part of the patent process can vary widely depending on the invention. When the invention disclosure is created as part of the engineering process, it maximizes the efficiency of the creation of IP and creates higher quality results.

How much does a patent cost?

Patent Costs†

Type of Application	Examples	Traditional Cost	AIP Cost
Provisional	all	$3,000- $5,000	$1,500-$2,000
Simple	paper clip, board game	$5,000- $10,000	$3,000-$5,000
Moderately Complex	power tool, cell phone	$8,000- $12,000	$4,000-$6,000
Highly Complex / Software	MRI scanner, automated system	$12,000- $15,000	$6,000-$8,000

†based on small entity filing
http://www.ipwatchdog.com/2015/04/04/the-cost-of-obtaining-a-patent-in-the-us/id=56485/
http://www.blueironip.com/what-do-patents-actually-cost/

If you ask most law firms how much you can expect to pay for a patent, the answer you'll likely get is "It depends." It's a fair answer, but not a particularly useful one. The fact is that law firms typically charge anywhere between $3,000 to $15,000 to file a provisional patent application or non-provisional patent application—depending on how complex the invention is and how much the firm charges per hour.

Patent firm alternatives (such as my company TurboPatent) have a staff of trained patent engineers who utilize AI and machine learning (Automated Invention Protection or AIP) to create high quality patents in less time and therefore at a lower cost. In many cases, an AIP-powered patent filing costs 50-60% less than a manual one.

What are the best patent practices for early stage companies?

Best practices starts with the executive team modeling a behavior demonstrating the importance of protecting the company's inventions with patents or trade secrets from the outset of the conception and planning of your products and services. We call this INVENTIONEERING. Great leadership teams and their companies like Apple, Google, Amazon and Microsoft to name a few, take IP very seriously…you should too…and with INVENTIONEERING you can exceed the IP practices of these companies.

Summary of Best Practices

- Understand your company's motivations for protecting IP.
- Leaders continuously message these motivations to the company.
- Employee/Contractor Agreements (have a lawyer review these).
- NDAs for interviews, partnerships and other discussion.
- Capture inventive concepts at the outset of product and roadmap planning.
- Set regular (monthly or quarterly) meetings purposely targeted at identifying and capturing of IP.
- Execs attend meetings as a show of importance and possible inventive contribution. The best CEOs are inventors.
- Use technology to identify and capture invention and create appropriate documents.
- Engage patent professional with appropriate experience and domain expertise. Request proof and references. Make sure you're not getting a "bait and switch." Use technology to evaluate patent document drafts.
- Begin with provisional patent application. Make sure it is adequately reviewed by inventor(s) prior to submission. Be sure to get assignment from all inventors at the point of each filing. Prioritize the production of a comprehensive, quality application. First to File wins the race!
- Convert provisional patent applications to non-provisional applications well ahead of the 12 month deadline. Determine Track One or standard process depending upon company goal. File a broad specification and narrow claims. Review to make sure claims faithfully capture the invention. Check the box to keep your filing confidential throughout the examination process (unless you intend to file outside of the U.S.).
- Stay involved during examination, making sure important claims do not drift away from company goals. Use technology to help monitor throughout the examination process.
- File a continuation before or after allowance (but must file before grant!). Always keep a continuation open on each family.
- Utilize an employee recognition program. Recognition awards are typically more effective than cash awards.

Understand your company's motivations for protecting IP

We know that early stage companies typically face tough budgetary and time constraints. It's difficult for a startup CEO to choose between spending more money on developing his product or service vs. legally protecting the innovations encapsulated in those products. So before you start down the patent path, have a really good grasp on why you and your company are doing so. We covered 11 good reasons to pursue the protection of your company's IP earlier in this document…there may be others. While there is not a single motive for all companies, having worked with hundreds of startups we can say there are some common reasons shared by entrepreneurs pursuing patents, such as:

- Defense against copycats and fast followers
- Improving odds of getting VC or strategic funding
- Improving valuation of funding or exit
- Demonstration of management professionalism and discipline
- Using the process to clearly understand differentiation for product development and market development purposes
- Establishing "Patent Pending" or "Patented" for marketing purposes
- Enhancing employee (inventors) morale
- Freedom to disclose and have deeper discussions with other parties…especially those unable or unwilling to sign NDAs

Leaders continuously message these motivations to the company

Best patent practices start at the top of the organization. If the CEO consistently communicates the importance of protecting the company's intellectual assets, then it becomes part of the culture and priorities of the company.

