

All you want to know about **PATENTS**



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Origiin IP Solutions LLP

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Table of contents

1	Basics of Intellectual Property Rights.....	1-11
2	What is a Patent?	12-24
3	Non Patentable Inventions	25-38
4	Checklist before filing for a patent.....	39-41
5	Patent pending: What does it mean?	42-44
6	Patent search: What is the right time to do it?	45-48
7	Power of the State-of-the-Art.....	49-51
8	Patent alerts: To stay ahead of the competition	52-55
9	What would you choose: Copyright or Patent?.....	56-59
10	Filing first patent application: Important considerations	60-63
11	Importance of systematic documentation of invention	64-67
12	Where to file for a patent first?	68-71
13	Process of patenting: India and PCT.....	72-87
14	Unity of Invention: Indian Patent law perspective.....	88-90
15	Can idea be patented?	91-94
16	Early publication of patent application: Pros and Cons	95-96
17	Joint ownership in patent: Important consideration....	97-100
18	Position of software Patents in India.....	101-103
19	Software Patents: Myth and Reality.....	104-109
20	Biotechnology Patents in India.....	110-120
21	What is a Compulsory License?	121-123
22	Certain acts that don't deem to be infringement	124-126
23	Importance of IP Policy.....	127-131
24	IP Audit: Way of assessment of the intangible assets..	132-134
25	IP: How and where do we start?	135-146
27	Is it necessary to be a Patent Agent?	147-153

Chapter 1

Basics of Intellectual Property Rights

Imagination is everything. It is the preview of life's coming attractions.

- **Albert Einstein**

A. Introduction

The term *Intellectual Property (IP)* means product of the mind or the intellect. In our day-to-day life, we come across various forms of IP such as new movie, song, electronic devices or drugs etc. Practically, everything that we use is a product of man's ingenuity, knowledge and skill, apart from labor and capital which falls under some kind of IP. Under intellectual property law, owners are granted certain exclusive rights to a variety of intangible assets, such as musical, literary and artistic works; inventions; words, phrases, symbols, and designs, often for a limited period of time. Common types of intellectual property rights include copyright, trademarks, patents, industrial design, trade dress, and trade secrets in some jurisdictions.

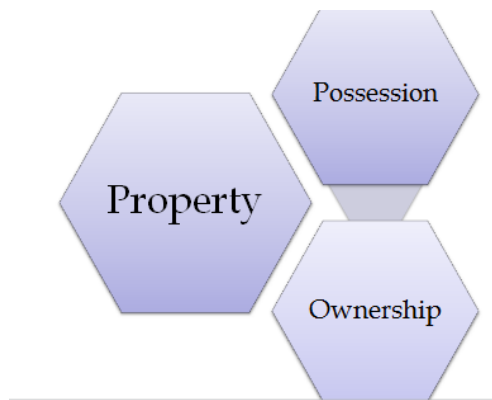
IP may broadly be divided into two categories: **Industrial property**, which includes patents, trademarks, industrial designs, and geographic indications of source; and **Copyright**, which includes literary and artistic works such as novels, poems and plays, films, musical works, artistic works such as drawings, paintings, photographs and sculptures, and

architectural designs. Rights related to copyright include those of performing artists in their performances, producers of phonograms in their recordings, and those of broadcasters in their radio and television programs.

The concept of Intellectual Property will be well appreciated if we understand what is meant by the term property. It is interesting to note that Indian constitution has no mention of IP but just the word “Property” and hence all attributes of “Property” have been also assigned to IP, such as:

- ✓ Freedom to acquire, hold and dispose of property - Article 19
- ✓ Protection from deprivation of property – Article 31
- ✓ Property could be possessed or acquired for public purpose only by law and only on payment of compensation – Article 32

Legally speaking, the term ‘**Property**’ essentially means a bundle of rights flowing from the concept of ‘**ownership**’ and ‘**possession**’.

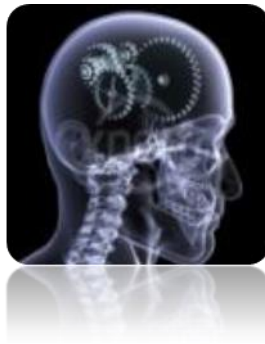


The right of ownership and possession is an integral part of the property that assures the owner, the right to dispense with the property in a manner he or she deems fit, whether to use or not to use, exclude others from using, or to transfer the ownership.

With this concept in the mind, ***Intellectual Property Right (IPR)*** can be defined as the right held by a person over the creation of his mind, for a particular period of time in a given jurisdiction. Intellectual Property acquires legal rights in the form of patent, copyright, trademark, industrial design etc. It gives the creator an exclusive right over the use of his/her creations for a certain period of time.

B. IPR is important: Because “*Knowledge is Power*”!

In today’s dynamic and competitive business environment, IP is the key element needed to maintain a competitive edge in the market. IP as a business asset is an integral part of the business process. Effective acquisition, management, and protection of Intellectual Property can mean the difference between success and failure today. IP comprises the knowledge and skills that are intangible assets which one can convert into usable resources to generate a competitive advantage. It has a significant role in company’s innovation processes and competitive strategies. IP can be embedded for instance in products, systems, routines or services and it can take various forms.



Awareness of IP is critical in fostering innovation. Without protection of ideas, businesses would not reap the full benefits of their inventions and would focus less on research and development. Also, there are possibilities where it can be copied or misused by others, or accidentally/unintentionally third party’s IP can be incorporated in the work, affecting business adversely.

Hence, knowledge and awareness of Intellectual Property Rights (IPR) is important for every company which is based on research and innovation in order to make sure that IP generated is secured appropriately and adequately. Ignorance of knowledge on IPR can be extremely detrimental in case an

organization is using IP of someone else's with or without the knowledge of its existence. This may lead to unnecessary litigations/infringement proceedings, resulting in huge financial and reputation loss.

Interesting Facts

Anant Electronics and Futuristic Concepts Media Ltd were using 'digital transmission system' technology to manufacture VCDs without knowing that in India, Philips had a patent protection on this technology. Delhi High Court ordered the two Indian companies to stop manufacturing the VCDs that infringed Philip's "digital transmission system". Therefore, using technology protected by others can drive a company out of business. Knowledge of IPR is important not only to protect one's own IP but also to respect other's IP.

C. Why does IP need protection?

"IP protection is a part of social, cultural and economic development of a country"

A company's intellectual property, whether it is in the form of patents, trade secrets or just employee know-how, may be more valuable than its physical assets. IP protection plays a key role in the innovation system and economic development of an organisation.



Generation of IP usually involves huge investments in terms of money, talent, time, manpower and hence, it becomes important to protect it in order to prevent copying by others as well as to have ownership and exclusive rights over it. Exclusive rights that flow by owning IP act as an incentive or reward, which are considered critical to encourage stimulation of ideas leading to further advances. Commercialization of IP can be a great source of revenues for an organization.

Interesting facts:

The combined value of Wipro's brands, patents, trademarks and rights was around Rs.180 crore in the year 2009.

UK intellectual patent office has introduced a scheme called "Patent box" on April 1 2013 that provides incentives to companies in the form of lower corporation tax that will be 10% on the profits earned by patented inventions and certain other innovations.

Ananth Krishnan, Chief Technology Officer, TCS said, "We have started using patents to protect our revenues and also to minimize risk to our business. The monetization of our IP will gradually increase with time and is already happening."

*Glue used for "**Post-it**" was discovered by chance. Initially ignored, it was then patented. Post-it subsequently brought huge profits to the company. The **Gillette®** Mach 3 has been protected by 22 patents.*

D. Different forms of IP

Intellectual Property Rights, as a collective term, includes following independent IP rights which can be used for

protecting different aspects of an inventive work for multiple protection:-

- a) *Patent*
- b) *Copyright*
- c) *Trademark*
- d) *Industrial Design*
- e) *Semiconductor integrated circuit layout design*
- f) *Undisclosed information or Trade secret*
- g) *Geographical Indication*
- h) *Plant varieties and farmer's rights*
- i) *Traditional knowledge*

Patent

A patent is a powerful business tool for companies to gain exclusivity over a new product or process, develop a strong market position and earn additional revenues through licensing. Patent is a set of exclusive rights granted by a state (national government) to an inventor or their assignee for a limited period of time in exchange of public disclosure of an invention. Patent rights are territorial i.e. the patent granted in India is valid only in India. To have protection in other countries, inventor is required to file patent application separately in other countries too.



