PATENTS OF INVENTION: HOW, WHY AND WHERE

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INTRODUCTION:

What is a patent of invention, what different systems of Patent Law actually exist in the world and what are their advantages and disavantages? Which of these systems do we have in Canada and what are the rules of the game at the international level? Lastly, who files patents of invention and why?

These are some of the questions which we will try to answer.

WHAT IS A PATENT OF INVENTION:

A patent of invention could be defined as a temporary title of property delivered by the government of a country to an inventor, or his representative, on a technology developed by this inventor and which presents the particularity of being useful, new and original in view of what exists in the field, i.e. the prior art.

Once issued, this title of property gives to its owner an exclusive right to exploit this technology in the country where the patent is issued. By exclusive right, is meant the exclusive right to manufacture, sell, use and even import.

Why should the government of a country give such a privilege to one of the member of the community it represents? This question could be asked in capitalist countries where free trade and competition are supposed to be the rule and where any restrictions are exceptional and often forbidden. This question could also be asked in communist countries, where patents are also delivered, even if absolute equality between individuals is supposed to be the rule and where nobody is entitled to special privileges.

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In the world as we know it, altruism is a rare virtue and nobody likes to complicate life for the simple pleasure of being of some service to the collectivity, unless a person finds in it a certain advantage.

How can an inventor be persuaded to put in writing his ideas and take the risk of developing them commercially if the state does not give some compensation in return? This was recognized many years ago and justified the issuance of what was called at the time "letters patent" and what is called today a "patent of invention". This was also recognized in the communist countries. Therefore, in the Soviet Union, after having abolished patents of invention at the same time as every other form of property, Lenin realized that nobody was any longer interested in inventing anything and particularly in taking the pain of describing an invention in writing. Lenin re-established a system of "certificate of authorship" to motivate inventors.

In capitalist countries, the award given to the inventor takes the form of a temporary exclusive right of exploitation. In communist countries, the award takes the form of immediate material advantages (bonuses, preferential treatment, favours). In both cases, however, the principle and the result are the same.

By its nature, the patent of invention or its equivalent in communist countries the "authorship certificate" is the equivalent of a contract passed between an inventor who worked and participated in the development of a new and useful technology and who is not obliged in anyway to describe his invention in writing and, on the other hand, the public represented by the government which is interested in using this technology to improve standards of living. As in any other contract, both parties have rights and obligations. The government must grant an exclusive right of manufacture, sale and use in the whole country for a relatively long period (20 years from the filing date in Canada and in Europe, 17 years from the issuance of the patent in the United States), together with the right to sue any infringer before the courts. In consideration of this temporary exclusive right, the inventor must describe his invention in detail, in writing. Such a description must include, to the limits of the inventor's knowledge, indications of how the invention functions and how it can be manufactured once the temporary exclusive right is expired.

In certain countries such as Canada, the inventor must also exploit the invention within 3 years from the issuance of the patent, otherwise he may be forced to grant licences to any person asking and in a position to exploit the patent. This is specifically covered by the law to prevent anybody from obtaining a patent of invention for the sole purpose of preventing the marketing of his invention and therefore depriving the public of its benefit.

After having established the necessity and advantages for a collectivity to grant temporary exclusive right as a reward to any person describing a new technology, we shall now examine the form and conditions of such grant. In other words, what form may take the right to a patent?

THE VARIOUS SYSTEMS:

During the last 100 years, two systems of patent law have developed.

The first system, known as "the first inventor" type, is the system that we had until recently in Canada. Under that system, the exclusive right to a patent is granted to a person claiming to be the first to have invented the invention. If two applications are filed on the same invention by two different persons, the patent will be granted to the person who can prove, to the satisfaction of the authorities, that his invention was conceived first, even if his date of application is subsequent in time.

The second system, known under the name "first to file", is a system recently adopted in Canada and which came into force on October 1st, 1989. Under this system, the exclusive right given by the patent is granted to the first person who applies for it. If two applications are filed by different persons on the same invention, the patent will be granted to the person who first filed an application unless it is proven that his invention was derived from the knowledge of another.

