



**PATENTS
FOR CANADIANS**

A Practical Guide

miltos ip

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INTRODUCTION

The purpose of this guide is to provide a clear, unbiased and practical introduction to patents and the patent process. The guide aims to educate beyond the basics of patents and the patent process and addresses the costs associated with the patent process, the benefits of a patent, and the choices that may arise during the patent process.

While patents can be extraordinarily valuable, in certain cases, patents can be a waste of time, money, and energy. Although patenting is often encouraged by intellectual property (IP) professionals, it is not always the best strategy. As an entrepreneur, your goal should be to patent an invention when the patent has the realistic potential to help in generate wealth, and to avoid wasting time, money, and energy on a patent otherwise.

Note that this guide focuses on utility patents as they are the primary vehicle for protecting inventions. This guide does not address design patents, trade secrets, copyrights, or trademarks, which are other forms of intellectual property.

INVENTION PROTECTION

Patents are a form of protection for inventions. Patents are not used to protect brands, logos, or slogans (trademarks do that), nor are patents used to protect written works (copyrights do that). Patenting an invention is unrequired, however if unpatented, exclusivity or monopoly right to exploit the invention cannot be expected. An alternative to patent protection is trade secret protection, where instead of disclosing the invention as is required for a patent, the invention is kept secret. Trade secret protection can be very cost-effective and can last indefinitely, but once the secret is out, the protection is completely lost. Further, trade secret protection gives no rights against third parties who discover the same invention independently, whereas patents do.

DISCLOSURE IN EXCHANGE FOR A MONOPOLY

A patent is a state-sanctioned, time-limited monopoly. The patent confers on the patent owner the exclusive right to make, use, and sell the invention claimed in the patent. The basic premise of the patent system is that in exchange for an inventor disclosing an invention to the world, the state will give the inventor a monopoly on the right to use the invention for a limited period of time (e.g., 20 years from the filing date of the patent application). Generally, patent applications (except for US provisional applications) are published 18 months after filing if they are not withdrawn beforehand, regardless of whether they are subsequently allowed or not.

The monopoly granted by the government is restricted to the scope of the invention claimed in the allowed claims, as such the key part of a patent is the claims. The other parts of a patent application are the disclosure, and the summary. While they are necessary and take up the bulk of the patent document, they do not determine the legal rights of the patentee, only the claims do.

NOT A RIGHT TO USE & FREEDOM TO OPERATE

A patent is not a license to use an invention. A patented product may infringe an invention patented by another party or require government certification. In fact, many inventions are improvements to previously patented inventions. An inventor of an improved invention requires a license from an owner of the original invention of which is improved to work the improved invention.

Whether you have a right to do what you want to do (commonly called “**freedom to operate**”) is completely separate from whether you have a patentable invention.

NOT A PRODUCT

A patent is for the allowed claims not a product. A patent is for legal rights, not for physical things.

Physical things may use or embody the claims but the thing is not the patent.

DUTIES OF CONFIDENCE

A disclosure of an invention by an inventor to someone who owes the inventor a duty of confidence is not a public disclosure that will prevent patenting the invention.

Duties of confidence may arise contractually (e.g., from a signed Confidentiality Agreement or Non-disclosure Agreement), by implication, or from the implied terms of a type of relationship. For instance, patent agents and lawyers always owe clients fiduciary obligations of confidentiality and non-competition. In the case of lawyers, all communications with clients are privileged).

NOVELTY

To be patentable an invention must be novel. The invention must be truly new, which means that no one, anywhere in the world can have disclosed the same invention to the public before your first patent application is filed.

See the next section below on confidentiality for more information.

CONFIDENTIALITY AND PUBLIC DISCLOSURE

It is very important that an invention be kept confidential until a first patent application is filed.

First public disclosure of the invention determines the deadline by which a patent application must be filed or ends your ability to file a patent application.

For most countries in the world, a first patent application of the invention must be filed somewhere in the world before disclosing the invention to any member of the public anywhere in the world. This is known as **absolute novelty**.

Canada and the United States have an unusual extra 12-month **grace period** where a patent application can be filed in the United States and Canada can be filed up to 12 months after the first public disclosure of the invention (if that disclosure was by the applicant).

Generally, a provisional patent application should be filed as soon as possible. Delay creates risk, such as risk of disclosure, risk of other inventors, and risk of competing applications which may make the invention obvious in light of the prior art. It is encouraged to file the provisional patent application before any disclosure and as soon as possible, as disclosure can be fatal to patent rights in most countries.

Public disclosure is triggered by any **enabling disclosure** of the invention to the public anywhere in the world. Enabling disclosure is any disclosure that would enable a person of ordinary skill in the art to replicate the invention.

U.S. law automatically deems public disclosure to take place when a product which embodies the invention is made available for sale for more than one year before the filing of a patent application. This is known as the '**on-sale bar**'. Canada does not have a similar rule.

Written disclosure can occur through a wide range of forms, such as publication of a patent application (e.g., publication of a United States application at month 18), a scientific journal article, a website, or an online forum. Note that the public is third parties not under a duty of confidence.