Gordon Gould: Laser

Laser stands for Light Amplification by the Stimulated Emission of Radiation [LASER]. The idea for a laser was first hatched by Albert Einstein in 1917; however, Gordon Gould did not invent the first light laser until 1958. The laser inspired over then different kinds of lasers to follow.

Copyright

Copyright is a set of exclusive rights granted to the author or creator of an original work, including the right to copy, distribute and adapt the work. These rights can be licensed, transferred and/or assigned. Copyrights last for a certain time period after which the work is said to enter the public domain.



Trademark

A Trademark is a distinctive sign, which identifies certain goods or services as those produced or provided by a specific person or enterprise. It can be any word, name, symbol, or device, or any combination that is used to:

- Identify and distinguish the goods/services;
- Indicate the source;
- Display a symbol of good will;
- Guarantee consistency in quality;
- Make purchasing decisions easy;
- Advertise & create an image.

Some famous Trademarks include Nike, Reebok, Coca-cola, Pepsi etc.

Industrial Design

Industrial design as per The Designs Act, 2000 means the features of shape, configuration, pattern, ornament or composition of lines or colors applied to any article - whether in two dimensional or three dimensional or in both forms -



by any industrial process or means, whether manual, mechanical or chemical, separate or combined, which in the finished article appeal to and are judged solely by the eye; but it does not include any mode or principle of construction or anything which is in substance a mere mechanical device. In this context an article means any article of manufacture and any substance, artificial, or partly artificial and partly natural; and includes any part of an article capable of being made and sold separately.

Semiconductor integrated circuit layout design

Semiconductor Integrated Circuits (IC) Layout Design Act 2000 provides protection for semiconductor IC layout designs. IC Layout design includes a layout of transistors and other circuitry elements and includes lead wires connecting such elements and expressed in any manner in a semiconductor IC. Semiconductor IC is a product having transistors and other circuitry elements, which are inseparably formed on a semiconductor material or an

insulating material or inside the semiconductor material and designed to perform an electronic circuitry function.

Undisclosed information or Trade secret

A trade secret refers to data or information relating to the business which is not generally known to the public and which the owner reasonably attempts to keep secret and confidential. Trade secrets generally give the business a competitive edge over their rivals. Almost any type of data, processes or information can be referred to as trade secrets so long as it is intended to be and kept a secret, and involves an economic interest of the owner.



Geographical Indication

A Geographical Indication (GI) is a sign used on goods that have a specific geographical origin and possess qualities or a reputation that are due to that particular place. Most commonly, a geographical indication consists of the name of the place of origin of the goods. For example, Darjeeling tea, Himachal apples, Dharwad peda, Mysore silk, Sandal wood oil, Tirupati laddoo, Coorg orange etc.



Plant varieties and farmer's rights

The Protection of Plant Variety and Farmer's Rights Act, 2001 provides for the establishment



of an effective system for protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants.

Traditional knowledge

Traditional knowledge (TK) generally refers to the matured long-standing traditions and practices of certain regional, indigenous, or local communities. Traditional knowledge also encompasses the wisdom, knowledge, and teachings of these communities. In many cases, traditional knowledge has been orally passed for generations from person to person. Some forms of traditional knowledge are expressed through stories, legends, folklore, rituals, songs, and even laws. Other forms of traditional knowledge are often expressed through different means.



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CHAPTER 2

What is a patent?

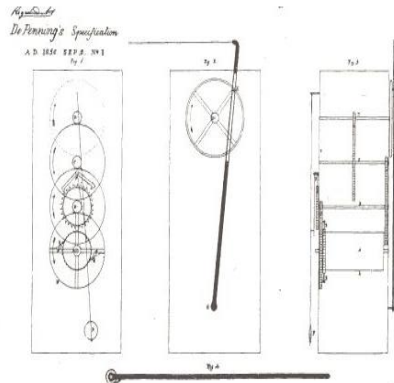
The word “*Patent*” originates from the Latin word, *patere*, which means “to lay open”. A patent is a set of exclusive rights granted by a government to an inventor or applicant for a limited period of time (normally 20 years from the filing date). It is a legal document defining ownership of a particular area of new technology. The rights granted by a patent exclude all others from making, using, or selling the product or a product made by the process.

In today’s fast growing economy, innovation is adopted as major strategy to achieve competitive edge in market. Moreover, short product cycles and increasing competition puts enormous pressure on companies to become innovative and/or obtain access to other company’s innovations, so as to become and remain competitive in domestic and foreign markets. The exclusive rights provided by a patent may be crucial for innovative companies to prosper in a challenging, risky and dynamic business climate.

A. History of Patents

The first patent in the world was granted in Venice to a German engineer in 1323 for model grain mill, which could cater storage needs of entire Venice. In United States, the first patent was granted in 1787 for specially designed grain elevator.

The first legislation in India relating to patents was the Act VI of 1856. The Act was subsequently repealed by Act IX of 1857 since it had been enacted without the approval of the sovereign. The 1856 Act was based on the United Kingdom Act of 1852 with certain departures including allowing assignees to make application in India and also taking prior public use or publication in India or United Kingdom for the purpose of ascertaining novelty. In India first patent was granted to George Alfred of Calcutta, a civil engineer, on 2nd September 1856 for his innovative “Efficient Punkah Pulling Machine”.



George Alfred of Calcutta, a civil engineer, on 2nd September 1856 was granted first patent in India for his innovative “Efficient Punkah Pulling Machine”.

The Act of 1859 provided protection for invention only and not for designs and to remove this lacuna, the ‘Patterns and Designs Protection Act’ (Act XIII) was

passed in 1872. This Act was amended the 1859 Act to include any new and original pattern or design or the application of such pattern to any substance or article of manufacture within the meaning of ‘new manufacture’. The Act XV of 1859 was further amended in 1883 by XVI of 1883 to introduce a provision to protect novelty of the invention, which prior to making application for their protection were disclosed in the Exhibitions of India. In 1888, new legislation was introduced to consolidate and amend the law relating to invention and designs in conformity with the amendments made in the UK law.

In 1911, the Indian Patents and Designs Act, 1911, (Act II of 1911) was brought in and it replaced all the previous legislations on patents and designs. This Act brought patent administration under the management of Controller of Patents for the first time. This Act was amended in 1920 to provide for entering into reciprocal arrangements with UK and other countries for securing priority. In 1930, further amendments were made to incorporate the provisions relating to grant of secret patents, patent of addition, use of invention by Government, powers of the Controller to rectify register of patent and increase of term of the patent from 14 years to 16 years. In 1945, another amendment was made to provide for filing of provisional specification and submission of complete specification within nine months. Indian Patents & Designs Act, 1911 was amended after independence. Government of India constituted a committee under the Chairmanship of Justice (Dr.) Bakshi Tek Chand, a retired Judge of Lahore High Court, in 1949, to review the patent law in India in order to ensure that the patent system is conducive to the national

interest. The Committee submitted its interim report on 4th August, 1949 with recommendations for prevention of misuse or abuse of patent right in India. Based on the above recommendation of the Committee, the 1911 Act was amended in 1950 (Act XXXII of 1950) in relation to working of inventions and compulsory licence/revocation. In 1952, an amendment was made to provide compulsory licence in relation to patents in respect of food and medicines, insecticide, germicide or fungicide and a process for producing substance or any invention relating to surgical or curative devices, through Act LXX of 1952. The compulsory licence was also available on notification by the Central Government. Based on the recommendations of the Committee, a bill was introduced in the Parliament in 1953 (Bill No.59 of 1953). However, the bill lapsed on dissolution of the Lok Sabha.

In 1957, Justice N. Rajagopala Ayyangar Committee examined the question of revision of the Patent Law. The report of the Committee comprised of two parts. The first part dealt with general aspects of the patent law and the second part gave detailed note on the several clauses of the lapsed bill of 1953. This report recommended major changes in the law which formed the basis of the introduction of the Patents Bill, 1965. This bill was introduced in the Lok Sabha on 21st September, 1965 but it lapsed. In 1967, an amended bill was introduced which was referred to a Joint Parliamentary Committee and on the final recommendation of the Committee, the Patents Act, 1970 was passed. This Act repealed and replaced the 1911 Act so far as the patents law was concerned. However, the 1911 Act continued to be applicable to designs. Most of the provisions of the 1970 Act were

brought into force on 20th April, 1972 with the publication of the Patents Rules, 1972.