Employee/Contractor Agreements (have a lawyer review these)

It is critical that each employee and contractor sign an agreement that makes it clear that any intellectual property that is related to the company business or created using company time and/or equipment is the property of the company. By law, inventions are 100% owned by each inventor. If even one inventor does not assign the invention to the company, then the company does not have sole ownership of their IP.

NDAs for interviews, partnerships and other discussion

Non-disclosure agreements (NDAs) should be signed by every employee, contractor, vendor who has visibility into the company's IP, interviewee who will see proprietary inventive material during the hiring process, and anyone having a discussion with the company regarding its IP. NDAs are not a substitute for having patents filed on your inventions, but they are better than having no protection. It is also the case that larger companies will insist that you sign their NDA. Many of these NDAs have clauses (see residual clause) that make them very weak in protecting your IP.

One of the primary needs of a startup or small business is to secure funding, often in the form of meeting with venture capitalists and presenting the business's core ideas and differentiators. In a perfect world, a startup CEO would be able to count on the protection of an NDA for these kinds of meetings, but the fact is that most potential investors won't sign them, leaving the startup disclosing their "secret sauce" without any protection. Filing patents on core ideas prior to disclosing ideas to potential investors

allows the savvy startup CEO to protect the value of their company proactively, without relying on VCs to keep the startup's plans under wraps.

Capture inventive concepts at the outset of product and roadmap planning

The time to capture the patentable concepts is at the very beginning of the productization process. Waiting until a week before launching the product produces bad results.

The patenting process can help startups develop a superior product and better value proposition. Because the patent process requires engineering and management teams to introspect about their products/services, the exercise of writing a patent often reveals a company's strongest value proposition. Patents can also help to motivate team members, whether through an increased sense of ownership in the product, the feeling of accomplishment, or through incentive-based competitions (more on this later).

Set regular (monthly or quarterly) meetings purposely targeted at identifying and capturing of IP

Consistent with building invention protection into your culture, you should take a bit of time on a regular basis to inspect your products and roadmaps for patentable material. You should encourage the team to think out several years to imagine the path and intersection of the industry and your roadmap. Some of your very best IP will be for products or features that will not arrive for several years.

Execs attend meetings as a show of importance and possible inventive contribution. The best CEOs are inventors.

Members of the management team, especially the CEO, should attend as many of the invention brainstorming sessions as possible. It reinforces the importance of invention to the company. It should also be noted that the best tech CEOs are inventors. Steve Jobs, Bill Gates, Paul Allen, Elon Musk, Jeff Bezos, Mark Zuckerberg, Larry Page, Sergey Brin…the list goes on…all inventors who attended such meetings.

Use technology to identify and capture invention and create appropriate documents

One frequent question is, "how do we know if we have a patentable invention?" There is now AI technology that allows a product team to drop a product spec or description into a system that will give guidance on the patentability of the technology. Additionally, this technology can help the team extract the inventive concepts in more detail to facilitate a faithful capture of the true and intended invention. Idea Journaling, Invention Discovery, Invention Capture and the automation of the preparation and prosecution of patent applications are available products.

Engage Patent professional with appropriate experience and domain expertise. Request proof and references. Make sure you're not getting a "bait and switch." Use technology to evaluate patent document drafts

It is a frequent practice of large law firms to have inexperienced associates work on the patent matters of smaller entities. Quite bluntly, your business is not critical to the larger firm so they use your material as training fodder for the training of their junior people. Moreover, patent professionals require a technology degree to become certified by the US Patent Office, however, any registered patent

professional can practice in any domain…so that means someone with a bio BA could be assigned to write a patent on your machine learning breakthrough. It's a domain mismatch. Make sure the person helping you has deep experience in your subject matter. There are also AI tools that can automatically evaluate the technical proficiency of previous applications written by that person. The best professionals will proactively show proof of the quality of their work.

Begin with provisional patent application. Make sure it is adequately reviewed by inventors(s) prior to submission. Be sure to get assignment from all inventors at the point of each filing. Prioritize the production of a comprehensive, quality application. First to File wins the race!