If the invention is described to someone under a duty of confidence (see above) then that is not disclosure of the invention to the public.

NON-OBVIOUSNESS

The invention must also be non-obvious in light of the prior art (see section below). An invention that is an obvious improvement or change over something already disclosed is not patentable.

The test for obviousness is subjective, and premised on what the person of ordinary skill in the art would have known and have been likely to try. Incremental steps from what has been done previously which are obvious to try are unpatentable. Thus, it is possible that something new may still be obvious and thus unpatentable.

Even if no one has done precisely what the invention proposes, if your invention is obvious to try or taught, suggested or motivated by the prior art (any one piece or combination of pieces or prior art) to a person of ordinary skill in the art, then the improvement is obvious and unpatentable (see below for a discussion of prior art and searches).

PATENTABILITY

Different jurisdictions have different rules about precisely what is patentable subject matter. For instance, algorithms and laws of nature are unpatentable. Some of the most contentious areas include software, business methods, and methods of medical treatment (patentable in the United States, unpatentable in Canada and India, for instance). In most jurisdictions software is unpatentable. While the actual source code is almost always protected by copyright, that only protects against copying but does not protect the idea itself. However, inventions that meet the requirements for being patentable inventions, which happen to be embodied or performed through software, often are patentable. The crucial distinction is whether the invention stands alone from the software. This is a complex area, with considerable regional variation, which should be considered when forming a patent strategy. Although algorithms and laws of nature are unpatentable, some business methods (ways of carrying on business) which are less abstract and more concrete than algorithms and laws may be patentable in some jurisdictions. This is a complex area, difficult to predict, with rules in flux and courts in disagreement.

WHO IS/ARE THE INVENTOR(S)

To obtain a patent, a patent application must be filed by the inventor(s), or a person who acquired ownership of the patent rights from the inventor(s).

It is crucial to name all inventors on a patent application. If the application does not properly name the inventors, the patent may be invalid. However, who an inventor is, is not always obvious.

An inventor is someone who has contributed to the inventive concept recited in the claims. If more than one person contributed to the inventive concept, then they are co-inventors. An inventor does not need to be the prime originator. As long as an individual contributed to the inventive concept, they are a co-inventor and need to be named on the patent application as an inventor. Indeed, it is possible that there are more than one co-inventors and no one prime.

If a person contributed to verification rather than the original inventive concept, that person is not an inventor and does not need to be named on the patent application.

It is not enough to have a good idea to be considered an inventor: the inventive concept must be reduced to a definite and practical shape. Similarly, someone who merely puts forward an idea, or suggestion in terms of an objective or an end result has not invented anything which is necessarily validly patentable, and is therefore not an inventor.

OWNERSHIP AND ASSIGNMENTS

Patents are property rights. They can be bought, sold, and pledged as collateral.

The patent owner must be able to trace their chain of title and right to own the invention and patent to the original inventor(s).

The person with the right to apply at the outset is usually the inventor, or the inventor's 'employer'. Note however that fiduciaries often have a duty to assign patent rights to their beneficiary of the fiduciary relationship, and 'independent contractors' often assign to the contracting counterparty the right to any inventions made in the course of the relationship.

It is very important that the patent office register reflect the proper ownership of the patent. Proof of transfer of ownership of patents is by way of registration of a signed written assignment.

Some countries charge a government fee to register an assignment. Ideally, the PCT application should properly reflect the ownership of the patent before the national phase filings (otherwise, title will have to be rectified on a country by country basis).

An assignment of a patent must be signed and dated by the assignor(s). Although not mandatory in all jurisdictions, it is preferable that the signature is witnessed by another individual. Best practice is to also have the assignment signed by the assignee, and to have the entire assignment notarized. Some countries require originals, so having multiple originals prepared can be helpful.

A security interest in a patent provided as collateral for a loan should be registered under provincial law (the PPSA in most provinces and a UCC filing in most states) and under federal law (Canadian or US depending on the jurisdiction of the patent) on the patent register.

PRIOR ART

Prior art encompasses all prior knowledge and disclosures in the field of the invention, whether patented or not, anywhere in the world. Prior art can include patent applications, patents, research papers, scientific papers, general knowledge, the non-secret activities of competitors, and all information that is available to the public immediately prior to the filing date of a patent application. As such, prior art is crucial in circumscribing what is patentable when the patent application is filed on the basis of both novelty and obviousness.

PRIOR ART SEARCHES

A clear understanding of the prior art helps to avoid wasting money on patent applications with no reasonable prospect of success and helps sharpen the disclosure and claims of patent applications worth pursuing. Conducting a professional prior art search as soon as possible is strongly recommended, ideally before a provisional patent application is filed, and if not, then immediately thereafter. The prior art search may also be updated the non-provisional patent application is filed if the prior art search was conducted prior to the provisional patent application.

Global patent databases contain a wealth of information that is helpful for drafting patent applications and is useful for R&D. The information accessible through global patent databases helps avoid re-inventing what already exists, determine whether an invention is available for licensing (if patented in Canada) or freely available for use in Canada without license or royalty (if unpatented in Canada) and provide valuable information on activity and focus of research of competitors.