This Act remained in force for about 24 years till December 1994 and an ordinance effecting certain changes in the Act was issued on 31st December 1994, which ceased to operate after six months. Subsequently, another ordinance was issued in 1999 and was later replaced by the Patents (Amendment) Act, 1999, brought into force retrospectively from 1st January, 1995. The second amendment to the 1970 Act was made through the Patents (Amendment) Act, 2002 (Act 38 of 2002). This Act came into force on 20th May, 2003 with the introduction of the new Patents Rules, 2003 by replacing the earlier Patents Rules, 1972. The third amendment to the Patents Act, 1970 was introduced through the Patents (Amendment) Ordinance, 2004 w.e.f. 1st January, 2005. This Ordinance was later replaced by the Patents (Amendment) Act, 2005 (Act 15 of 2005) on 4th April, 2005 which was brought into force from 1st January, 2005. Latest amendment to patents rules came into force on 28th February 2014, implementing revision of fee structure at Patent Office.

Summary of Patent legislation in India

- **1856:** Act on protection of inventions based on the British patent law of 1852. Certain exclusive privileges granted to inventors of new manufacturer for a period of 14 years
- **1895:** Patent monopolies called exclusive privileges (making, selling and using inventions in India and authorizing others to do so for 14 years from date of filing specification

- **1872:** *The patents and design protection act*
- **1883:** *The protection of inventions act*
- **1888:** *Consolidated as the inventions and design act*
- **1911:** *The Indian patents and design act*
- **1972:** *The patent act (Act 39 of 1970) - 20th April 1972.*
- **1999:** *On March 26, 1999 Patents (Amendment) Act, (1999) - 01-01-1995*
- **2002:** *Patents (Amendment) Act 2002 - 20th May 2003*
- **2005:** *Patents (Amendment) Act 2005 - 1st January 2005*

B. Why should one file a patent?

Though there may be various reasons to file for a patent, following are few of the major reasons:

- To obtain strong market position and have competitive advantage. One can either exploit or license the invention or prevent competitors from using the same.
- Licensing of patents to others may provide access to new markets, which are otherwise inaccessible. Moreover, licensing and assignment may fetch huge revenues for the company
- Ownership of patents may enhance one's ability to raise capital to take a product to market & attract venture capitalists.
- If a company is interested in technology owned by others, one may use its own patents to negotiate cross-licensing agreements, by which company and the other party may agree to authorize each other to use one or more of your respective patents under conditions specified in the agreement.

- A patent is a powerful tool to take legal action against imitators and free technology riders.
- Business partners, investors, shareholders and customers may perceive patent portfolios as a demonstration of the high level of expertise, specialization and technological capacity of a company

C. What is an Invention?

A patent is always granted for an invention. The term ***Invention*** as defined in **Section 2** of The Patent Act, 1970 –

‘A new product or process involving an inventive step and capable of industrial application’ where:

- **New or novel** means product or process which has not been anticipated by publication in any document or used in the country or elsewhere in the world before the date of filing of patent application with complete specification i.e., the subject matter has not fallen in public domain or it does not form part of the state of the art.



A patent cannot claim something that already exists, nor can it claim something obvious to a person skilled in the art. To determine this, patent examination always involves looking for prior art, earlier publications to assess novelty or obviousness of the invention. One of the reasons that a patent system exists is to reward inventors for disclosing their

invention to the public. This implies that an invention should be new, because otherwise, the inventor would get a reward for monopolizing something already in public domain. An important aspect of the patent system therefore, is the determination of novelty of an invention. If examination reveals that an invention is not novel, the patent application is rejected. And even if the patent is granted, it can still be annulled by a court, if it finds that the invention wasn't novel after all.

An invention is not considered to be novel:

- ❖ If it has been anticipated by publication before the date of filing of the application in any of the specifications¹ filed in pursuance of application for patent in India on or after 1st January, 1912; or
- ❖ If it has been anticipated by publication made before the date of filing or the date of priority of the application in any of the documents in any country; or
- ❖ If it has been claimed in any claim of any other complete specification filed in India, which was filed before the date of application though published after the date of that

Because ideas have to be original only with regard to their adaptation to the problem at hand, I am always extremely interested in how others have used them.... **Thomas A Edison**

application.

¹ Patent Specification in particular

Important

*A prior art document is said to anticipate a claim of a patent, if the prior art document describes all the features of that claim, either implicitly or explicitly, which means that the features of the claim are entirely contained within a **single document** in the prior art. If more than one document is cited, each must stand on its own. The cumulative effect of the disclosures cannot be taken into consideration and lack of novelty cannot be established by forming a mosaic of elements taken from several documents. This may be done only when arguing obviousness. However, if a cited document refers to a disclosure in another document in such a way as to indicate that, the disclosure is intended to be included in that of the cited document, then the two are read together as though they were a single document. Such document can still be useful as prior art, but only to prove that the claimed invention is obvious. Usually, to establish that an invention is obvious, more than one prior art document is necessary.*

Illustrative Cases

a. In the case of Monsanto Company v. Coramandal Indag Products (P) Ltd. (1986), it was held that the invention was publicly known, since its formula was published in the report of the International Rice Research Institute in the year 1968 and its common name Butachlor was published in the same report in the year 1969.

b. A document is not considered as a proper anticipation unless it gives the public the same information as the one presented in the applicant's specification. A "mosaic of

extracts” culled from several documents have not been accepted as constituting a relevant anticipation (Decision of the Controller (1942) Patent Application No. 27709).

c.A ‘mosaic’ of separate steps, each known in manufacture, is not sufficient to constitute ‘anticipation’ as to warrant the refusal of grant of a patent, though they may have a bearing upon the question of quantum of ingenuity which arises when a court is called upon to consider whether there is ‘subject matter’ for a patent in the invention (Decision of the Deputy Controller (1946) Patent Application No. 32384.)

- **Inventive step** means a feature of an invention that involves technical advance as compared to existing knowledge or having economic significance or both and that makes the invention not obvious to a person skilled in the art.

Even in the absence of a relevant prior art, a patent can't be granted in case the invention is not different enough from similar inventions that are already present. A patent may be refused, if the differences between the invention and the prior art are too obvious. The invention must be sufficiently different or unique from what has been used or described before that it may be said to be non-obvious to a person having ordinary skill in the area of technology related to the invention. For example, the substitution of one material for another, or changes in size, is ordinarily not patentable.

Indicators of Inventive Step

While assessing an inventive step, various indicators could be employed.

- a. **Distance:** It is to be decided as to how much is the distance between the subject-matter of the invention and the prior-art. If such distance is large, establishing the inventive step is easier.
- b. **Surprising Effect:** The inventive step may be present if there is a surprising or unexpected effect. However, if the measures which lead to this effect, are near at hand by themselves, a surprising effect is not sufficient for granting a patent.
- c. **Long Felt Need:** If the claim solves a "long felt need", there is a presumption that a claim is not obvious as other inventors might have also tried to solve it but could not provide the solution to fulfil the need.
- d. **Failure of Others:** If other inventors have tried to solve a problem and were not successful, the claim will likely involve an inventive step.
- e. **Complexity of Work:** If the work undertaken by the inventor in order to produce the invention was particularly complex, and not readily carried out, that is an indication that it was not a matter of routine. In such cases the invention can be non-obvious.
- f. **Commercial Success:** Commercial success is indicative (but not conclusive) of an inventive step.
- g. Cheaper and more economical product and simplicity of the proposed technological solution.
- h. Prior art motivation.
- i. **Long Standing Problem:** The fact that no-one has followed a particular path before, does not of course dispose of an objection of obviousness, otherwise any invention which was new would automatically be inventive. However, the reasons why this has not been

invented before may well be important, in establishing inventive step.

- j. If the inventor has solved a long-standing problem by using in a conventional way, the materials or **techniques** which have only recently become available then this is not inventive.
- k. It is also not inventive to respond to a change in economic circumstances. For example, if a product has not been made from a particular material or by a particular process for reason of cost, and **the** material or process becomes cheaper or the market value of the product increases, it is not inventive to take advantage of this.
- l. If a newly-arisen problem is solved by the use of available resources in an obvious way, then there is no inventive step (unless the inventor has been the first to identify the problem).
- m. But if the inventor has solved a long-recognised problem by means which others could have used but did not, then there may be an inventive step (Minnesota Mining & Manufacturing Co v Rennicks Ltd [1992] RPC 331).

In Chiron Corp v. Organon Teknika Ltd [1994] FSR 202, a claim to a polypeptide comprising an antigenic determinant of the hepatitis C virus was found to be non-obvious because despite the attempts of numerous research groups over a 10 year period to identify the agent responsible for Non-A, Non-B Hepatitis (later named as Hepatitis C), the patentees succeeded in a unique fashion by adopting a known technique which would not have been obvious to try in the circumstances.