As of 2013, the United States is a "first to file" nation. That means, the first person or entity to file a patent application on the inventive material has priority over anyone else who attempts to file after that. Therefore, it is very important to get your inventions filed as applications as soon as possible. It is faster and cheaper to file a provisional application. Do that first.

At that point you can now refer to your invention as "PATENT PENDING." Also, by going the provisional route you add up to a year of additional protection (up to 21 years) for your invention. The provisional patent application gives you up to 12 months to file the non-provisional application. While speed is one of the goals of the provisional filing, it's critical to do a complete job in describing your invention in this application. Claims and drawings are not required for a provisional but they are highly recommended. What are known as "skinny provisionals" meaning very little description and no claims or drawings are a very bad idea.

If your provisional does not fully describe your invention then you will not be allowed to claim the priority date. Worse yet, you may not discover this until your patent is tested in the courts via a litigation, a sale of your patent, or some other event that occurs after the patent has been granted. The more descriptive and complete the provisional, the better served you will be in supporting the conversion to the non-provisional. At this point you should have each named inventor of that application sign an assignment agreement. I know their employment or contractor documents indicate that their inventions are owned by the company, but do it anyway. "Belts and suspenders!" Disputes of patent ownership are way too common to take any chances…and it's easy to do.

Convert provisional patent applications to non-provisional applications well ahead of the 12 month deadline. Determine Track One or standard process depending upon company goal. File a broad specification and narrow claims. Review to make sure claims faithfully capture the invention. Check the box to keep your filing confidential throughout the examination process (unless you intend to file outside of the U.S.).

Target to convert your provisional to a non-provisional at the 6-8 month time frame or sooner. Bad things happen when you are fighting a deadline. Depending upon your strategy, determine if filing Track One (like FedEx for patents) is right for your situation. Track One patent applications have a high allowance rate and are granted with fewer office actions. In general, you get better results with Track One and our experience is that overall it is cheaper, even though it cost $2,000 more to start with. This is true because there is less back-and-forth with the patent office resulting in lower overall prosecution costs.

Make sure the inventors have engaged in a meaningful review of the application. If you are patenting something other than what your team intended, then you have protected something that has little to no relevance to your business goals. This is one of the largest problems in the patent industry. Straying from a faithful representation of the invention happens because the inventors are too busy or too important to be bothered, leaving the practitioner (most often with minimal domain expertise) to his own creative juices to put something down on paper.

There is a filing option (a check box) that allows you to keep your application from being published until your application is allowed as a granted patent. If the USPTO denies your application, it is never made public.

It's time to have all the inventors sign another assignment agreement.

Stay involved during examination, making sure important claims do not drift away from company goals. Use technology to help monitor throughout the examination process.

The next step is to receive an office action from the patent office. This will happen within months under the Track One scenario and usually in about 2 years in the standard path. It is most common that the examiner will find some rationale to test your application with what are known as a rejection… usually multiple rejections.

Your practitioner will need to respond these rejections with well thought out arguments. This is a point where the intended claims of your invention can "drift" or "rot". Once again, if your inventors are not engaged properly, the practitioner will do the best he can to respond…often in a way that goes astray of the true invention. In large companies this dysfunction is more common than not. This is where your smaller company can pay attention and have an advantage.

File a continuation before or after allowance (but must file before grant!). Always keep a continuation open on each family.

This is an advanced and nuanced part of patent strategy, but very powerful. With the provisional we wrote a broad specification with many drawings. We converted that into the non-provisional adding material that was consistent with the material described in the provisional so we have good support for our priority date granted by the provisional application.

Now for the advanced stuff. We file a very narrow set of claims describing very specifically the invention contained in the improvement to our product. This narrow claim set allows for a more efficient examination process lowering the cost and time of prosecution. Good enough, we rapidly get an allowance from our examiner establishing a relationship and positive precedent.

Part of the patent process allows us to file more claims against the non-provisional application as long as the new claims are supported in the specification of the original patent application. This is known as a "Continuation".

