

A photograph of a person wearing a red button-down shirt, standing behind a wooden desk. On the desk is a cardboard box, a coffee cup, and other items. The background shows a window with natural light. A blue semi-transparent overlay covers the bottom right portion of the image, where the title and subtitle are located.

The Inventor's Manual

Bringing Your Invention Idea to Life:
A How to Guide



“All successful inventions start with the same thing: a good idea.”

The rest of the process is different for each invention, but there is a strategy across them all. That strategy involves knowing the best series of steps to take in order to profit from an idea, which is why we have created this manual. Its purpose, is to educate the every-day inventor about the invention process and provide the best possible strategy for achieving success with an invention, at the lowest possible cost.

Mako Design + Invent is Canada's largest full-service invention development firm for home inventors. Our company assists inventors with every stage of the invention process including designing, prototyping, manufacturing, patenting and distribution. With a solid team of professionals and over a decade of service under our belts, we have become experts on what it takes to see an invention through the entire process, exclusively for home-based inventors and small business.

After the arrival of your great idea...

The first thing you should decide on is whether you will be aiming to license for royalties or whether you will be manufacturing and marketing your invention on your own. This decision will help you prioritize your strategy.

To help you decide, ask yourself, “What will

be the most rewarding and cost-efficient method for manufacturing and marketing my invention?”

Manufacturing and marketing on your own means that you will become an entrepreneur and build a business based on your idea. This is definitely lengthier; however, the likelihood of success is multiple times greater than licensing, and the payout is significantly higher. Licensing for royalties means that you will be trying to sell your idea to a company in exchange for payment, either in a lump sum or as a small percentage of the time.

This manual is designed in a way that, regardless of which direction you choose to take with your invention, the steps are similar. Your direction will give you an idea of what you are trying to achieve while completing each step.

8 Basic Steps

1. Conceptualize your Invention and Prepare Yourself

Envision your invention in its entirety and then ask yourself these questions:

1. Does my invention solve a need or improve an existing product?
2. Are there already existing products present in the market? What's the size of this market segment?
3. Do I understand how I can build or, at least, direct others to build my invention?

If your answers to these questions are "yes" then you're off to a good start. If you can't confidently answer "yes" to all of them, then it's probably a good idea to re-think your invention or conduct some additional research until you can.

Next, mentally prepare yourself for actually executing on the idea, as an idea that remains in your head will never make it onto the shelves. You must be ready to move your idea beyond the conceptual stage. The following information will help you prepare yourself by putting some things into perspective.

Many new inventors tend to believe that once they've come up with a good idea, their job is done. This is simply untrue in reality. Seeing the

invention process through, from a vague notion to a real-life functioning product, requires careful and strategic planning, self-motivation, and good developers (whether it is yourself or a professional design firm).

Even if an invention is incredibly simple, it is better to be prepared for endurance rather than get caught overwhelmed and abandon an idea. It is also important to realize that the further through the invention process you get, the better your chances of obtaining a license. That being said, developing an invention does not mean you need to quit your job and work it full time, especially if partnered up with a good development firm that takes on most of the burden, but it does require a long-term commitment.

Another common misconception is that royalties equate to riches. While this is true for some inventions, not all royalty cheques enable people to quit their day jobs (if a cheque is ever obtained at all). The key here is to have realistic expectations. On average, royalty rates range from 2-5% of the gross profit the company receives for selling your product. Gross profit is the price that the manufacturer sells to the



retailer minus the manufacturing cost of that product. As an example, if Widget XYZ is manufactured for \$1 and sells for \$1.50 to a retail store, then the manufacturing profit is \$0.50 and thus the royalty holder obtains 2-5% of that profit, multiplied by the number of units sold.

Keep in mind with royalties is that there is no guarantee of success, meaning no guarantee of any payment.

The biggest reality with royalty agreements is that, unless you have professionally developed your idea, it is almost impossible to land a deal. A potential licensor of your idea will want to see exactly how your product works and functions, including completed 3D CAD Designs, engineering schematics, and at least one professionally fabricated working prototype. These pieces are integral to your application to a potential licensor so that they can work with their team to determine the exact costs to develop, market, and sell.