- **Capable of industrial application** means that the invention is capable of being made or used in an industry. If the subject matter is devoid of industrial application, it does not satisfy the definition of “invention” for the purpose of the Act. The purpose of granting a patent is not to reserve an unexplored field of research for an applicant. Methods of testing are generally regarded as capable of industrial application if the test is applicable to the improvement or control of a product, apparatus or process which itself is capable of industrial application. It is therefore advisable to indicate the purpose of the test if this is not otherwise apparent.

An invention for a method of treatment of the human or animal body by surgery or therapy or of diagnosis practised on the human or animal body is not taken to be capable of industrial application. Parts of the human or animal body to be used in transplants are objected as not being capable of industrial application.

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CHAPTER 3

Non Patentable inventions

Apart from definition of invention, Indian patent act does not speak about the inventions that may be patented in India but it does explain the inventions that cannot be patented. Such invention even though fulfil the basic criteria of patentability i.e., novelty, industrial utility and non-obviousness, yet are not granted patent. Such inventions are listed in Section 3 & 4 of the Act and are termed as “Inventions not patentable”.

The purpose of these sections (Section 3 and Section 4) enacted under Indian patent act is:

- ❖ To discourage and prevent monopoly over inventions which are injurious to health, environment, morality, national defence and security.
- ❖ Grant patents only for the invention which are useful for the society and accelerate progress of science and technology.

Following inventions, those are not patentable as per Section 3 of Indian Patent Act 1970.

- a. Invention which is frivolous or which claims anything against well established natural laws is not patentable.

For example: A machine giving output without input is a frivolous invention. A machine proving law

of gravitation to be false is not patentable as Law of gravitation is well established natural law.

Case study: Method of showing time on the basis of metric system

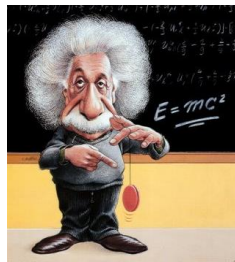
The applicant made time piece dial having 3 arms each for hours, minutes and seconds, further divided into 10 parts for hours, each hour into 100 minutes and each minute into 100 seconds.

Decision: Application rejected under section 3(a) of Indian Patents Act.

- b. Invention has to be industrial useful in order to be patentable. But if the use of invention is contrary to public order or morality or which causes serious danger to human, animal or plant life or health or to the environment, such invention is not patentable.

For example: Inventions relating to a method of committing suicide, sex determination technique to facilitate female foeticide, enhance environmental pollution etc. are against public order and morality and hence non-patentable. The terminator technology which involved inserting a gene sequence in a seed to stop germination is also not patentable.

- c. The mere discovery of a scientific principle or the formulation of an abstract theory or discovery of any living thing or non-living substances occurring in nature is not patentable.



For example: Newton's Laws or theory of relativity are scientific principles and hence, not patentable. However, application of these principles particularly in a process or product can be patented.

Case study: Kirin-Amgen v. Hoechst Marion Roussel [2005]

Decision: Finding of a new type of micro organism occurring freely in nature is a discovery and not an invention, and therefore, cannot be patentable.

Difference between discovery and invention

A discovery adds to the amount of human knowledge by disclosing something already existing, which has not been seen before, whereas an invention adds to the human knowledge by creating a new product or process involving a technical advance as compared to the existing knowledge. A claim for discovery of scientific principle is not considered patentable, but such a principle when used with process of manufacture resulting into a substance or an article may be patentable. For example, finding of a new substance or micro-organism occurring freely in nature is a discovery and not an invention.

- d. The mere discovery of a new form of a substance which does not result in the enhancement of a known efficacy of that substance or the mere discovery of a new property or new use of a known process, machine or apparatus unless such known process results in a new product or employs at least one new reactant is not patentable.

For example: For the purpose of this clause, salts, esters, ethers, polymorphs, metabolites, pure form, particle size, isomers mixtures of isomers, complexes, combinations and other derivatives of known substance shall be considered to be the same substance, unless they differ significantly in properties with regard to efficacy. The alpha and beta forms of the salt X are derivatives of X and will be considered same as X till they are shown to have significant efficacy.

Novartis AG vs. Union of India (Section 3(d))

Novartis International AG is a multinational pharmaceutical company based in Basel, Switzerland that filed a patent application in Indian Patent Office (Patent number: 1602/MAS/1998) related to beta crystal form of salt imatinib mesylate. This form is the most stable version which Novartis formulated into a pharmaceutically useful drug, Glivec. The drug was proven to be effective for innumerable patient's drug and got approved by FDA in 2001. Novartis applied for an Exclusive Marketing Right (EMR) pending grant of a product patent, and was granted the same in November 2003.

In 2005, amendment to India's patent regime introduced product patents for pharmaceuticals and the mailbox application by Novartis was opened and examined. The grant of a patent was opposed [pre-grant opposition, U/S 25 (1)] by several generic drug companies (and an NGO, the Cancer Patients Aid Association (CPAA)) on several grounds including:

- Lack of novelty/anticipation
- Lack of significantly enhanced "efficacy" under section 3(d)
- Obviousness and

- Wrongful priority, as before 2005 Switzerland was not convention country

Assistant controller of patents in pre-grant proceedings issued 5 distinct orders in January 2006 refusing grant of patent. In June 2009, application was rejected by IPAB [Intellectual Property Appellate Board] primarily because of violation of Section 3(d) that aims to prevent “ever-greening” by prohibiting the patenting of new forms of existing pharmaceutical substances that do not demonstrate significantly enhanced efficacy.

After complete study, IPAB found claims to be inventive and novel but fail to qualify requirements of section 3 (d) and Assistant Controller of Patents rejected the patent application. Aggrieved by this rejection, Novartis AG, along with its Indian subsidiary, Novartis India, filed two writ petitions in the Madras High Court. These petitions not only sought a reversal of the Assistant Controller’s order, but also a declaration that Section 3(d) was unconstitutional and in violation of India’s obligations under TRIPS.

High Court transferred the first petition to the IPAB, a specialist tribunal set up to deal with appeals from the various intellectual property offices across the country and the biggest issue was whether Novartis’ beta crystalline form is patentable or not under section 3 (d).

Article 27 of TRIPs says that the patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application. Novartis claimed that the active ingredient in Glivec (beta crystalline form of imatinib mesylate) is more effective than the imatinib free base, since it

displays better bio-availability properties, i.e. it is absorbed more easily into the blood. To this effect, it submitted evidence before the Assistant Controller demonstrating an increase in bio-availability of up to 30%. However, the Assistant Controller held that this was not sufficient to constitute “increased efficacy”.

As per the affidavit, the technical expert conducted studies to compare the relative bioavailability of the free base with that of beta crystalline form of imatinib mesylate and said that the difference in bioavailability is only 30% and also the difference in bioavailability may be due to the difference in their solubility in water. The present patent specification does not bring out any improvement in the efficacy of the beta crystal form over the known substances, rather it states that the base can be used equally in the treatment of diseases or in the preparation of pharmacological agents wherever the beta crystal is used. Even the affidavit submitted on behalf of the Applicant did not prove any significant enhancement of known efficacy.

Novartis finally moved to Supreme Court in September 2009, Finally in the year 2013 Supreme court has denied grant of patent to Novartis ending seven year patent battle over its cancer drug Glivec in India, a heavy setback for all pharmaceuticals company, which will find it much harder to sell enhanced drug in the second most populated country.

- e. A substance obtained by a mere admixture resulting only in the aggregation of the properties of the components or a process for producing such substance is not patentable.

For example: Combination of two drugs, one relieving common cold and the other relieving headache where

both drugs are acting independently without additional a synergy, shall be called as mere admixture resulting only in the aggregation of the properties of the components and hence is not patentable. However, an admixture resulting into synergistic properties of a mixture is not considered as mere admixture, e.g., soap, detergent, lubricants and polymer composition etc.

- f. The mere arrangement or re-arrangement or duplication of known devices each functioning independently of one another in a known way is not patentable.



For example: Combination of an umbrella with a fan, a chair with umbrella, a transistor with cassette player cannot be patented because two devices are just combined and working independently without a synergy between them.

Case study: Figurette &Cosmetics Pvt. Ltd. (Application no. 388/Bom/73)

In the invention entitled “Improvements in or Relating to umbrellas fitted With cooling devices”, the inventor developed an Umbrella with electric motor having a fan propeller fitted on its shaft.

Decision: The Patent Office rejected the case u/s 3(f)

- g. Omitted

- h. A method of agriculture or horticulture is not patentable. Agriculture is the production of food and goods through farming and horticulture is the industry and science of plant cultivation including the process of preparing soil for the planting of seeds, tubers, or cuttings.