PATENT TERRITORIAL SCOPE

Patents are granted and maintained on a country-by-country basis.

A patent application is applied for, prosecuted, and maintained in each country separately. It is possible to patent in only some countries and to have no monopoly rights in others.

FILING IN MORE THAN ONE COUNTRY: PARIS AND THE PCT

There are two key regimes for filing an application in more than one country. Under both regimes, you must first file in one country, and then, subject to very tight deadlines, you can file later applications in other countries that claim priority back to the first filing. Both are systems for filing patents into multiple countries, but do not alter the fundamentally local nature of the process.

The first regime, the Paris Convention, permits filing directly with patent offices of other jurisdictions around the world within 12 months of the first filing of the patent application while claiming priority to the first filing of the patent application. The second regime, known as the Patent Cooperation Treaty (PCT), delays the requirement to file in other jurisdictions by 30 months from the first filing in most cases.

Filing with the PCT is more costly, however, two benefits include: a) a search and preliminary opinion from an examiner and b) 30 months of deferral from the earliest priority date to file the patent application in most countries (known as national entry). A PCT application is usually only cost-effective if you ultimately plan to apply for a patent in more than two or three countries.

If filing with the PCT, generally the initial PCT filing must be made in the country where the inventor holds citizenship.

Substantial costs for local representation, translation and government fees should be anticipated at this stage. As a result, it makes sense to plan what countries to enter well in advance of month 30 in light of how much advance preparation will be required.

PARTS OF A PATENT APPLICATION

A patent is made up of several parts - a description, drawings, and **the claims** (collectively known as the specification).

The scope of the monopoly granted by the patent is determined by the precise wording of the allowed claims.

The purpose of the description is to provide background, context, and must meet the test that a person of ordinary skill in the art can reproduce the invention based on the description without conducting further research or experimentation.

PROSECUTION - FROM APPLICATION TO GRANT

After the patent application is filed it is examined by an examiner of the patent office, resulting in an Examiner's Report (often called an 'office action'). In the office action, the examiner raises objections and issues rejections against claims of the patent application.

The applicant must respond to the office action to attempt to overcome the objections and rejections issued by the examiner. Only when all the objections and rejections are overcome is the patent application granted.

This process is known as **patent prosecution**.

Patent prosecution takes place separately in each separate jurisdiction (although it can be expedited in some jurisdictions using a concept known as the 'patent prosecution highway').

CLAIMING PRIORITY

The concept of claiming priority from an earlier filing is very important in patent law. It is a treaty called the Paris Convention that permits a non-provisional patent application filed after the first public disclosure to claim priority to a patent application filed before the first public disclosure (such as a provisional patent application). This allows the non-provisional patent application to comply with the absolute novelty requirements of certain jurisdictions, such as Europe. To claim priority to a previously filed patent application, the patent application requesting priority must be filed within 12 months of the first filed previous patent application. A patent application may request priority on multiple previously filed applications provided that the application is filed within 12 months of the earliest filed application. Priority can only be claimed to a prior patent application that includes an enabling disclosure for at least part of the invention. Note that rules and regulations for claiming priority differs by jurisdiction and should be reviewed on a per jurisdiction basis.

PROVISIONAL PATENT APPLICATIONS

Most Canadians file their first patent application in the United States. Often (but not always) this first filing is a United States provisional patent application.

A provisional patent application is never published nor examined. The provisional patent application provides a 12-month period from the date of filing before which a non-provisional patent application must be filed to claim priority to the provisional patent application (i.e., date of invention of the provisional patent application). Inventors may use the 12-month period to tweak their invention, raise capital, and market test their invention. The non-provisional patent application may be filed in a few countries (e.g., the US and Canada) or with the PCT (discussed elsewhere).

A good provisional patent application is essential for the long-term success of the resulting patent and a patent strategy. Ultimately, the claim to priority, and likely the validity of the patent claims, will depend upon the disclosure in the provisional patent application. The disclosure in the provisional patent application must therefore be enabling of the claims intended for the resulting patent, meaning the disclosure must be such that a person of ordinary skill in the art can repeat the invention without undue research or experimentation.

A provisional patent application does not include any claims and as a result requires less time and money to prepare. However, the disclosure in the provisional patent application

must be enabling, where a person of ordinary skill in the art is able to work the invention without the need to conduct undue research or experimentation. The requirements for a valid and effective provisional patent application (i.e., enablement of the invention) vary from invention to invention, and as a result there is no template or sample that demonstrates how to draft a proper provisional patent application. However, costs can be dramatically reduced and the quality of the provisional patent application can be improved by compiling and preparing as much information as possible on: a) the problem that the invention solves, b) the prior art and previous attempts to solve the problem, and c) a detailed description of the invention.

A poorly drafted provisional patent application creates significant risk as it may be invalidated, and thus all subsequent patent applications which claim priority to the provisional patent application may be invalidated (especially if the invention is disclosed to the public after filing the provisional patent application but before filing the non-provisional patent application). As such, a patent agent or patent attorney are strongly recommended for drafting a provisional patent application.

