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## IP Basics: Patenting Your Idea

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## IP Basics: Patenting Your Idea

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### **Additional Information**

This series began by Professor Field in the 1970s in print booklets continued as web pages and were last updated in 2015.

# IP Basics: Patenting Your Idea

**By Thomas G. Field, Jr., Professor Emeritus, University of New Hampshire School of Law Franklin Pierce Center for Intellectual Property**

**Last updated 2015**

## **Introduction**

This discussion does not cover patent law details. Those are available elsewhere, for example, at the U.S. Patent and Trademark Office (PTO) website. Rather it is designed to help independent inventors make a practical assessment of their situation and provide a broad overview of the things they should do before deciding whether to seek patent protection or attempt to commercialize their invention. Although the law is different, further useful information (more detailed than here is provided by the U.K. National Endowment for Science, Technology and the Arts -- visited August 2008).

## **The Better Mousetrap**

Some believe that Ralph Waldo Emerson first said "If a man can make a better mousetrap, though he builds his house in the woods the world will make a beaten path to his door."

Many who have heard variations on that remark, however, draw unwarranted conclusions. This was the experience of Chester M. Woolworth, the president of the Animal Trap Company of America. Why did he, having made a better mousetrap, find no path beaten to his door?

For years, Mr. Woolworth, had tried to improve this company's five-cent mousetrap. In 1928, he succeeded in improving but not in selling it. One problem was that the improved version sold for twelve cents (almost two and one-half times as much as its predecessor). Another is explained at page 8 in *Venture Capital: A Guidebook for New Enterprises* (U.S. Govt. Printing Office 1972):

Mr. Woolworth failed to look carefully at the way the average family used a mousetrap. The mousetrap was normally purchased by the husband who set the trap at night after the children were in bed. In the morning, the husband hurried off to work leaving the dead mouse in the trap. The housewife did not want a dead mouse around all day so she would pick up the trap and dispose of the mouse and the trap.

Unfortunately for Mr. Woolworth, the new trap looked too expensive to throw away. So, the wife was forced to remove the mouse and clean the trap. Obviously, the average housewife felt much happier with the old five cent trap which could be thrown away. While the husband might buy the improved trap, the wife did not want it to be used. Thus, sales of the improved mousetrap were very low.

If an experienced manufacturer can make such a mistake, imagine the situation faced by people lacking that kind of insight. This may account for few independent inventors earning significant income from a first patented invention. Because patents cost thousands of dollars, market potential should be and continue to be a primary concern.

## **Inventors Beware**

Some inventors try to avoid large initial investments by trying to sell their rights to established manufacturers. Yet, many companies are "flooded" with inquiries and may give little attention to such submissions. Inventors who try to approach companies directly will find that some reject them out of hand.

Others will refuse to consider an outside invention unless it is (at least) in the process of being patented. Also, no large company is likely to accept any obligations in order to evaluate an outside submission unless it seems to be a workable solution to a pressing problem.

After failing in their initial approaches to companies, inventors will occasionally turn to an invention promotion firm that claims to have access to or know how to approach corporate decision makers. Some of them are reputable and may be able, for a fee, to sell an invention, but inventors should be quite wary, particularly if success is guaranteed.

Thanks to the efforts of government authorities and later legislation, several such firms no longer exist. Yet, because of continuing demand for such services, others will fill the void. To determine whether to deal with a particular firm, inventors should first consider information that must now be disclosed under § 297 of the patent statute. It includes the percentage of submitted ideas the firm has accepted and frequency of prior client's successes. As it turns out, fewer than one in 1,000 of one large promotion firm's clients earned more money than they paid the firm. Merely being dollar-wise about such things may cause unscrupulous promoters to seek more gullible sheep for fleecing.

Government authorities can't find and stop all the frauds. Even when they do, inventors recover little money. For that reason, inventors should seek, in writing, full disclosure of short- and long-term fees and resist offers to save money by paying in advance. It is difficult to be objective about likely success, but it pays to be leery of stories that sound too good to be true, as well as to inquire at local consumer protection agencies or Better Business Bureaus, and ask for references.

For example, two inventors called, years apart, about the same life-saving invention (a signal balloon for use where someone lost at sea or in rugged terrain might otherwise use a flare). I do not know if the product has ever been marketed, but at least four expired patents cover that basic idea!

The second inventor, hoping to save lives and perhaps make money, was looking for several thousand dollars to purchase the services of an invention promotion firm. Had he been able to do so, he would likely have received nothing. Not all promoters are fraudulent, but many are.