¹A method of producing a new form of a known plant, even if it involved a modification of the conditions under which natural phenomena would pursue their inevitable course, is not patentable (N.V. Philips Gloeiammpenfabrieken's Application 71 RFC 192).

A method of producing improved soil from a soil with nematodes by treating the soil with a preparation containing specified phosphorathioates was held not patentable (Virginia Carolina Chemical Corporation application 1958 RFC 38).

A method of producing mushroom plant (64/Cal/79) and a method for cultivation of an algae (445/Del/93] were held not patentable.

Case study: Virginia Carolina Chemical Corporation application (1958 RPC 38)

A method of producing improved soil by treating the soil with a preparation containing specified Phosphorathionates and nematodes was held not patentable.

Decision: The case was rejected U/S 3(h)

¹ Manual of Patent Practice and Procedures, Indian Patent Office

- i. Any process for the medicinal, surgical, curative, prophylactic, diagnostic, therapeutic or other treatment of human beings or any process for a similar treatment of animals to render them free of disease or to increase their economic value or that of their products is not patentable.

A method to treat cancer or perform a surgery is not patentable because it is a method for treatment of human beings. Similarly, the following processes are not patentable:

- *Curative [Something that cures; a remedy] or*
- *Prophylactic [a medication or a treatment designed and used to prevent a disease from occurring such as prophylactic antibiotics may be used after a bout of rheumatic fever to prevent the subsequent development of Sydenham's chorea]*
- *Diagnostic [any kind of medical test performed to aid in the diagnosis or detection of disease] or*
- *Therapeutic [medical treatment of any kind, the results of which are judged to be desirable and beneficial]*

Similarly any process for a similar treatment of animals to render them free of disease or to increase their economic value or that of their products is also not patentable.

An application of substance to human body purely for cosmetic purposes is not a treatment or therapy and hence may be patented provided it fulfills the criteria of patentability.

Categories under Section 3(i):

- ❖ **Medicinal methods:** e.g. a process of administering medicines orally, or

through injectables, or topically or through a dermal patch.
- ❖ **Surgical methods:** e.g. a stitch-free incision for cataract removal.
- ❖ **Curative methods:** e.g. a method of cleaning plaque from teeth.
- ❖ **Prophylactic methods:** As for example a method of vaccination.
- ❖ **Diagnostic methods:** Method for identification of the nature of a medical illness.

Case study: Lee Pharmaceuticals application [(1978) RPC 51]

Since one of the reasons of sealing of pits and fissures on the grinding surface of the teeth was to prevent the onset of dental decay, the purpose of the treatment was therapeutic rather than cosmetic, hence not patentable.

- j. Plant and animals as well as seeds, variety and species are not patentable. Plant varieties are provided protection in India under the provisions of the Protection of Plant Varieties and Farmers' Rights Act, 2002. However, the microorganisms are patentable,

provided they fulfill the criteria of patentability (Novelty, Industrial application, non-obviousness). Essential biological processes such as photosynthesis, blood clotting, and inflammation are also excluded from patentability. Degree of human intervention determines whether a process is essential biological process or not.

Case study: IMMUNOMED INC. Patent application filed in Mumbai Patent office

Since what was being claimed was a method of improving the milk of a cow and the cow itself was also being claimed, the application was rejected u/s 3(i) and 3(j)

FIRST CASE OF MICRO-ORGANISM PATENT IN INDIA

Dimminaco – A.G v. Controller of Patents & Designs and others (AIR No.1 of 2001)

Dimminaco (Swiss company) had applied for a patent of process involving the manufacture of a vaccine for infectious bursitis in poultry. The Patent Office refused to allow *Dimminaco* AG's patent application in respect of vaccine containing a living micro-organism.

Decision: Calcutta high court held that the matter involved is of a new process of preparation of vaccine under specific scientific conditions and the said vaccine is useful for protecting poultry against contagious bursitis infection and there is no statutory bar to restrain the application and hence patent was granted to *Dimminaco*.

- k. A mathematical or business method or a computer program *per se* or algorithms are not patentable but the computer programs having technical effect in combination with hardware are patentable. A mathematical equation cannot be patented but a device or system which works according to the mathematical equation may be a patentable invention.

A new calculating machine having a combination of hardware and software is patentable. Algorithms as such are not patentable but application of algorithm may be patentable.

- l. Under Section 3 (l) following are not patentable:

- Literary work such as a book, periodical, compilation of data or computer program code
- Dramatic work such as stage shows
- Musical work such as song and its graphical notation
- Artistic work such as work of sculpture or architecture
- Any other aesthetic creation whatsoever including cinematographic works and television productions



However, all these categories are subject matter of copyright protection and can be protected under various classes of Copyright Act.

- m. A mere scheme or rule or method of performing mental act or method of playing game is not patentable.

A method of learning, teaching or method of playing a game or method of performing mental act.

- n. A presentation of information is not patentable.

A method of expressing information, whether by spoken words, visual display, symbols, diagrams, Information recorded on a carrier are not patentable.

- o. Topography of integrated circuits is not patentable. The integrated circuit is a miniaturized electronic circuit consisting mainly of semiconductor devices, as well as passive components that has been manufactured in the surface of a thin substrate of semiconductor material. Topography of Integrated Circuits is protected under the Semiconductor Integrated Circuit Lay-out Designs Act, 2000, and is not patentable under Indian Patent Act 1970. Topography of Integrated circuits is used in almost all electronic equipment in use today and has revolutionized the world of electronics.

- p. Invention which in effect is traditional knowledge or which is an aggregation or duplication of known properties or traditionally known component or components is not patentable.



Use of turmeric for wound healing is traditional knowledge of India and hence, cannot be patented. Similarly, the inventions which are just modifications and duplication or combination of traditional knowledge are also not patentable.

In order to ensure national defence and security, the inventions related to atomic energy are exempted from patentability. No Patent shall be granted in respect of an invention relating to atomic energy falling within subsection (1) of section 20 of the Atomic Energy Act, 1962 (33 of 1962) which in the opinion of Central Government is useful for or related to the production, control, use or disposal of atomic energy or prospecting mining extraction, production, physical and chemical treatment fabrication, enrichment, canning or use of any prescribed substance or radioactive substance or the insuring of safety in atomic energy operation.

According to Section 20 (1) of Atomic Energy Act, atomic energy means energy released from atomic nuclei as a result of any process including the fission and fusion processes. Under this Act, "prescribed substances" means any substance including any mineral which the Central Government may, by notification, prescribe, being a substance which in its opinion is or may be used for the production or use of atomic energy or research into matters connected therewith and includes uranium, plutonium, thorium, beryllium, deuterium or any of these respective derivative or compounds or any other materials containing any of the aforesaid substances. The Act defines the term "radioactive substances" or "radioactive material" as any substance or material, which spontaneously emits radiation in excess of the levels prescribed by notification by the Central Government.

CHAPTER 4

Checklist before filing for a patent

Filing for a patent is an exciting time for any organization or an individual inventor. Invention results from an innovative mind and putting it into prototype may require long hours of hard work and of course, funds and resources to see the process through to its completion. For individual inventor, it is a pleasure to be called as an inventor, whereas for an organization, there may be various reasons to file for a patent. Some of the reasons for it could be filing for a patent may add to the number of applications filed in a given financial year or it might be for securing invention before it becomes publicly known or before commencing the public relations activities/a new product launch or commercialization or often getting application number before talking to investors especially in case of start-ups.

Though there are several factors which determine purpose and use of filing for a patent, in order to actually realize benefits of filing a patent application it is critical to analysis following prime factors:

Is invention really worth a patent?

If invention is not in market, often inventors feel that it is novel and there is no need to perform patent search. Patents are a great source of technical information and it makes lots of

sense to check them to assess state of art before filing for a patent. Patent law expects invention to be novel, inventive and industrially useful, hence, before proceeding with filing a patent application, make sure that invention fulfils these criteria. Though controller of patents is the final authority to decide on patentability of the invention but still such assessment of patentability can certainly be done with help of a patent attorney who knows subject matter well. Even if the search reveals that invention is not novel, results of a patent search can provide a fairly good idea on the work already performed in the area of technology and further helps in developing the invention based on identified prior arts.

Provisional or complete application

A provisional application may be filed if invention is at the stage of idea or if it is critical to claim earliest priority date or if funds need to be arranged in a short period of time. However, if experimental results or prototype is ready, it is good idea to file complete application to save cost of drafting provisional application. Often patent attorney will take longer time to draft complete application and therefore, if date of filing is critical, one may opt for provisional application. A complete specification may be filed within 12 months of filing a provisional application.