NON-PROVISIONAL PATENT APPLICATIONS

At the end of the 12 months, the possible choices include:

- a) if the invention has been disclosed,
 - a. allow the provisional patent application to lapse and allow the invention to flow into the public domain;
 - b. file a full utility patent application prior to the expiry of the provisional patent application to maintain the earlier priority date; or
- b) if the invention has not been disclosed,
 - a. withdraw the application, and retain the invention as a trade secret, or
 - b. file a new provisional patent application, taking the risk of intervening prior art while maintaining a claim to priority (sometimes called 'evergreening the provisional').

If you wish to retain patent rights, then prior to 12 months from the earlier of first disclosure of the invention and filing of a provisional patent application, a non-provisional patent application including a fulsome disclosure and the claims must be filed.

As discussed elsewhere, the non-provisional patent application may be filed in a few countries (e.g., the US and Canada) or with the PCT, which maintains a right to file the patent application in most countries at a later date (usually 30 months from the earliest priority date).

ABANDONING PATENT APPLICATIONS

It is always worth considering whether to continue or abandon a provisional or non-provisional patent application. If abandoned, decide whether to:

- a) keep the invention secret permanently (as a trade secret) or temporarily to file a subsequent patent application if the invention has not yet been disclosed or is within the disclosure grace period; or
- c) disclose the invention, perhaps as thoroughly as required to preclude anyone else from filing a patent application that might prevent others from using, making or selling the invention.

PATENT PENDING

Patent pending is not a term of art defined in the Patent Act or caselaw. Presumably, therefore, if you have a pending patent application then patent pending can be claimed with respect to the invention. Once the patent application is allowed, the invention is patented. If the patent application lapses, then the patent pending can no longer be claimed with respect to the invention. Law suits against patentees with expired patents who continue to mark their products as patented (known as false marking suits) were very common until the recent amendments to the US Patent Act, known as the American Invents Act. Accordingly, it is important to remove outdated patent claims from products and literature.

NOT SELF-ENFORCING

Patents are not self-enforcing and the government does not enforce patents as patent infringement is not a crime. In most countries, the owner of a patent must sue any infringers to enforce the patent, and must prove infringement before being awarded damages. A patent without the threat of litigation is worthless. Frequently, alleged infringers defend on the basis that they are not infringing, and counterclaim to the effect that the patent is invalid. A high proportion of patents are declared invalid in these proceedings.

PATENT TERM AND EXPIRY

Most patents last for a maximum of 20 years from the date of first filing. This period can sometimes be extended to 21 years by use of a provisional patent application filing in the United States as the first patent filing. A patent cannot be renewed or extended beyond this term. Once a patent has lapsed or expired the invention is in the public domain and can be used by anyone.

PATENT AGENTS/PATENT ATTORNEYS

In Canada, the individuals who are licensed to represent patent applicants and owners before the Canadian Intellectual Property Office (CIPO) are properly known as patent agents. Patent agents in Canada are regulated by the College of Patent Agents and Trademark Agents (CPATA). Many patent agents are also patent attorneys but the two designations are unrelated and attorneys have no special rights to represent clients in patent proceedings (other than litigation). Patent agents are not necessarily licensed to practice law. In Canada, in court proceedings (litigation), individuals and corporations are represented by attorneys and not by agents. Issues of patent ownership, whether there is a dispute or not (including buying, selling, and licensing patents as well as employment and fiduciary duties), are generally dealt with by attorneys. There is no formal or official designation of patent lawyers or patent attorneys in Canada, but presumably they are attorneys who are often involved in patent related matters, either as patent agents or as attorneys in litigation or in ownership issues.

The fiduciary obligations owed by patent agents and attorneys to their clients to retain invention disclosures in strict confidence lasts indefinitely, and are generally much stronger, and broader, than most contractual duties of confidence. As a result, an invention can be freely disclosed to a patent agent and patent attorney without requiring

an NDA. Generally patent agents and attorneys also owe their clients a duty to avoid all manner of conflicts of interest. This extends to not competing commercially with their clients during the term of their engagement and for some period thereafter. At Miltons IP, we try to avoid acting for clients who might have any competing patent interests.

The entire scope and value of legal rights from a patent rests on the precise wording of the allowed claims in the patent, as well as several other factors. If a patent is valuable, it is worth a significant amount of money for alleged infringers to invalidate the patent, prove the patent should have never been granted, or prove the patent does not cover the activities of the alleged infringer. There are an almost endless number of bases to attack a patent, and many of them are truly legal technicalities. In patents, technicalities matter a lot and it is almost impossible to expect that all these technicalities can be mastered in a first few patent application filings.

Given that patents are highly technical and complex, a patent agent is highly recommended for drafting a patent application. If an invention is worth patenting, it is worth patenting well. At Miltons IP, we do not believe clients should spend a fortune on professional advice. In our view, good advice is cost-effective advice and that is one of the reasons we are so committed to our transparent flat fee model.