Evidently, each of the system presents advantages and disadvantages.

"The first to file" system is by far the most commonly used. This system is used in practically all the countries of the world, including Canada, and has the advantage of being extremely simple to apply, especially by the authority responsible for patents (the Patent Office), since its application is derived from the old slogan "first come, first served". This system, however, gives little chance to the inventor to really develop his invention since he must always be concerned by an earlier filing by another.

"The first to invent" system, to our knowledge, is used only in two countries, the United States and the Philippines. It is far more complicated even if the number of problems, that is cases where the authority must decide which of two inventors invented first, is relatively small when compared to the number of applications filed each year.

This system, however, has the advantage of allowing the inventor, or his representative, sufficient time to develop the invention and test it publicly, provided this testing is made within the so called "grace period".

By its nature, "the first to file" system does not necessarily imply that the first to file be the inventor or his representative, even if this is sometimes required in certain countries such as Canada. In "the first to invent" system, it is absolutely necessary that the applicant be the inventor or one of his representatives.

In other words, "the first to file" system encourages and rewards rapid filing. In fact, in most countries, who files is irrelevant, as long as the collectivity benefits rapidly from the new technology. "The first to invent" system will reward the creativity of the individual as such. The rapidity with which the application is filed is of secondary importance.

Why has Canada chosen to go from "the first to invent" system to "the first to file" system? Simply because the latter is much simpler and therefore less expensive to administer and because this system has been adopted by all the countries of the world, except the United States and the Philippines. The United States will soon reconsider its own system.

Also, the trend is to world-wide harmonization. On this subject, the practice throughout the world that Canada just adopted, is the grant of patents valid for 20 years from the filing date rather than 17 years from the date of issuance, the payment of annual taxes to maintain the applications and patents in full force, the automatic publication of applications 18 months after the date of filing or priority and examinations done upon request together with the payment of a tax.

From the point of view of the users of "the first to file" system and particularly from the point of view of the inventors and Canadian entrepreneurs, the adoption of such a system presents the disadvantage of creating a certain pressure as regards the rapid filing of a patent application. This rapid filing was in any event necessary if the applicant wished to extend his protection in the countries where the systems were of "the first to file" type, such as in Europe and in Japan. On the other hand, this system has the advantage of leaving less uncertainty in the establishment of rights, since the applicant no longer has the risk that another person, filing after him, be granted a patent simply because this other person may prove prior invention.

We discussed before world-wide harmonization with respect to patents. But is there really harmonization?

INTERNATIONAL TREATIES CONCERCING PATENTS:

As early as the end of the 19th century, there was an initial attempt to establish rules and to harmonize the practices with respect to patents throughout the world.

The first treaty which was signed and is still in full force is known as the "Convention de l'Union" (Paris Convention or International Union for the Protection of Industrial Property). This treaty was signed in Paris in 1883 and 90 countries are members, including the quasi-totally of developed countries, whether from the West of the East, with two major exceptions, Venezuela and Taiwan.

This treaty established two major rules of law and practice. The rule of law is that each of the signatories, must grant to the residents of the other member countries the same rights as granted to their own residents, i.e. the same type of patent with the same protection. In other words, a German or a Japaneese applicant for a patent of invention in Canada will be granted the same rights as any Canadian. In the other direction, a Canadian applicant for a patent of invention in Germany or in Japan will be granted the same rights that a German or a Japanese would be granted. The second rule established is the grant of a priority delay of one year to any applicant in any member country to extend its protection in the other countries.

If this extension of protection is requested within the priority year starting from the filing date of the first application in the country of origin, the other member countries will recognize the filing date of this first application in the country of origin as the official date of filing in their country for the purpose of novelty of the invention. Therefore, there is a certain form of retroactivity of the rights to the date of the first application made.

Clearly, this second rule established by the "Paris Convention" does not grant a protection in 90 countries. It grants the right to extend the protection within one year in the 90 countries in question. Therefore, this is not a right of property on the invention but rather an option for such a right: the inventor must take the necessary steps in each member country in which he has an interest and must adapt to the law and language of each.