Keep in mind that they get many requests to license products, so you need to ensure that yours is not just one of the best ideas they see, but also one of the best prepared.



2. Document your Idea

Once you've conceptualized your idea, and you're mentally prepared to move forward, the next step is to record it. It is helpful to record the entire invention process for organizational reasons, but it is absolutely crucial to record it for legal and protection purposes.

Somewhere down the road you may run into infringement issues or invention theft and require proof that the invention is truly yours. This original documentation can be your proof. There are two methods for legally documenting an invention:

1. Using an Inventor's notebook (or)
2. Disclosure documents

For the notebook method: Use the pages in a bound notebook to describe the invention idea and concept in ink. This description should identify the inventor(s) and include:

- A technically descriptive name for the invention
- The purpose of the invention
- A detailed explanation of the invention
- A drawing or schematic
- A list of unique features/advantages
- Any additional important information.
- Consecutively numbered pages

The notebook must be signed and dated in ink by the inventor(s). Additionally, two other people, who are unrelated but understand the invention, should sign it as witnesses. For the disclosure method: Use the official United States Patent and Trademark Office (USPTO) "Disclosure Document Program" to file. A nominal fee will be charged for processing the form and, again, two unrelated yet knowledgeable witnesses must sign it. Once the form is processed, the record should be kept in storage where subsequent entries can be added to it.

It is important to understand that documenting your idea is NOT a patent and is NOT protected by patent laws but may be helpful down the road if in litigation.

If you are unclear on this section, feel free to contact Mako Design + Invent. We generally include all of this work for our clients, but we're still happy to help you understand the process further if you are doing it on your own.



3. Product & Market Research

Before delving into and committing to the invention process further, you should perform market research. Find out if similar products are already on the market. Also, figure out if there are other products that offer the same solution as yours.

If a similar product exists, ask yourself these questions:

- Does that product have a patent?
- Does your invention have advantages over that product?
- Is your design better?
- Is your product more efficient?
- Is it more environmentally friendly?
- Does it cost less to make?
- Are there any other benefits to your product that theirs may not have?

If your product has an advantage over an existing product, then it is probably safe to move on. If not, you may need to re-conceptualize it or find additional ways to add value. Most inventions are actually a modification or combination of existing products, so don't give up just yet.



4. Design your Product

Today, most inventors hire a firm which will complete a virtual design of their invention which is a 3-D digital model, as opposed to traditional 2D paper specification drawings of the past. This 3D CAD (Computer Aided Design) model should showcase all of the individual features, including all details regarding size, shape, functionality, colour, measurements, manufacturing specifications, and any other details relevant to the physical form of the end-product. This method is both cost-efficient and provides the ability to illustrate complex features, along with allowing for relatively easy editing and feature additions.

The most important thing when having CAD completed is to ensure that the software used is compatible with current industry manufacturing specifications. Solid Works, Rhino, ProE, and AutoDesk are pretty much the only programs that should be used in designing your product, as they are standard across the consumer product design industry. They are expensive and complicated professional engineering software programs; however, any highly educated and experienced designer will be comfortable with at least one of them. There are dozens of cheap alternative graphical software packages out there; however, they will serve very little purpose for you, other than giving a basic rough sketch up of your product.

Once your engineered CAD file has been created and you approve of all of the details and specifications, a good firm should then be able to create a photographic rendering of that product. This rendering uses complex surface and reflection software to make a photographic image of what your product will look like, essentially making it look like it is real (really good firms are so good at this that you will have a hard time determining if the image is a render or a real photograph!). This is a very important file for you to ensure that you know exactly how your product will look and function once made real.

Any professional design firm can develop a 3D CAD file, but the majority do not incorporate mechanical or electrical design expertise into the design. The major pitfall is that, although your product looks may look nice and hi-tech, it may not actually function due to internal/external design flaws. Many firms do not design for manufacturing, which can create the need for costly rework and design changes, prior to going into production. At Mako, we bring industrial design, mechanical engineering, and electrical design all in-house to ensure all products not only look great but function properly as they should.