POWERS OF ATTORNEY

The applicant for a patent in most jurisdictions must provide the patent attorney or patent agent of record in that jurisdiction with a Power of Attorney. Accordingly, coordinating the various powers of attorney is an important exercise, and efficiency and planning can save a great deal of time and grief.

CHANGING PATENT ATTORNEY OR PATENT AGENT

An applicant can change their patent attorney or patent agent of record on a pending application or granted patent at any time. To change attorneys or agents, the applicant must revoke their patent attorney or agent of record and replace them with a new one. To effect such a change, the applicant must complete and file the appropriate form for the jurisdiction in question.

MAINTENANCE FEES

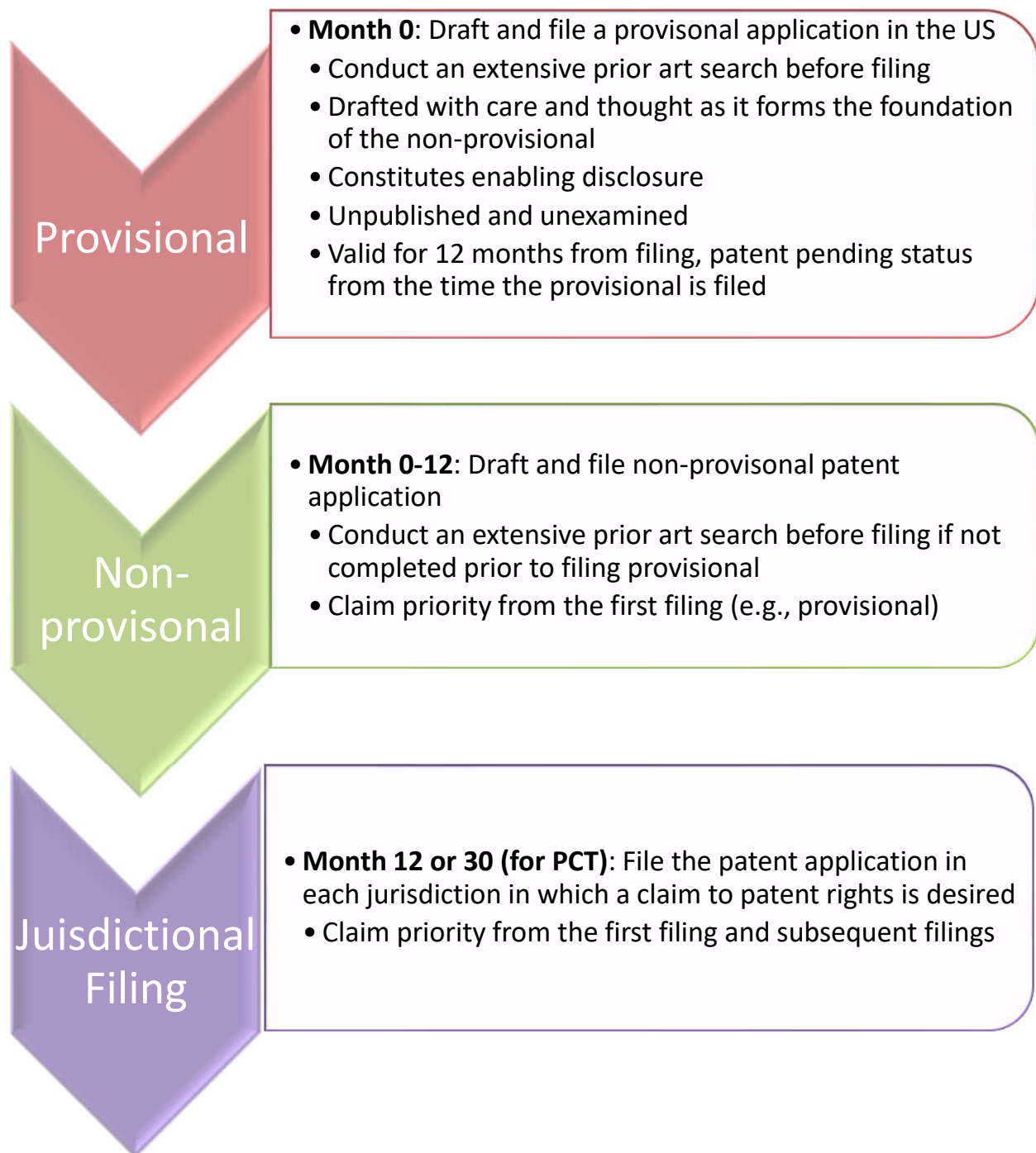
Most countries charge annuity fees or maintenance fees to maintain patent rights during the term of the patent (20 years). Often the amount increases with time. Some countries, like Canada, charge annual fees. Other jurisdictions, like the United States, impose fees less frequently. In any event, maintenance costs can be quite significant especially if the patent has been allowed in multiple jurisdictions and the jurisdiction provides a hefty incentive to use it, license it, or drop it.