## **The Relationship Between Profit Potential and Legal Protection**

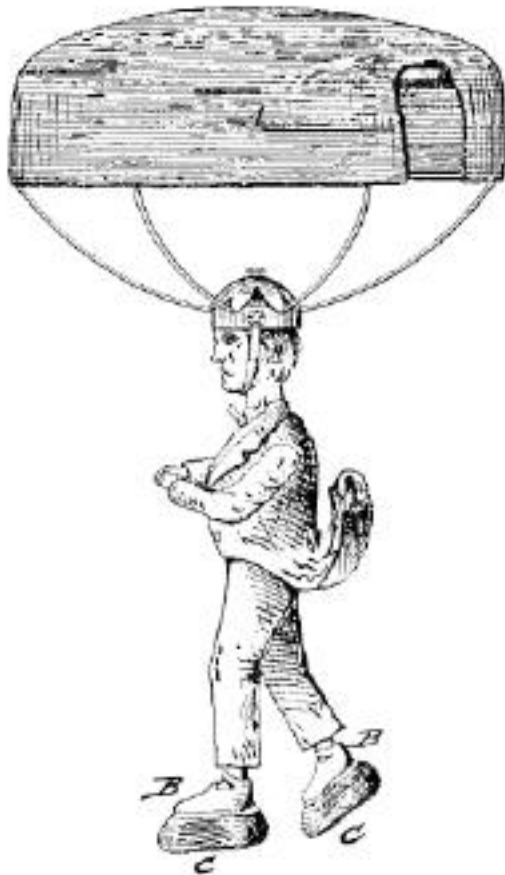
Legal protection is like a lock on a door. On the one hand, no one would buy an expensive lock to protect something nobody wants. On the other hand, it would be foolish to use a cheap lock to safeguard very valuable property. Because inventions are property, the appropriate amount of protection must be determined, not once but repeatedly, by ongoing efforts to evaluate their profit potential.

## **Questions to Answer**

Evidence of profit potential for new products or services is not only useful in determining whether to pursue a patent but also to get the attention of reputable promoters and established manufacturers -- whether or not a patent is being sought. Even inventors inclined to make and sell products themselves have to show potential adequate to attract capital. At a minimum, this requires information about several basic, interrelated matters: customers, production cost, distribution cost and competition.

- Customers. Who and how many are they? Where do they live? How much are they willing to spend for this kind of product or service? Where do they purchase it? Are there special factors involved in how the product is used (as Mr. Woolworth found out the hard way)?
- Production cost. What factors will influence it? For example, can the invention be assembled from stock (off the shelf) parts or will expensive custom tooling be needed? Will assembly require skilled and expensive labor? Does the price per unit drop significantly as production volume increases?

- Distribution cost. How much does it cost to ship the product? For example, is it possible to use slower but cheaper means? Are there special marketing or installation costs? For example, does a product require installation by skilled personnel?
- Competitors. Are substitutes available? How do they compare in value? Do other suppliers enjoy economies of scale in manufacturing or distribution, trained service personnel, or customer loyalty? If so, how will competitors' advantages be overcome?
- Will it work? Before doing anything else, inventors should be sure that their inventions work. (Sometimes, as seen below, even patented inventions may not!)



Here is a drawing from an 1879 patent entitled "Fire-Escape." It represents a person wearing a parachute and "overshoes having elastic bottom pads of suitable thickness to take up the concussion with the ground." As depicted in the drawing, the parachute is attached only to a hat, and the hat is, in turn, unfortunately strapped under the person's chin. Could anyone use this invention without quickly hanging?

## Getting Answers

Estimating profitability is often difficult. However, much general information can be obtained in public libraries -- as well as from government agencies and trade and business associations. For example, the Department of Commerce has census and other useful data.

Inventors with questions about the market or other matters specific to their products (unlikely to be available from public sources), should consult some of the many how-to-do-it books for entrepreneurs. Also, elementary books on more narrow subjects such as marketing are available.

*Seeking free help.* The Small Business Administration and local government agencies may be able to suggest low (or no) cost services provided by retired business executives or college students. If none of those are handy, an inventor should directly approach faculty members at local colleges. Sometimes they are looking for student projects. Also, schools may have programs designed specifically to aid entrepreneurs.

*Inventors Clubs.* There is no better source of advice than people who have gone through the same thing. For that reason, it is worthwhile to investigate national or local inventors clubs.

## **The Need for a Prior Art Search**

Before spending much time and money to determine, for example, whether an invention will cost-effectively satisfy consumer demand, inventors need to be sure that others do not have exclusive rights in the technology. Do not assume, because a product is not on the market, that it is new or unpatented. It may be much easier to solve a problem than to profit from the solution (or to patent it).