You can file a continuation any time prior to paying the grant fees on the previous application. It could be years later. This future claiming process allows you to observe what has happened in the market and with your competitor's products and then steer the new claims towards those products. The claims must be supported from the original broad specification but can now use the knowledge of years of industry progress yet still enjoy the filing date of the original provisional application. It's like being able to jump in a time machine!

Utilize an employee recognition program. Recognition awards are typically more effective than cash awards.

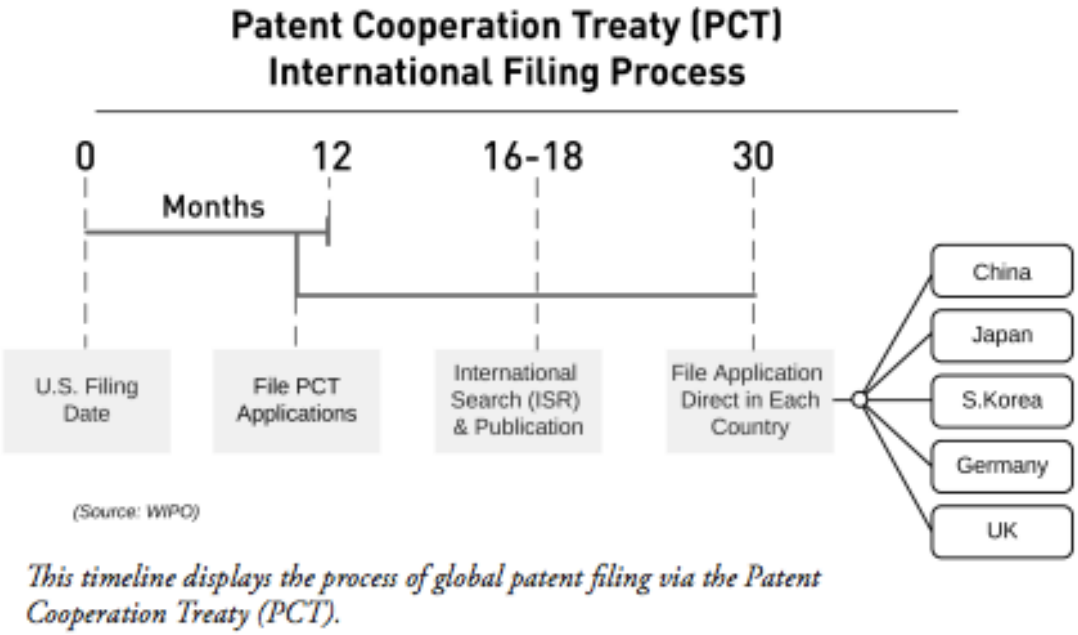
Employee patent reward and recognition programs work! That said, it's my observation that the recognition part works more than the reward part.

Some companies give cash bonuses for inventor contributions. So many dollars split amongst the inventors of a provisional, more dollars for a non-provisional and even more for a granted patent. But what some tech companies do is give the inventors something for them to display on their desk or in their office. Stackable engraved acetate blocks (pictured below) is one I have seen enjoyed and proudly displayed by brilliant engineers.

What about filing for protection in countries outside the U.S.?

Without going into too much detail, it's safe to say that international patent filings are expensive and time-consuming.

Below is a simple timeline of the process (note: not to scale) to give you a sense of how long a global patent filing typically takes:



This timeline displays the process of global patent filing via the Patent Cooperation Treaty (PCT).

The bottom line is that you have basically **twelve months after filing for patent protection in the United States to file under the Patent Cooperation Treaty (PCT), which preserves your right to file in any of the 148 countries participating in the PCT.** The cost to file with the PCT is $2,500. However, the eventual cost of filing in the separate countries varies. Here is a list of the most important jurisdictions among the countries, which represent about 80 percent of all patent applications and grants worldwide.

International Patent Costs

Jurisdiction	Cost in US Dollars
+Patent Cooperation Treaty (PCT)	$2,500
China	$25,000
Japan	$25,000
S. Korea	$25,000
Germany	$20,000
UK	$7,500
Total	**$105,000**

(Source: www.WIPO.int)

As you can see, it's important to select which patents and which countries are most important to your business because, as the table shows, it costs approximately $100,000 to file and maintain a single patent in just those five jurisdictions, and it would cost about $500,000 to file and maintain a single patent in all 148 countries participating in the PCT.