Subsequent treaties have reduced the formalities represented by the filing of application for patents.

The following treaty was adopted many years ago by the African countries born upon the independance of the former French colonies. Under this treaty, which came into force in 1964, one application filed at Yaoundé, Cameroun, establishes a right in all the countries that are members.

Another treaty was signed soon thereafter, establishing the "European Patent Convention" (E.P.C.), now signed by 14 countries of Western Europe. We must not confuse the 14 signatories with the "E.E.C.": Switzerland, Austria and Sweden are governed by the treaty; Ireland is not.

Under this treaty, in force since 1979, one may file a single application for what is called a European patent, in French, English or German. This application is examined only once at the "European Patent Office" (E.P.O.), in Munich. Once accepted, a Certificate of European Patent will be issued and the owner may have this certificate recognized as such in each of the member countries in which he is interested, without further examination but subject to other minor formalities such as the filing of a literal translation, the nomination of a local agent and the payment of a tax. Therefore, one is no longer obliged to file in each country an application adapted to the local practice and having to pass the scrutiny of an examination. The so-called "European Patent" eliminates a lot of bureaucracy, but applicants should be aware that their patents are still valid only when recognized by each jurisdiction.

The possibility of establishing a patent valid throughout the E.E.C. which would be valid everywhere without necessity of formal recognition country by country was discussed. This is however still only a project.

The last development was the establishment of a treaty of cooperation with respect to patents, usually known under the name of "Washington Treaty" or its English abreviation "P.C.T.". This treaty with more than 40 member countries including the countries members of the "European Patent Convention", Scandinavian countries, the United States, Japan, Corea, Australia and Brazil, was recognized and came into force in Canada on January 2, 1990. The goal of the treaty is to make sure that the obtention of patents for the same invention in many countries will be simpler and less expensive, by reducing the multiplication of tasks normally done in each country (translation, filing, examination, etc.).

To achieve this goal, the P.C.T. requires the filing of only one application, called an international application, which may be made in any member country, in one language, with only one set of requirements as to form, and the payment of one set of taxes through one patent agent. This international application, once filed, has the same effect as a national application which would have been filed in each of the signatory countries.

In practice, there are two stages of procedure. The first, called the international stage, includes the filing of the international application which is submitted to a preliminary examination as to form and which is granted a date by the authorities of the Patent Office of the country where the

application was filed. Upon filing, the applicant must indicate the other signatory countries where protection is desired.

A copy of the application is then sent to the "World Industrial Property Organization" (W.I.P.O.), in Geneva, to constitute proof of filing. Another copy of the application is simultaneously sent to an organization in charge of the novelty search. This organization is in practice one of the Patent Offices of designated member countries described as "international searching authorities". Amongst these designated countries, are the United States, the Soviet Union, Japan, Sweden and the E.P.O. This Patent Office will issue a research report, a copy of which is sent to W.I.P.O. and the applicant will be free to modify his claims, depending on the prior art located. A copy of these amendments is also sent to W.I.P.O. and is valid in all the countries specified when the application was filed.

Within 20 months following the date of priority or 8 months following the date of the international filing, if this filing is done at the limit of the priority delay of one year mentioned above, the applicant must enter into the national stage, i.e. have its international application officially recognized in each of the countries specified in the application, this requiring the payment of local taxes, providing translation, nominating agents in each of the countries, etc. Alternatively, the applicant may request an international examination, where the patentability of his invention will be examined in details in view of the prior art located during the search. If such examination is requested, the recognition in the specified countries is delayed for 10 months to allow sufficient time for the examination.

In all cases, the applicant is still faced with various steps to be followed; translations to prepare and taxes to pay in the countries specified at the origin. We should be aware that these countries are not compelled to recognize the validity of the search report and the international examination and may therefore re-examine the application according to local requirements. Note that European countries recognize the concept of absolute novelty; therefore, the inventor must not divulge his invention in any form, anywhere in the world, before first filing his application.