*Get a competent search.* Rights in inventions are determined by having patent attorneys or agents conduct or arrange for a "prior art" search. [Both attorneys and agents are technically trained persons who have also passed a special examination given by the U.S. Patent Office. Agents can "prosecute" patent applications, but only lawyers can draft contracts or provide other general legal services.]

The cost of a prior art search should vary by subject matter complexity, but it is possible to agree no more than a certain amount will be spent -- the ceiling being preferably determined by early indications of the invention's market value.

*Possible search results.* If an invention is found to fall within the general subject matter that may be protected by the patent law, a prior art search could reveal that: (1) someone else had a patent that has since expired, (2) someone else has a current patent covering all or part of the invention, or (3) no current or expired patents disclose or cover the invention. Let's consider each of those.

## **Using Search Results**

*The invention is in the public domain.* If an invention (or an obvious variation) is disclosed in an expired patent or any prior publication, anyone can practice it without concern for the patent laws, and no one can thereafter get exclusive rights to it. An often overlooked advantage of a prior art search is that it may reveal a host of good and freely useable ideas. Those, alone, could be worth several times the price of the search.

*The invention is patented.* If a current patent claims any part of the invention, its owner has exclusive rights until it expires. Meanwhile, no other person can legally use the claimed technology without permission. [Claims are the most important part of patents. It is often easy to get narrow claims that provide no useful protection. Unless you just want to say you have a "patent," what's the point?]

*The invention is new and nonobvious.* Where an invention is a significant improvement over technology disclosed in patents and other public sources called "prior art," the situation is more complicated. The inventor may seek a patent, practice the invention without further ado, or attempt to sell his rights.

Only if the first option is successfully pursued, will the inventor be able to prevent others from using its claimed subject matter for the term of a patent (twenty years from the date an application is filed with some possibility for brief extensions of time for unusual delay in the PTO), and thereafter anyone can use it.

*Trade secrets.* If an invention, such as a new manufacturing process, can be used so that others cannot learn it by examining a sample product (reverse engineering), protection may be feasible under trade secret laws.

However, such protection provides no rights against competitors who discover the invention by reverse engineering or independent effort.

## **National and International Time Bars**

It is essential that entrepreneurs understand that, whether or not trade secret protection is available for an invention, the right to a U.S. patent is lost one year after, for example, publication or any offer for sale use. In most foreign countries, any possible patent rights are lost immediately.

## **Making a Record**

Many inventors are concerned about having inventions stolen. The best protection against this is to use care in selecting the people with whom to deal. However, even honest people may have occasion to dispute whether an inventor was actually the first to discover a technology. It is therefore useful to keep records for that as well as for tax purposes.

From the earliest development, inventors should keep track of what was done, when it was done, and, for tax purposes, how much was spent. The last is fairly simple, but one wants to include everything such as materials, long distance phone charges and travel expenses. Records should be kept with their value as legal proof in mind, and such things as mailing oneself a registered letter do not furnish the best proof.

To prove what was done at any given time, an inventor must prepare a written description, with sketches if needed. Neither the sketches nor description need be formal, but each should be complete and readily understood by others. Do not leave blanks in an invention description. Also, avoid erasures; strike through mistakes. The complete document should then be given to one or two trusted and reasonably knowledgeable witnesses to write "Read and understood" as well as to sign and date every page. If possible, their signatures should be notarized. In some circumstances, filing a provisional patent application, may also be useful. If such an application isn't correctly prepared, however, it will accomplish little.

## **Selling Inventions Revisited**

Inventors should appreciate that most companies are fearful of dealing with outsiders who may have, for example, good ideas but no notion of how to implement them. I know of at least one situation where an idea, already known to a company, has been repeatedly submitted by outsiders. It hasn't been used because the company doesn't know how to do so at reasonable cost. If the company eventually solves the problem, use of the idea may expose it to a host of law suits from disgruntled inventors, all thinking that "their" idea had been stolen. Under such circumstances, the company might well not use the idea even if it could!

Nevertheless, when preliminary technical, market and legal assessments are favorable, reputable companies may be receptive to professional inquiries. Initially, they are most likely to be interested in whether an invention:

- can be sold within its market,
- has adequate profit potential, and
- qualifies for patent protection.

If a way can be devised to provide that information without revealing how the invention works, it will be unnecessary to ask company personnel to sign nondisclosure agreements or to file a patent application prior to any discussion. However, it may require considerable skill to pull it off. Indeed, it may be impossible to tread this line without experienced help. However it is done, if a company continues to be interested and is confident that it is dealing with professionals, it may sign nondisclosure agreements.