5. Manufacture a Prototype

Simply put, a prototype is a single working unit of your invention. The kind of prototype depends on the nature of the invention. Ideally, you should create a prototype that best displays your product and how it works, while spending the least necessary amount of money on it.

Making a prototype can also be an evolutionary process that starts out simple and progresses to full-functioning model; however, for most consumer products, the best way to save money is to use good quality designs so that you only have to do 1 prototype version. Sometimes certain complex parts or uncertain features can be tested out using low-cost prototype techniques prior to doing the full working prototype, in order to ensure that you don't have to re-do any of the more expensive final parts.

A prototype is always necessary for presenting your ideas to the person who is evaluating your invention. It is also a great way for you to test your own invention's functionality and locate any weaknesses or identify any improvements.

The prototype will act as a reference for identifying important details that need to be included in the patent application and will provide the necessary information to determine the best manufacturing processes and materials to use.

Note: skipping the prototype stage can lead to much more costly errors and potentially faulty products down the road.



6. Apply for a Provisional Patent

There are two types of patents you can apply for: a provisional patent and a non-provisional.

The non-provisional patent is also referred to as the “full” patent because it begins the patent review process and establishes a filing date. Applying for a non-provisional patent is not necessary up front for the reasons below...

The provisional patent establishes a filing date and provides 12 months of product intellectual property protection. This patent is valid for one year from the filing date and is very inexpensive to obtain. Three great features of this exist:

1. It allows the inventor to perform 12 months of a trial period to be selling their invention. This means that the inventor can seek out a license for royalties for their invention or sell the product into the market, either way attempting to make money on the product while it is protected
2. If any discoveries on that product occur over the 12 month trial period, the inventor can easily make those modifications prior to doing the full filing at the end.

3. The inventor can use the money earned throughout the 12 month period to re-invest into the costs of the full patent so that the money does not have to come out of pocket.

For these reasons, it is highly recommended that an inventor obtain a provisional patent before applying for a full, non-provisional patent. Once the provisional patent is filed, the inventor has one year to submit a non-provisional application.

A provisional patent application must include:

- A cover sheet. This should identify the provisional application, the name(s) of the inventor(s), and any necessary bibliographic information.
- A description of the invention. A detailed and thorough description is recommended.
- A drawing of the invention. This should illustrate how the invention works.
- A filing fee. The amount will vary depending on when the filing is done.

While filing for a provisional patent is significantly simpler than filing for a non-provisional patent, this does not mean that everyone can accomplish it on their own. With some work,



it can be done independently; however, most people choose to hire a third party in order to ensure the application's success.

Mako Invent usually produces and submits these filings on behalf their clients to ensure a high-quality filing. Since the filings are based on the work Mako does in the Design and Research phase of development, it is very inexpensive for Mako to do the filings internally and thus saves the inventor significant resources.



7. Find a Manufacturer (Optional if Licensing)

If you are planning on licensing your idea out at this stage, and not developing the business on your own, then finding a manufacturer is not a requirement; however, it may still help you as not all license buyers will have the exact manufacturing operations for your product, so it helps to increase the value of your proposition to have that ready for them.

If you are planning on producing your product to give you a much higher likelihood of product success, then doing the manufacturing supply sourcing is key.

Most products have more than one part, which means you need to find a manufacturer for each one of the parts, a company or multiple companies to assemble those parts, a company to package your product, then a company to pack and ship them to your buyer. You may also need to supply certain parts from different countries in order to keep a competitive edge in the global manufacturing marketplace.

Generally, Mako does all of the supply chain sourcing and logistics for our clients at the time that we produce the prototype, as we can utilize the information gathered from that process with our suppliers in Canada, the US, and China to finalize the production logistics.



8. Option 1: Sell Units to a Product Buyer

This is where inventing becomes really exciting (and ideally profitable!). You now have a real working prototype of your product, a Provisional Patent, and your manufacturing costs & supply chain – Everything needed to make sales to a retail buyer.