Even Amazon files very few patent applications outside of the US, and one benefit of not filing internationally is that the company can keep its patent applications secret from the public until they are granted. If your company intends to file for international coverage through the PCT, the patent application must be published by the USPTO, which happens about a year and a half after the filing.

So much of the decision to patent outside the United States is variable upon your go-to-market strategy and your funding level to name two. We have found that for the vast majority of U.S. based startups, it is better to use your limited budget filing a more patents in the United States thereby increasing depth and breadth of your U.S. portfolio rather than allocating your budget to fewer patents with international coverage.

Speed, Innovation, and Patent Quality…the Startup Advantages

Energy is a function of mass and speed. As a startup, your company does not enjoy the benefits of large piles of cash nor huge numbers of employees and other resources. But you can compensate for your lack of size and generate market energy by moving fast. It's also true that with the momentum that the large companies have achieved through their market successes, comes inertia.

Your smaller company can more easily and quickly create and implement innovative solutions vs. the lumbering giants. I suspect that the above statements are not surprising as it's often taught that smaller organizations have the natural ability to move faster, are less thought-constrained, and can implement quicker than large established corporations.

What may come as a surprise is that early stage companies also have the ability to protect their inventions faster, cheaper, and better vs. large organizations.

Faster: in most of the world, including the United States, the first inventor to file their application for an invention is the owner of that invention. Large corporations have long invention discovery, disclosure, and approval processes. And once approved for drafting, the bespoke approaches they employ to draft and file a patent application usually take months.

In a typical large company, it's very common for six months or more to pass from the point an inventive concept is uncovered to the point of filing with the USPTO.

Using the Inventioneering approach of discovering your company's inventions at the point of creating the product and roadmap plans combined with the use of automated invention protection (AIP), an early stage company can go from invention discovery to file in a month or less. But you must not hesitate, as your time advantage will evaporate quickly.

Cheaper: The United States Patent Office gives "small entities" (companies with less than 500 employees) a 50% discount on fees associated with filing and prosecuting a patent. Additionally, large companies tend to be encumbered by legacy relationships with inefficient, high overhead law firms. Both large companies and the patent firms they use are slow to adopt automation technology that reduce cost.

The traditional costs surrounding the patenting process are most often the leading cause of hesitation on the part of the startup CEO. He or she is often faced with the false choice of "do I spend my limited capital on building the product or do I legally protect my crown jewels"?

Luckily, there are now ways to reduce the drafting and prosecution costs without sacrificing quality…in fact the quality will more than likely be superior. Using an engineering approach, including automation and analytic technologies, to the patent process can reduce your overall costs by 50% or more. This is true for two reasons.

First, the automation tools allow the patent professional to create high quality patent documents in a fraction of the time vs. traditional methods. Second, the engineering approach uses huge data sets to analyze and deliver documents that flow more easily through the examination process. "Greasing the skids" at the USPTO decreases the number and complexity of time and energy required to obtain a granted patent, thereby significantly decreasing the cost.

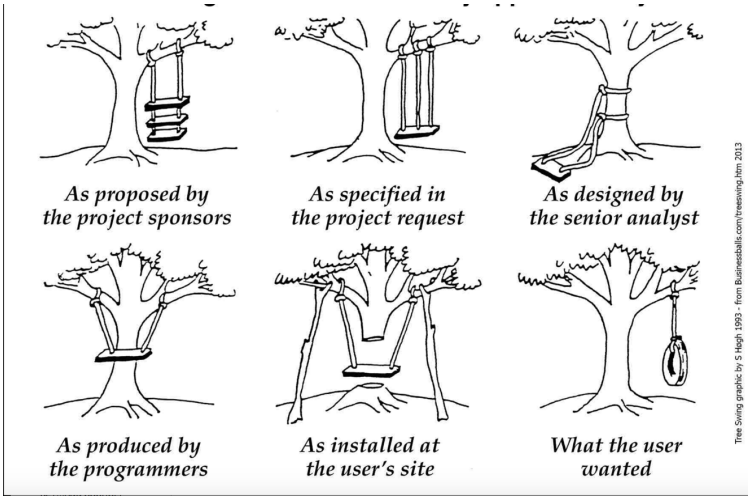
Better: Small companies being able to execute faster and cheaper vs large organizations are straight forward, maybe obvious advantages. Understanding how and why your organization can obtain better IP requires two things; first you should know how dysfunctional the patent process often is in large organizations, second you need to learn how NOT to let your organization fall into the trap of those dysfunctions.