One may therefore question the advantages of an international filing according to the P.C.T. In my opinion, they are the following:

First, the filing of an international application is not very expensive and allows a gain of time (8 months or 18 months depending if the examination is requested, which are added to the 12 months of international priority). This gain of time is useful for two reasons:

Safeguard the rights of the hysteric inventor who comes and see you the day the priority delay expired and wants to extend his patent's protection or who is expecting or looking for financing for the extension of the patent's protection in foreign countries; or to complete trials, testing or analysis of the invention; to be able to determine before investing considerable fees if an extension of protection in foreign countries is desirable.

Secondly, the filing of an international application automatically leads to a novelty search and allows a determination or confirmation if the invention is really novel and therefore patentable. This also allows a consideration of the prior art in the preparation of the claims. This last point is extremely useful in cases of countries where there is no examination.

Since January 2, 1990, filing an international application is possible in Canada. Also, this means that foreigners may also choose Canada as a designated country by simply putting a check on a pre-printed form when filing in their own country.

Are these systems and treaties useful and functional, and why?

A PATENT, POWERFUL ECONOMIC INCENTIVE:

To answer the questions above, let's refer to some statistics.

Annually, more than one million patents are filed throughout the world, of which 200 000 are filed in Japan, 100 000 in the United States and 40 000 at "L'Office européen des brevets". The international applications made in accordance with the P.C.T. are under 15 000, which is a good indication of its limited advantages.

In Canada, the number of patent applications filed in 1987 was over 30 000. More than 93% of applicants were foreigners, Americans being the leader with more than 50% of all patent applications followed by the Japanese (11.2% in 1987) and the Germans (7.3% in 1987). The Canadians were in fourth position (6.9 % in 1987), immediately before the Bristish (4.9 % in 1987) and the French (4.8% in 1987). It should be mentioned that these statistics are not really surprising and should not be interpreted as meaning that Canada is an under-developped country or that the Canadians are not inventors. As everybody knows, the economic force of Canada resides essentially in the primary sector (agriculture, natural resources) and the tertiary sector (services). The economic sector which generates most patents is principally the secondary sector, i.e. industry.

It is also interesting to note that 10 international companies (including IBM, General Electric, Ciba-Geigy, DuPont, Westinghouse, Bayer, A.T. & T., Sony and Mobil Oil) filed more patents in Canada in 1987 than Alberta and British Columbia together.

Amongst the leading Canadian applicants, we can mention Northern Telecom (59 applications in 1987), National Defence (26 applications), Alcan (13 applications), C.N. (12 applications), Hydro-Québec (6 applications).

These statistics show that patents are applied for mainly by large industries and that the more industrialized the country is, the more patents are filed by local applicants. In the United States, more than 50% of the patents are applied for by Americans. In Japan, 70% of the patents are applied for by Japanese whereas only 30% of the patents are applied for by locals in France and England.
Why this interest on the part of industry? Because the patent is a very important economic incentive for those who wish to innovate in a given technology. Most of the inventions are essentially the result of long and expensive research, which would never have been undertaken without the assurance that once the goal is reached, those who participated in the research would have the possibility of recouping their costs being the only ones entitled to manufacture and sell at a price fixed unilaterally the result of this expensive research.

When we discuss inventions, often we think of those weird inventors or creator of spectacular and genius inventions such as the plane, the automobile, television, radio, telephone, etc. You should note however that alongside these great inventions, there are numerous small improvements very interesting and useful, which are added every day to our technical knowledge.

When an inventor discovers a new product or a new process, the competition is immediately likely to suffer a loss unless it can find a better process or a product at a better price. The inventive genius is therefore alerted and their talent is stimulated to find even better without infringing the patent. It follows that the patent is not only a monopolistic instrument but rather is an incentive to find better and cheaper products and processes. In all cases, the public will have its benefit. Each of the improvements may be modest in itself, but when applied to thousand of objects, it is infinitely multiplied. It takes its place in the industry and constitutes an important step forward for the world we live in.

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