Where to file?

It is worth noting that if inventor is resident of India, he may either file application first in India and wait for 6 weeks before foreign filing or take permission from Indian Patent Office for foreign filing. If one fails to do so, he may be punishable with imprisonment for a term which may extend to two years, or

with fine, or with both. For foreign filing of patent application, one may select either filing PCT application or convention application. However, countries where the patent application has to be filed must be selected very carefully and one may file only in the countries where he/she intend to market the product. Filing without reason in undesired jurisdictions results in wastage of time and money.

Commercialization option

It is important to work out on commercialization options as soon as an application is filed because technology is growing really fast and losing upon the time may not fetch desired attention in the market. One may either opt for commercializing on their own in case one has capacity and willingness to manufacture and sale invention or transfer rights to someone who has capacity to commercialize the invention. One may transfer the rights by means of license or assignment that must be in writing and executed in the form of a valid deed.

Is it safe to commercialise?

Most of the patent practitioners will agree that it is really tough to convince and communicate to the inventors that after filing for a patent, when they actually plan to launch the product in market, it is necessary to check if they are not infringing third party (ies) intellectual property rights. Clearance search, also called as freedom-to-operate search is extremely necessary to minimize risk of infringement of third party (ies) patent rights upon product launch.

CHAPTER 5

Patent pending: What does it mean?

From the date of filing of patent application till the grant, is a generally a long duration involving extensive procedures which quite often disappoints the applicant or inventor for the reason that grant of patent is takes long time and securing patent of his interest. However, when a patent application is filed (provisional or complete specification), patent office issues a receipt containing date of filing or priority date of the application. It is worth noting that from this priority date, the product or process for which patent has been applied for can be marked as “patent pending” or “patent applied for” as a warning or a notice, informing that a patent has been applied for in India, but not yet granted. The marking as an express notice serves to notify potential infringers, that they may be liable for damages, seizure, and injunction once a patent is issued. The patent law confers to the applicant all the rights and privileges of a patent holder except that a law suit for patent infringement cannot be initiated till the patent is granted.

Prime advantage of marking products as “patent pending” is that it not only helps to avoid innocent infringement but also encourages patentees to give notice to the public that the article is patented and also aids the public to identify that the article is patented. Indian patent law (Section 111, Indian Patent Act of 1970) limits the award of damages in patent infringement cases when an infringer or the defendant is able to prove that he was unaware of the patent-in-suit. However, the Patent Act effectively reverses this allocation of the burden

of proof in cases where an article is marked with the word “patent” and a patent number. In a suit for infringement of a patent, damages or an account of profits shall not be granted against the defendant who proves that at the date of the infringement he was not aware and had no reasonable grounds for believing that the patent existed. Therefore, marking the products as “Patent pending” serves an important public notice that patent has been applied for and leaves little space for innocent infringement.

Patent pending marking is not restricted to the patent application but also for granted patents in which case the products need to be marked as “patented”. However, a person shall not be deemed to have been aware or to have had reasonable grounds for believing that a patent exists by reason only of the application to an article of the word “patent”, “patented” or any word or words expressing or implying that a patent has been obtained for the article, unless the number of the patent accompanies the word or words in question. That means that mention of patent number is also important if the product in question is patented. For example, in Australia, the preferred marking is "Aust. Pat. App. No. yyyy nnnnnn" where "yyyy" is the four-digit year of the application and "nnnnnn" is the six-digit number allocated by the Australian Patent Office.

According to Section 120 of Indian Patents Act, 1970, use of marking, such as “Patent pending” or “patent applied for”, where no patent has been actually applied for is an offense and if any person falsely represents that any article sold by him is patented in India or is the subject of an application for a patent in India, he shall be punishable with fine which may extend to one lakh rupees. The use of words “patent”, “patented”, “patent applied for”, “patent pending” or other words expressing or implying that an article is patented or

that a patent has been applied for shall be deemed to refer to a patent in force in India, or to a pending application for a patent in India, unless there is an accompanying indication that the patent has been obtained or applied for in any country outside India".

Even though marking products for which patent has been applied for, care should be taken while using the word "Patented" as it should be used only after grant of the patent. Hence, before grant is accorded, it is advisable to mark products as "Patent Pending" or "Patent applied for", to indicate that patent application has been filed but patent is not granted yet.

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Chapter 6

Patent search: What is the right time to do it?

Anything that won't sell, I don't want to invent. Its sale is proof of utility, and utility is success.

-Thomas A. Edison

A. Introduction

The word “patent search” or “prior-art search” in patent law means any information that relates to the knowledge existing prior to the date of invention, which has been made available in the public domain. This knowledge (or “prior art” or “state of art”) may be in any form such as patent, scientific literature, publications (such as journal articles, proceedings of conferences, data books and display information from technical exhibitions), public discussions or news from anywhere in the world. The prior-art search is often performed by a patent attorney or a patent agent or a patent searcher and is conducted through various patent and non-patent databases and other relevant technological websites to identify relevant prior-arts.

Novelty of an invention is always determined before inventive step because the creative contribution of the inventor can be assessed only by knowing the novel elements of the invention. The invention is supposed to be lacking in novelty, if information about the invention has already been disclosed. Thus, for example, if a claim specifies alternatives or defines the invention by reference to a range of values (e.g. of

composition, temperature, etc), then the invention is not new if one of these alternatives, or if a single example falling within this range, is already known. Thus, a specific example is sufficient to destroy the novelty of a claim to the same thing defined generically.

B. Purpose of patent search

Prior art search is performed at various stages of product/process development and the purpose of doing it may vary depending upon the requirements. The main reasons for which prior art search is done are:

A. Before filing for a patent

Inventor may perform prior art search for his invention before filing for a patent to make sure that on the day of filing patent application, his/her invention is novel and there is no existing patent or publication of the invention before filing such patent application.

B. At the time of planning R & D

Due to heavy competition, today companies spend lots of time and resources for Research and Development. Patent search may be performed by researchers in a particular area of technology to assess the work already done and based upon such existing knowledge they can plan R & D in a better and effective manner. Prior art search gives a fair idea on the research already done in a particular area of technology and the inventor can work further on it instead of working again on the same area. Prior art search also provides ideas to refine and improve the invention by identifying whether the

invention has significant improvement over existing inventions.

C. Before product launch

A company may perform prior art search before launching product in a specific market to make sure that it is not infringing patent rights of any third parties by the product launch. This search is called as “Freedom To Operate search (FTO Search)” or “Clearance Search”.

D. Technology Landscape studies for devising IP Strategy

The purpose of Technology Landscape study is to understand the technology trend, strength of competitors, to learn latest technology advancement and analyze the patent activity related to technology of interest. Based on Technology Landscape Analysis (also called as Patent Landscape Analysis), appropriate IP strategy, in compliance with business strategy is devised for the companies because a good IP strategy is a critical part of business plan and growth at any stage.

E. During opposition or revocation

If anyone wants to oppose or revoke a patent application or a granted patent, patent search is necessary to identify the grounds on the basis of which validity of a patent/application shall be contested.

The prior art or patent search is essential for innovation driven companies not only to plan research, take decision on

patent filing but also to formulate appropriate IP strategies.

When to do patent search?

The right time of doing patent search is at the stage of idea itself. Before investing time and money working on the idea, it is extremely important to assess whether the idea is novel or already published or claimed by anyone else. Often the inventors assume the novelty of idea by looking at the products which are already in market and comparative analysis of such products with their idea makes them believe that idea is novel. The hard reality is that only a small fraction of patents is commercialized, where as a big chunk of patents even though are not commercialize, but certainly form part of the prior art and may prevent an inventor from getting a patent for his invention.

Therefore, it is imperative for the inventors to perform patent search at the stage of idea itself, assess chances of patentability as well as infringement of patent rights of the third party (ies) before investing money and time in research. For the inventor to make a decision on the patentability of the invention, it is critical to get the search done in time.

CHAPTER 7

Power of the State-of-the-Art

In this technologically progressive era, huge amount of knowledge gets generated and added in the prior art every day. Whereas, on the one hand, keeping pace with technical progress in present times is a challenge, on the other hand, innovation has to happen to ensure sustainable growth. Till the time, you foresee the innovation in a given area of technology, it is impossible to create significantly creative and valuable products. Another issue in technologies such as electronics or software is that innovation cycle is too short, meaning that in no time after you market or commercialize the product, you may see next versions of the product floating around. Considering the high cost of R&D and resources, output often is not that meaningful and sustainable.