With your manufactured prototype, unit costing, and IP protection all in hand, now it is time to promote your invention to as many buyers as possible – Retailers, Wholesalers, Distributors, Mom-and-Pop Stores, Online Retailers, Product Brokers, Product Sales Agents, etc. Any one of the people you contact could be the decision maker behind a sale, and if they're not the buyer for your type of product, find out whom within their organization is.



8. Option 2: License Your Invention

If you chose to license for royalties you will be approaching manufacturers and presenting the details of your invention, including the designs, prototype, and IP protection, to them with the goal of capturing their interest and securing a license agreement.

A license agreement has been made when the inventor (licensor) agrees to allow a third party (licensee) to manufacture and sell his/her invention for an established period of time. In exchange, the inventor would receive either ongoing royalty payments or a one-time lump sum payment.

Licensing deals are significantly more difficult to obtain than selling physical units of your product to a buyer because the licensee now has to figure out manufacturing, find buyers, and run the business themselves. However, if you are able to obtain a licensing deal, it would be much less work for you as the inventor since the manufacturer/licensee will be doing most of the work from there on. The other downside is that, because of the additional work, the licensee usually only offers the inventor a fraction of the unit profit that the inventor would have otherwise made by selling their own products directly to buyers. For the reasons

above, most inventors start with selling their product to market themselves, then once they have some sales under their belt, they may then decide to either sell the product outright or license it at a much higher premium (due to the fact that there is now market proof of success).

Securing a license agreement will require some negotiation. It is also a legal document that will include technical language and terms. Items that will need to be addressed including the royalty rate or upfront payment, the term, the territory (area of the country where the product can be sold) and the number of licensees (which can sometimes be more than one).

As the inventor, you will also need to distinguish between whether you want to “license” or “assign” your rights. Licensing means that you will retain the rights and, basically, rent the invention to the licensee. Assigning rights means that you will be permanently selling ownership of your patent or invention.

Money is always the central issue when discussing an agreement. According to industry standards, royalty rates usually fluctuate between one and five percent of



gross profit (the wholesale selling price minus the manufacturing cost). The profit potential of the invention will be the main factor in determining the rate.

Tips:

- Be realistic about royalty rates.
- Don't expect a million dollar sale without any prior sales into the market.
- Don't get greedy and blow a good deal.

Keep in mind that there is no "standard" for license agreements. Each process is complex and unique. Furthermore, a license for royalties does not guarantee financial success, which only occurs when the product actually starts selling.



Conclusion

Overall, inventing may seem like a daunting process; however, if you do it properly and with good help, it is quite simple. To keep costs and timelines as low as possible, at Mako Invent, we pool all of the invention development processes into only two steps:

1. Research and Design
2. Prototype and Manufacturing Supply

Since we have developed and produced hundreds of consumer products for inventors for over 12 years, we are able to streamline and expedite every step in the invention process, thus being able to extend those cost savings on to our clients. And due to the fact that we cater only to home inventors and small businesses, we are required to ensure that we keep the development process cost effective, on time, and on budget - This is why we are one of the only firms in North America that offer guaranteed quotes, meaning that, even if we go over budget on development, we will not increase the cost to the inventor.

In closing, inventing can be fun, fulfilling, and even profitable; however, it is most important that you carefully prepare and execute on

development to ensure that you maximize the highest value out of your new idea.

Furthermore, the single greatest destroyer of good ideas, which we have seen over and over again, is Time – Simply put, do not delay/procrastinate/postpone your idea. There is nothing more upsetting to an inventor than seeing their idea come up on a store shelf by someone else, so act today (not tomorrow) as today your idea is not yet on the market, and today you have been armed with the information needed to get a good invention idea out to the world!

Warm Regards,

Kevin Mako and the Mako Design Team



THANK YOU

For help with an invention, visit Mako Design at:
www.makodesign.com or call us at
+1 (888) 806-MAKO (6256).

We can assist you at any stage of the invention process and we offer a free consultation with a full non-disclosure agreement to keep your information confidential.

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