A large company will have a portfolio containing thousands of patents. IBM maintains about 40,000 US patents. They play a quantity game. It's an outdated strategy but large organizations change very slowly. It's likely that the vast majority of these company's patents are invalid, unenforceable, or worthless for other reasons. This occurs because the dedicated patent organization in the large company is goaled on filing and "successfully" prosecuting a specific number of patents every year. The engineers, scientists and other inventor types usually do not share that goal.

The result is that the inventors do not deeply engage in the process and therefore the invention that is prosecuted to allowance by the USPTO does not do a great job in faithfully representing the inventor's brilliant idea.

Remember the game of telephone where each time the message was transmitted it degraded to the point where it was unrecognizable? Or the famous poster of the design of a tree swing that depicts what the family wanted, a rope tied to a tree with a tire attached…but then the architect designs something far more elaborate and the builder, unable to translate the architectural drawing builds something crazy.

Well, in large companies…and too often even in smaller companies, this is what happens during the patent process.

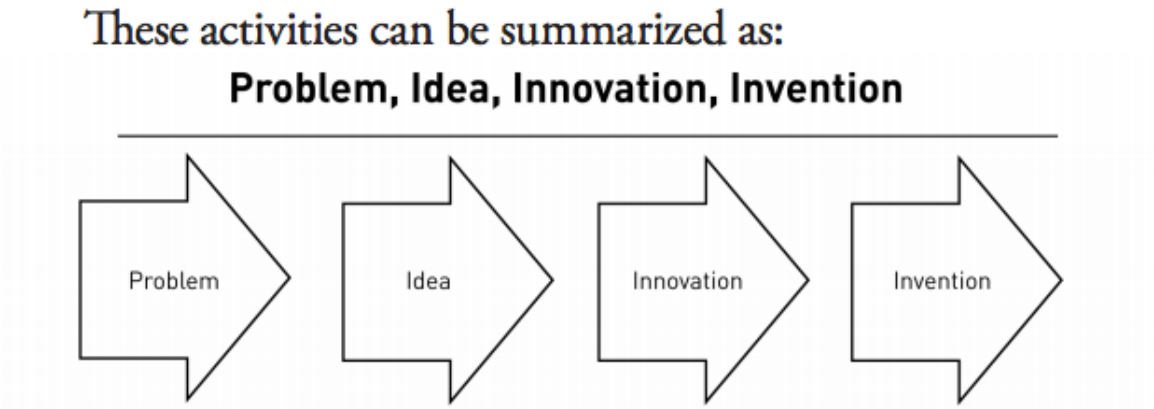


Inventioneering

The process diagramed below (PROBLEM IDEA INNOVATION INVENTION) occurs thousands of times each day throughout the world. The output of this work is usually one or more of the following: a PowerPoint deck, a product specification, system diagrams, flowcharts, CAD drawings or maybe even a prototype.

All of these outputs are communication instruments used to create a common understanding among all of the stakeholders to the Inventioneering process, including engineers, designers, marketers, salespeople, manufacturing workers and executives.

A subsequent patent application is, in fact, simply another form of the same information. Most often a patent application can and should be created and filed far faster than the actual product can be built. Using a patent machine, an inventor can input the same information he or she is already creating in the engineering and development process—but now that information is used to produce a rough draft of a provisional patent. That draft provisional patent can then be rapidly reviewed and, once approved by your company, quickly completed and filed.



This charts the ordered progression resulting in the creation of invention.