APPROXIMATE COSTS OF PATENTING

<i>Item</i>	<i>Cost (CAD) (tax excluded)</i>
<i>Initial consultation to determine if concept is patentable and discuss IP protection options</i>	\$275
<i>Prior Art Search</i>	\$2500
<i>Drafting and filing a U.S. provisional patent application</i>	\$3000
<i>Drafting a non-provisional utility patent application and filing in one jurisdiction*</i>	\$6000
<i>Filing a non-provisional utility patent application under the PCT (Patent Cooperation Treaty)</i>	\$4500 Government fees include search and preliminary opinion
<i>Filing a non-provisional utility patent application directly in Canada and the United States</i>	\$1500 per country
<i>Prosecution in the United States</i>	\$5000 - \$10000
<i>Prosecution in Canada using the patent prosecution highway (PPH)</i>	\$2450-3000
<i>National phase filings at month 30, under the PCT:</i>	
<i>United States, Canada, Australia</i>	\$2500, \$1500, \$2500
<i>Germany, United Kingdom</i>	Per country
<i>Korea, China, Japan, India</i>	\$5000
<i>Europe (EPO)</i>	Per country, translation required \$5000 Substantial government fees

The goal at Miltons IP is to provide clients with a precise quotation for each step in the patent process so there are no unforeseen costs. Contact us for a quotation at your convenience.

OVERVIEW OF THE PATENT PROCESS





Prosecution

- **Months 30-72:** Patent prosecution in each jurisdiction
- Receive office actions prepared by patent examiners in different jurisdictions
- Respond to objections and rejections issued by patent examiners in the office actions
- Coordination among patent agents in different jurisdictions to dramatically reduce costs at this phase



Grant

- **Months 30-72:** Grant of the patent application
- A patent including allowed claims of the patent application is granted
- The allowed claims precisely define the scope of monopoly rights
- Generally, entitled to damages for infringement from the date of grant and not before



Maintenance

- **Years 2-20:** Maintaining patent rights
- Pay maintenance or annuity fees in each jurisdiction as required during the life of the patent, from the time of filing
- Fees and fee deadlines vary in each jurisdiction
- If the applicable maintenance or annuity fees are not paid, the patent lapses

DECIDING WHETHER TO PATENT AN INVENTION

Deciding whether to patent an invention can be a difficult decision because they are expensive and consume scarce capital and time. However, patents may be an important asset of a business and is commonly perceived as crucial for raising investment capital.

Some factors that influence whether investing in a patent is likely to be worthwhile include:

- the costs of acquiring patent rights:
 - costs to draft and prosecute a patent application;
 - costs for filing and prosecution of the patent application in each country in which protection is desired;
- the costs of enforcement:
 - costs associated with infringement of the patent should it occur;
- monetization of the patent:
 - potential profit from any or all of increased revenue, increased gross margins, or the sale of the business or IP;
 - potential incremental revenue and/or market share from products/services with versus without the patent;
 - potential to sell or license the IP or potential profit from selling the business with versus without the IP.

A tool is provided below to help provide guidance in deciding whether to patent an invention. The tool is not a substitute for legal advice, nor expected to produce definitive answers. In this tool, the invention is the novel feature, method, process, or combination. It is not the product or service that incorporates and goes beyond the invention.

Answer each question in the tool below with a number between 0 to 5. Add up the answers for all questions to obtain a total. Interpretation of the total is as follows:

0-15: Patenting may not be a wise use of funds.

16-30: Consider patenting and the alternatives. Watch your costs prudently.

>30: Consult a patent agent promptly and keep the invention secret.

Is the relevant industry mature or rapidly evolving? (evolving quickly – 0; mature – 5)	
Within the norms of the relevant industry, how easy will it be to tell if a competitor is using the invention? (impossible – 0; easy – 5)	
Does the invention make a material difference to existing practices that people will pay for now? (‘nice to have in the future’ – 0; ‘need to have in the present’ – 5)	
Can you envision someone licensing or buying the patent (or buying the company) so that they can incorporate the invention in their product/service? (no – 0; yes – 5)	
Is the invention for a niche feature or a product with a large market? (niche – 0; broad – 5)	
Will competitors want to offer the new product/service/feature, and if so, will they have to copy the invention or can they find another way to achieve similar results? (will not want – 0; will find other means – 3; will want and must copy – 5)	
Will it be easy or difficult to keep the invention secret? (easy – 0; difficult – 5)	
Will the invention increase or decrease your client’s total costs? (increase – 0; decrease – 5)	
Is the invention new, non-obvious, and owned without restriction? (old, obvious, encumbered – 0; new, unobvious, unencumbered – 5)	
Total:	

PATENT STRATEGY BASICS

All patent strategies require a balance between two competing values:

- a) the potential benefits of the patent over the long term; and
- b) the costs of the patent, most of which will be borne in the near term.

Uncertain benefits

The benefits of a patent are uncertain and range from very high to nil. For some companies, patents truly are of high significance and value, representing the difference between staggering success and complete failure. However, some issued patents are worthless. To add to the problem, valuing an issued patent is extremely difficult and at a minimum requires knowledge of patent law, business, and the technology to which the invention pertains.