In most of the companies, before designing R&D in a given area of technology, one important parameter is often missed out, i.e. assessment of “state of the art”. Even though by means of product surveys, competitors’ products or otherwise, the products available in the market are often watched carefully but the wealth of technical information lying in the form of patents is largely ignored. It is important to note that only a few of the patented technologies actually come in the market, meaning that, there is a huge amount of knowledge, in the form of patents, which is not seen in the market. However, assessment of this wealth may help in various ways, such as:

1. It helps you to assess quality of your product and after knowing state of the art, you may further fine tune your product or add more value to it.
2. ‘State-of-the-Art’ may reveal many interesting ways of performing a process or a method or manufacturing a product, which you would have never thought about and this actually can add lots of value to the existing product/process.
3. Assessment of patentability of the invention compared to state of the art becomes clear and easy.
4. The best thing about a patent document is that the best mode of performing an invention known to the inventor is disclosed. In most of the countries, patent law expects inventor to disclose the best mode of working of the inventions. Thus, most of the times the patent documents provide complete working details of the inventions with illustrations, drawings and examples.
5. Based upon State-of-the-Art, if you feel that your invention is significantly better than existing patents/patent applications, you might consider filing for a patent for your invention.
6. Infringement of patent happens when one makes, sells, offers to sale, import patented product or a product made from a patented process without permission of a patent holder. As a result of state-of-the-art search, you might come across a few patents or patent application (not been granted), that are very close to your invention. In such a case, it is worth looking at such patents in detail and check for their validity (whether they are legally enforceable or not) or to see if they have been filed or granted in the country (ies), where you

intend to market your product. If there are any such patents, you need to be careful as there are chances that you might be infringing such patents.

7. State of art data can be represented in various forms and interpretation of such data into various graphs can provide you valuable information in terms of key players, active areas of technology, patent filing, publication and grant trends, favorable jurisdictions, international classification etc. This data may play a vital role in formulating patent strategies for the organization.

State-of-the-art is a wealth of knowledge, in fact a powerful tool that is important not only to prepare a strong base to formulate your R&D strategies but also assists in multiple ways. It is worth investing time to unfold state-of-art to create innovative, commercially viable and meaningful products to obtain a competitive edge in the market.

CHAPTER 8

Patent alerts: To stay ahead of the competition

As we know that innovation is the key to sustainable growth for any business today and patents play a vital role by securing innovations and obtaining competitive edge in the market. Patent filing is increasing globally and according to World Intellectual Property Organisation (WIPO) report, International patent filings increased by 6.6 percent in 2012 from the previous year, with China, Japan and South Korea posting double-digit growth. “It shows the importance of building strong, intangible asset portfolios, even in times of crisis, because you need it for a recovery”, Francis Gurry, head of the UN agency said.

Patents are excellent source of technical information, primarily for the reason that inventions are not only disclosed systematically in the patent specification but also the best mode is disclosed to meet statutory requirements in most of the jurisdictions. Therefore, the patent databases contain valuable information that can be used to add value to an invention.

Staying ahead of your competitors in the world where innovation is happening in every area of technology is not easy. In order to improve quality of innovation, avoid duplication of work, filing quality patents and giving right direction to R&D, it is essential for the companies to be

updated with latest inventions for which patents are being filed for/published/granted/expired.

However, keeping track of the kind and number of patent applications published, granted, abandoned or expired is a big challenge today. On one hand, knowing latest happenings in the area of patents helps businesses in multiple ways, on the other hand, with growing data & increasing number of patent filings, extracting desirable information is extremely tough.

Generating periodic (weekly, monthly or half yearly) patent alerts is one of the most effective tools to track the latest happenings in the area of patents. Published/granted and even abandoned/expired patents can be monitored on regular basis in the technical area of interest to get valuable information on:

- A. New products/processes for which patent applications have been filed and develop own products to ensure that the same invention is not replicated and also to assess likelihood of patent infringement. In addition to this, since the patents technically disclose the invention, thorough review of the same might be extremely useful to assess chances of getting patent for your core technologies or new idea by knowing novelty, non-obviousness and industrial applicability of the invention.
- B. By knowing published applications, one might want to oppose the applications, which may not be subject matter of a patent or grant of which might affect the business adversely, though there are several other

reasons to oppose a patent application or a granted patent.

- C. New markets or new technologies that your competitors are focussing at. This might give you overview of the kind of products they are planning to launch in given markets.

Patent watch can be done primarily in two ways:

Technical Patent Watch: Here you may list out core technology (ies) of interest and monitor newly published patent applications or granted patents in a technical area of interest as soon as they are published. One may also monitor latest prosecution status of pending patent applications, which make it easier to keep in touch with latest happenings in the industry and one may also come across interesting patents that may be used and implemented to add value to existing products or technologies.

Such patents may be considered for licensing or if they are not filed in the jurisdiction of interest or they don't have a chance to be filed in the jurisdiction of interest, it may be used without any fear of infringement. However, it is highly recommended to take opinion of an expert on the legal status of such patent (s) before implementing it.

Competitor Patent Watch: Knowing patent portfolio and watching patent activity of the competitors may be of great business value. Competitor companies may be listed out and their newly published patent applications or granted patents may be monitored on periodic basis. However, one may also

monitor latest prosecution status of pending patent applications or latest legal status/continuation applications of granted patents of competitor companies.

This information obtained by observing periodic patent alerts may prove to be a game changing strategy for any company.

Staying ahead of your competitors is critical for sustainability today. With increasing focus on innovation, it becomes important to know about the recent trends in the area of patent filings. It is not only interesting to watch what your competitors are doing or the latest technologies for which patents are being filed or granted in given jurisdiction, but also, it gives you platform which you can use to fine tune your existing products and assess chances of infringement.

CHAPTER 9

What would you choose: Copyright or Patent?

The provision of Section 3(k) of Indian Patent Law, that says computer software per se is not patentable till it has technical applications, puts most inventors down. Even though in most of such cases, filing in the US is one of the preferred destination but inability to get a patent in home country is a bit disappointing. Knowing the fact that software patent in India is tough; the next question from the inventor is that, if not patent, can we at least get a copyright?

The fact of the matter is that the statutory right that one gets in the case of patent cannot be substituted by a copyright and it is important to understand difference between the two. Copyright and patents fall under separate legal regimes and for one single product, one may file for patent as well as copyright.

Prime difference between copyright and patent is that copyright protects only expression of the idea but not the idea itself, whereas, patent protects idea or concept as well. For example, if there is a product, meant for administration of a hospital, the idea or concept is administration of a hospital, which does not get protection under copyright law. However, the way code has been written is the expression of the idea and the author who has written the code has copyright over it. However, if any other person writes another code (without copying code from first author), he

also has copyright on the product. On the other hand, if there is a patent on the product, meant for administration of a hospital, the patent holder can prevent third party (ies), ie, from duplicating the work in the jurisdiction where he has valid patent rights.

Independent creation of copyright is not an infringement whereas the same is not true for a patent. This means that if the work is not directly copied from the copyright holder, and created independently, it is not copyright infringement. This probably is the biggest advantage of having a patent. As soon as patent application is filed, the applicant may write 'patent applied for' or 'patent pending' on the product, whereas copyright notice, such as '(c) copyright, Origiin IP Solutions LLP' can be written without registration as well. Though copyright is an inherent right and needs no formal registration as such but registration becomes important and registration certificate serves as a proof of ownership in case of copyright infringement or even in case of merging/acquisition or to obtain funding/loan from bank or venture capital.

Novelty-Critical Requirement

Novelty is the most critical requirement for a patent which means that before the date of filing a patent application, there shall not be any disclosure of the invention. Whereas copyright, though requires originality in the work, does not have novelty as a critical requirement that enables one to file backdated application as well. Term of a patent is 20 years from the date of filing whereas term of copyright is 50-70 years from the date of death of last author.

It is interesting to note that copyright registered in any country which is a member of Berne Convention hold good in more than 160 countries which are members of Berne Convention. In order to get patent rights in multiple countries application must be filed separately in each country. Though we have single patent application filing platform like PCT, patent rights are granted only by national offices.

Sample this...

In order to understand difference between copyright and patent, let's have a look at Stac vs Microsoft, an interesting court case in the USA, which Microsoft lost and was required to pay \$120 mn for its willful infringement of #4,701,745 (a compression software patent). Stac had a software patent on the algorithm for its PC hard disc data compression software product. Microsoft expressed interest in working with Stac and in the process copied the compressed algorithm of the Stac product. Microsoft then wrote its own code to execute the Stac algorithm and used the code in MS DOS 6.2 product. Stac sued Microsoft for patent, trade secret, and copyright infringement.