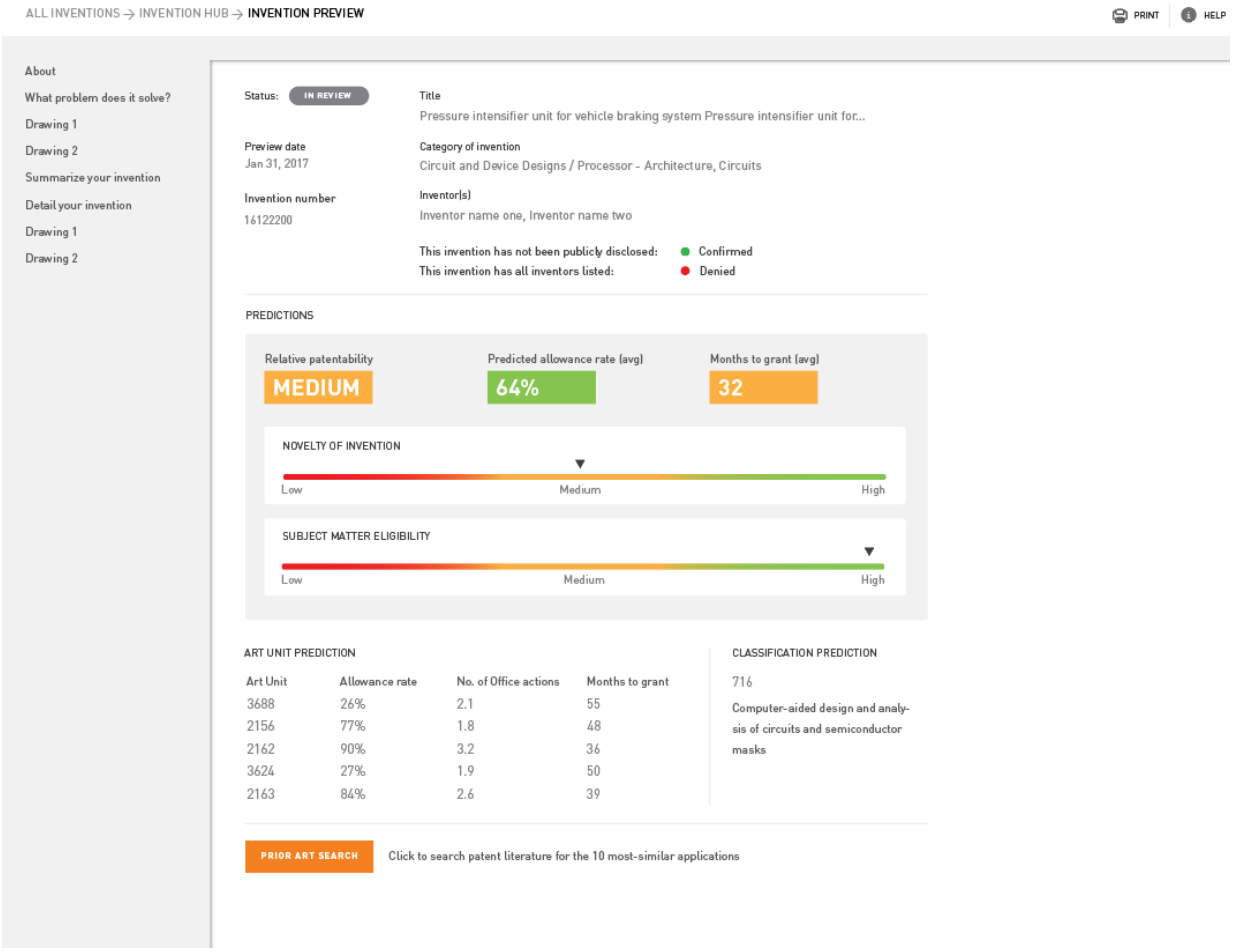
This chart shows the ordered progression resulting in the creation of invention. Additionally, the same techniques used to identify worthy problems and novel solutions for the purposes of building products also can be used to anticipate future problems and predict future technologies that will allow for the creation of very valuable IP.

In non-Inventioneering cultures, inventors often see the patent process as a nuisance getting in the way of getting “their real jobs done”. As a result, their invention disclosures are anywhere from nonexistent to woefully incomplete. Requests for more and better information fall on deaf ears, leaving the person responsible for drafting an application to his or her own inventiveness. In these conditions, patent quality inevitably suffers. Even the best patent practitioners are not mind readers.

With Inventioneering and the use of a patent machine, these problems are eliminated at this phase of the process. The inventor uses an invention capture system that is synergistic with his or her daily work efforts, and then the patent machine delivers to the triage phase (supervisor review) a well-written

(and drawn) rough draft provisional along with an invention summary report containing analytical decision support metrics.