For a patent to be valuable, it must be valid and enforceable against potential infringers. Not all issued patents are valid. Many issued patents are invalidated in litigation, despite a presumption of validity. To be valid, a patent must cover an invention that is novel, inventive and useful, and comply with several other requirements. For instance, if it turns out that the patent was anticipated by prior art (even if that art was unknown to the inventor or the patent examiner at the time of issuance) the patent is invalid. As to enforceability, potential challenges include having a valid patent in the country in which a stop to infringement activities is desired and securing and enforcing judgment in a reasonable time period and cost in that jurisdiction.

For the patent to be of value the patent must also define claims that have monetary value so competitors cannot design easier or cheaper alternatives. This issue is not internal to the patent itself or patent law, but rather relates to the nature of the technology, the availability and cost of alternatives, and what customers of the patented invention are willing to pay for.

Costs

The costs of patenting are relatively certain and immediate. They are almost never inconsequential, and they can be substantial especially if filing multiple patent applications and/or filing in multiple countries.

Unfortunately, spending a lot of money to obtain one or more patents does not guarantee that the patents will be valuable. As a result, formulating and executing a patent strategy is one of the most difficult exercises of judgment. The patent strategy

must consider trading off the competing objectives of minimizing current cost, while maximizing future available protection. There is no easy answer to this trade-off, it is a matter of judgment that must be sensitive to context (e.g., market conditions, rate of evolution of technological innovation, etc.).

Often, the single most important thing done to facilitate wise patenting is:

- a) securing the maximum rights possible in a timely fashion; and
- b) deferring the expenditure of money on patents to the greatest extent possible without violating a).

Secure maximum rights

Generally, the quickest, cheapest, and most effective way to secure the maximum possible patent rights is to file a U.S. provisional patent application immediately, prior to any possible disclosure of the invention.

Exploit deferral

Exploiting deferral can be advantageous because:

- a) expenditures are deferred, the money of which can be spent elsewhere (e.g., growing a business);
- b) during deferral, knowledge can be enhanced and thus substantive improvements to the patent application can be made. Knowledge should be increased over time for: the potential strength of the patent application; the potential weaknesses of the disclosure or claims or means to work around the patent application; and the marketability of the invention. The knowledge can be used to improve the patent application, cull weak patent applications, and to focus on good patent applications in way that maximizes marketability of the invention.

Consider alternatives

Throughout the patenting process, alternatives to patenting should be considered. Alternatives to patenting include maintaining the invention as a trade secret, trying to use other lower cost intellectual property rights like industrial designs, copyrights and trademarks, or, adopting an open source non-proprietary approach. Sometimes, customer traction with earlier adopters is the most powerful barrier to entry and protector of your lead and time or money is not necessary for retaining exclusive intellectual property rights.

Start monetizing immediately

The mirror image of the significance of deferral of patent costs is the importance of commencing efforts to monetize the invention immediately. Generally, once a provisional patent application is on file, systematic efforts to monetize the invention should begin immediately. For instance, licensing and sale discussions should begin immediately and vetting of the market for products/services that incorporate the invention undertaken. The sooner discussions with potential customers begin and a sense of the market value of the invention is obtained, the better. This information will help guide such crucial patent strategies as which inventions to protect, where to file for protection, and to what degree. In addition, it will provide a full range of business strategies including what to sell, where to sell, at what price to sell, and to whom to sell.

WHERE TO FILE YOUR PATENTS

A patent filing strategy is required for determining where to file a patent application. It costs money for each country in which a patent is filed. These costs include government filing and maintenance fees, translation costs, and attorney fees for local representation and prosecution and can easily run into the thousands of dollars for each country. Accordingly, while it is rare that you should not apply in the United States, beyond that the scope of application varies greatly with budget and the nature of the product and industry. On the other hand, however, the US represents less than 25% of the world economy (and is shrinking in relative terms) so a strategy for the rest of the world needs to be considered. Even if the strategy is to not bother filing outside the US, it should be planned not accidental.

The theory is to apply for a patent application if the investment in a patent will produce a positive return on investment over the life of the patent relative to investing the funds in other aspects of the business. Unfortunately, this cannot be determined with certainty, as the calculation depends on a number of unknowns and contingencies. To calculate this, the factors to consider include:

- 1) the cost of securing the patent (can be decently estimated);
- 2) the cost of enforcing the patent (difficult to estimate but estimate as a large number);
- 3) the likelihood that the patent application will progress to a valuable, issued, and enforceable patent considering:
 - a) approximately 50% of US applications are abandoned;

- b) a large number (~ 50%) of patents are invalidated when litigated in the US;
 - c) many valid patents end up being relatively easy to design around (assume a high failure rate, over 80%);
 - d) in some jurisdictions the substantive patent law will help or hinder in terms of how likely it is that broad claims will be allowed (e.g., some jurisdictions (Canada, India) preclude patenting methods of medical treatment and some jurisdictions (Europe) do not grant broad business method or software patents);
- 4) the cost of capital (e.g., for a start-up, this cost is high and will drive down the value of a current patent application);
 - 5) the cost of capital of any acquirer of the business or invention or strategic licensee (likely lower than if the business or invention is sold or licensed to a mature business);
 - 6) the margins on the product that embodies the invention; and
 - 7) the incremental revenue that can be attributed to the patented invention.

As a very rough rule of thumb, a patent will pay off if, but only if, the patented invention will lead to substantial incremental revenue beyond what would have been secured without the patent. It is seductive to conceive of patents as applicable to new, new things, but careful analysis suggests that patents on inventions that reduce costs for customers in a pre-existing and large industry are most likely to pay off. For instance, an invention that reduces the energy consumed to make a commercial product like paper or concrete is more likely to pay off than most new nice to have brand new consumer products.

Generally, a patent is desirable where:

- 1. there is a large market for the product or service that embodies the invention; and
- 2. the product is manufactured in a jurisdiction that differs from the jurisdiction in which the large market for the product is found. For instance, it may be desirable to patent semiconductor inventions in Taiwan, as it has a global presence in semiconductor manufacturing.

With respect to (1), factors to consider include the size of the potential market for the invention in each country, geography, and cultural factors. Some inventions are specific to certain industries which are geographically restrained or more relevant in certain cultures. For instance, patents relating to petroleum extraction are most valuable in other countries that also participate in petroleum extraction (e.g., United States, Russia,

Norway, Canada, Brazil, and the Gulf States). If the invention is not constrained by geography, the market size in any given country is roughly correlated to Gross Domestic Product (GDP) for that country.

Some countries, like India, have large populations. Some, like Scandinavia, have affluent populations. The United States has the highest combination of affluence and population for many products and that is why it ranks so highly as a preferred jurisdiction to patent in. The United States also has robust patent laws. Some countries, like Canada, have a higher combination of affluence and population than you might expect. Roughly 60% of current world GDP can be covered by filing in the United States, Germany, Japan and China, and roughly 75% by additionally filing in Canada and Australia. In considering market growth over the life of the patent, patenting in Brazil, Russia, India and China should be considered.

With respect to (2), sometimes it makes sense to focus on where products are manufactured rather than used. For instance, consumer electronics are used worldwide, but only manufactured in a few countries. Focusing on these countries could be very effective at modest cost. However, manufacturing is increasingly mobile. Another interesting option to consider is trans-shipment points and local hubs, such as Singapore and Panama.

The cost of filing, prosecuting and maintaining the patent in each country should be considered when deciding where to file. Some countries have low filing fees, and some have very costly filing fees. For instance, the cost of filing, including translation costs, is high in Japan. Some countries have low prosecution costs. Also, many countries belong to regional conventions that can reduce patent costs (e.g., Europe, Africa, etc.). In Canada, using the patent prosecution highway program can dramatically lower the cost of prosecution in Canada if you are already prosecuting in a country such as the United States.

The cost and likelihood of enforcing the patent in the country should also be considered when deciding where to file. A patent provides the option to sue for infringement. To enforce the patent in a country the owner or licensee must sue to enforce it in that country. Legal systems vary and the Rule of Law is better established in some countries than in others. If enforcement in a country is likely to be prohibitively expensive, extraordinarily slow or capricious, the value of a patent in that country is impaired. However, some countries like China that lacked a strong history of the Rule of Law are making rapid improvements to the robustness of their patent laws and enforcement. What should be considered (but is uncertain) is what the Rule of Law will be like in the second half of the patent term (years 10-20).

The potential value of a patent not just to the business but to a potential acquirer of the business or licensing partner should also be considered when deciding where to file. The business may be small, but the business of an acquirer or licensee may be large with global brands, deep pockets, and the ability to get value in locations that may be well beyond your means.

LITIGATION

The prospect of patent litigation can be daunting. However, there is no reason to avoid patenting simply because of the cost of litigation. In particular, patentees must remember that litigation is a two-way street. Without litigation, there can be no patent enforcement. Accordingly, a robust litigation environment is beneficial for patentees. It is true that patent litigation can be expensive. However, these fees are part of doing business, and often offset by the magnitude of damages awards, and increasingly, by loser pays fee recovery awards.

A strategy for patent holders who believe that they do not have the resources to litigate successfully (at all, or in particular jurisdictions) is to seek out partners with financial strength, either licensees, or attorneys who work on contingency, or other forms of financial partners. Failing to patent simply because of the cost of patent litigation is a bad strategy as it is an unwarranted and early concession of defeat. Moreover, there is no control over someone that might sue you for patent infringement. If some patents are owned, the patents can provide useful bargaining leverage for resolving these disputes. If you have an invention that might be valuable to a large deep-pocketed entity, a good strategy is to protect the invention and then immediately start trying to form partnerships with entities that have the resources to get the most value from the patent.

About Miltons IP

We are a team of patent agents and lawyers who help Canadians protect their patents (and other intellectual property rights) in Canada, the United States, Europe, and around the world. We deliver cost-effective excellence, great advice and great service at fair prices. Our firm is built on the principle of transparency, extending to our fees which are clear, flat fees whenever possible.

Of course, we would be pleased to answer any questions. Contact us by phone or email at any time.

We look forward to serving you

About US

We are a team of patent and trademark professionals who provide high quality, cost-effective services for Canadians.

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