The Invention Summary Report (see below) uses massive amounts of data from the USPTO and other sources to analyze the submission and provide pertinent predictions on such things as abstraction risk, novelty, and obviousness, as well as the likely assignment of the USPTO Art Unit and important associated statistics for that Art Unit.



Tools and Technologies

The Patent Machine

Patents are, by definition, highly structured documents that must follow a fixed set of rules published by the patent office. Thus, the automation of patenting is a bounded, structured and proven to be a tractable technical problem. The result is that utilizing patent automation saves both time and money…but also yields superior results.

Using the latest techniques in NLP, machine learning and data analytics, so-called patent machines already are automating many of the tasks required in the drafting, prosecution and assessment of intellectual property. The output of this computer automated patenting approach is faster, cheaper and of higher quality than that of even the most seasoned and efficient patent practitioners.

In short, a human patent master will never beat the patent machine; in fact, the performance gap will only increase.

You would not hire a software developer who did not know how to use GitHub or a modern IDE. You would not hire a designer or engineer who could not use the power tools of his profession. So why would you hire a patent professional who employs Microsoft Word as his or her be-all and end-all of automation?

Patent PhD for Early Stage CEOs: further reading

Below is a collection of resources we've curated for those of you looking to further your patent knowledge:

- *Inventioneering* by James Billmaier
- *Provisional Patent Applications*, *Litigation-Proof Patents*, *True Patent Value*, and *Patent Portfolios*, by Larry Goldstein
- *Patents Demystified* by Dylan Adams
- *Investing in Patents* by Russ Krajec
- United States Patent & Trademark Office
- World Intellectual Propery Organization
- IP WatchDog Blog
- IP Strategies for Startups
- Waiting to Protect your IP Could Doom Your Startup

About the Author

James Billmaier is the inventor of more than 100 patents and patent filings. He is the co-founder and CEO of TurboPatent Corporation, and is the author of *Inventioneering: The smartest CEOs will fuse engineering and invention to dominate the next decade.* James has previously served as Chairman and CEO of three companies including Asymetrix, which he led to a successful IPO in 1998, Digeo, Inc., which he co-founded with Microsoft legend, Paul Allen, and Melodeo, Inc., which was acquired by the Hewlett Packard Corporation in 2010. At Digeo, James became the only entrepreneur to ever win back-to-back EMMY awards for technical achievement. Under his leadership, James, Paul Allen, and the Digeo team filed more than 400 patents.

Contributors

Charles Mirho (BSEE, MSEE, JD), a co-founder of TurboPatent Corporation, has practiced patent law for more than 20 years. He was one of the first candidates selected for Intel's engineer-to-lawyer program in the early 1990s, and graduated at the top of his law school class with an intellectual property law specialty. Charles worked on developing Intel's Internet technology and software patent portfolio before moving on to private practice. Charles founded FSP LLC, a Northwest law firm specializing in patenting technologies in software, Internet, wireless, electronics, and communications.

Larry Goldstein (BA – Harvard, MBA – Northwestern, JD – University of Chicago) is an independent patent lawyer based in Tel Aviv, Israel, specializing in communications and computers. In addition to drafting applications and providing patent advice, he has written five books about patents—four of them as part of a series on patent quality, and a fifth book about patent pools. He has served as a consulting witness in several major patent litigations on issues such as FRAND licensing, royalty rates, and the essentiality of patents to technical standards.

Joe Fortunato (JD) received his undergraduate degree from Washington State University and his Juris Doctor from Gonzaga University School of Law, where he focused his studies on Intellectual Property law and served as a Legal Fellow in the United States Congress. He is currently pursuing a degree in Electrical Engineering at University of Washington Bothell, where he is a research assistant working on embedded systems development for biomedical applications.

Britt Griffith has always been passionate about invention, having earned her first granted patent at the age of 15. Britt graduated from Stanford University with Bachelors and Masters degrees in Digital Media, where she received Academic All-American honors and graduated first in her graduate program. She was previously a contributing writer to the Pulitzer Prize-winning team at the San Francisco Chronicle, and is currently TurboPatent's Director of Marketing. Britt is the co-author of *Inventioneering.*

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