A permanent injunction was given against Microsoft and was ordered to pay Stac \$120 mn. Calculation of the damage was calculated on basis that Microsoft had included the infringed code which prevented Stac from marketing millions of copies of its separate data compression software. After litigation, for about a week, a lobotomized version of DOS was shipped with the compression feature disabled. DOS manuals were shipped with stickers on the cover warning to ignore the chapter on compression. MS finally got license to use the

algorithm in DOS and agreed to pay \$1 mn per month for 43 months and to purchase about \$40 mn of Stac convertible preferred stock.

Since Microsoft did not copy the source code and wrote a new code for same algorithm, Stac could only prove patent infringement in the Court but not copyright infringement as independent creation of the work is not copyright infringement. Patents can protect the basic concept of a software product, regardless of the actual source code but copyright only protects source code.

Before you decide between copyright and patent protection for the software product, it is essential to understand the difference between the two so that you are clear about what rights you are getting. Though both patent and copyright have their own pros and cons, it makes a lot of sense to consider registration process based on requirements.

CHAPTER 10

Filing first patent application: Important considerations

Not maintaining confidentiality before filing patent application is the most common mistake inventors make...

After working intensely for months on the amazing idea, investing money, resources, it's time to fulfil dreams, set-up new business by implementing the idea and invention that has not been thought about or performed by anyone else in the world before. This is the most common thought an inventor has before he approaches a patent attorney. Is there anything else that is required to be done much before? Yes, before commercialization and filing a patent application, there are a few essential steps to be performed before meeting your attorney.

Following are the most crucial issues to be considered by an inventor that will help him in enhancing quality of research and file patent application in a cost-effective manner:

1. **Prior art search:** Get a thorough prior art search done right in the beginning when you get a new idea. The scope of the search is not limited to only the granted patents but also patent applications that are published

or any other paper publication. The search, often done globally using various paid or unpaid databases, helps to identify the closest and the most relevant patents/patent applications that would help to assess the weight and commercial value of the invention. Prior art search works as a strong base not only to assess novelty of the invention, but, at later stages, it also helps in drafting of the patent specification. Prior art search is an essential and crucial step to give shape to an idea and hence it's a good idea to take professional help to get the search done.

2. Maintain confidentiality: Inventors often are extremely passionate and enthusiastic about their invention. Having invented something feels great and one feels like disclosing it to the world. But stop! It is strictly essential to maintain strict confidentiality of the invention till the patent application is filed. One of the critical requirements of getting a patent is that invention must be novel on the date of filing. Hence, never disclose, publish or make the invention available to public till you file a patent application for the same. Additionally, do have an NDA (Non-Disclosure Agreement) with your attorney as well for the same before initiating discussion on filing patent application.

A classic example is when Archimedes solved the problem of checking the purity of a gold crown without damaging the crown. While taking a bath, he noticed that the level of the water in the tub rose as he got in,

and realized that this effect could be used to determine the volume of the crown. Archimedes then ran in the street naked, so excited by his discovery that he had forgotten to dress, crying "Eureka!".

3. Documentation: Documentation of an invention is extremely critical. Step-wise documentations must be done and the novel features of the invention, existing technical problem which your invention overcomes, how your invention works must be highlighted. Explain the process or the product with drawing and/or flow diagrams. Thorough understanding of the invention by your attorney is necessary. Don't get lazy to fill the invention disclosure form if given by your attorney in order to describe the invention systematically.

4. Consider the cost: Understand why and in which country (ies) or jurisdiction (s) you want to file a patent application. Choosing to file provisional or complete application, PCT application or convention application or filing in India based on your requirements can really help you to manage your finances and to identify the timelines. Spend some time with your attorney to understand the procedure to work on the most cost-effective package.

5. Explore options other than patent: Depending upon kind of product, it is advisable to explore other option for protection of the innovation in the form of copyrights, design or trademark.

Being an inventor requires tremendous amount of effort and taking invention in right direction, in right manner is imperative to protect it appropriately and to reap the revenues.

CHAPTER 11

Importance of systematic documentation of invention

Once you have made up your mind to file for a patent and the first meeting with attorney/agent is fixed, it is extremely important for you to document the invention systematically. What all shall be documented and level of details needed has to be made clear before you proceed further with drafting specification.

Though one feels lazy writing the disclosure of the invention, honestly speaking, there is no substitute to documentation. Sooner or later, you have to document the invention so that interaction with your attorney is comfortable and you waste less time in clarification/redoining work. It is always advisable to execute Non-Disclosure Agreement with the attorney to whom you will be disclosing the invention.

What is to be claimed?

Patent is a techno-legal document and you get protection over the items you claim in the specification. Hence, identification of novel elements, which may relate to a product or process or utility, shall be done at first level itself. Once you are clear about what to claim, the detailed description of the invention in patent specification revolves around such novel elements and helps you to fine tune the invention as well as highlight novelty of the invention. The best way to separate out novelty

of the invention is to perform a thorough global patent search and then remove the elements that are in public domain.

In the cases, where a patent application results from a research work, often inventor loves to include most of the experiments that are part of his/her research, which results in redundant and repeated data resulting in increased number of pages as well as extra fee.

The data to be included in a patent application shall restrict to the data supporting novel elements of the invention and shall be explained to the level that a person skilled in the art understands it.

Existing technical problem

In order to be patentable, your invention shall have an inventive step. One of the ways to assess inventive step is identification of the technical problem and the solution you provide.

The Indian Patents (Amendment) Act 2005 in Section 2(1)(j) and 2(1)(ja) respectively states invention means a new product or process involving an inventive step and capable of industrial application and inventive step means a feature of an invention that involves technical advance as compared to the existing knowledge or having economic significance or both and that makes the invention not obvious to a person skilled in the art.

Hence, you must always be clear about the prior art or existing knowledge or evolution of technology in order to know technical problem precisely and such technical problem must

be explained properly while documenting the invention. For easy reference, it is critical to document bibliographic details of the patent/non-patent documents known to you or even the work done by other inventors. Clear mention of the existence of the technical problem makes it easy to establish the need to have a solution for the existing problem.

Best mode

As you know that best mode disclosure in a specification is an essential part of a patent application, specifically a complete application that starts with preamble, “*The following specification particularly describes the invention and the manner in which it is to be performed*”. This clearly indicates that disclosure has to state the best mode of working the invention and at the same time, the disclosure has to be complete, without any gaps in the process.

Section 10 (4) of Patents Act, 1970, clearly states that every specification, whether provisional or complete, shall describe the invention and shall begin with a title sufficiently indicating the subject-matter to which the invention relates to. Every complete specification must fully and particularly describe the invention and its operation or use and the method by which it is to be performed; disclose the best method of performing the invention which is known to the applicant and for which he is entitled to claim protection; and end with a claim or claims defining the scope of the inventions for which protection is claimed.

The disclosure of the invention shall be sufficient enough that a person skilled in the art must be able to achieve the results without further experimentation. Incomplete documentation of the invention by inventor resulting in incomplete disclosure of the same in patent specification may be one of the grounds for patent revocation or invalidation. Hence, it is important to disclose complete process that is executable.

Specifications often consist of background, description, claims, abstracts and drawings etc. Step wise documentation of the invention assists your agent to draft specification in a better manner. You may always prepare flow charts or drawings for easy understanding even though the drawings submitted by you often would undergo complete re-doing of the work to match standards of the respective patent office.

Conclusion

Documentation/Disclosure of the invention is integral part of the process of patenting. There is no substitute to it. The quality of the patent specification primarily depends upon the precise and clear information you provide to your patent agent. Even though it takes one or two days extra, it makes lots of sense to spend some time and write the invention description patiently.

CHAPTER 12

US or India: Where to file for a patent first?

In addition to India, United States of America (USA) often is one of the favorite or lucrative destination for the applicants for filing a patent application for various reasons. The prime reason being that usually the target as well as potential market of the invented product or process is US. Another major reason for interest in filing in US is that US patent laws permit broader spectrum of software patents compared to Indian Patent Law which says that software *per se* is not patentable till it has technical application. For all these reasons, at the time of filing for a patent, the biggest dilemma an inventor has is where to file for a patent first, in India or US?

Let's explore the advantages of filing in India first and consequences of filing in US first if the inventor is a resident of India.

Filing in India first makes sense (U/S 39)

Before taking a decision on where to file first, it is essential to understand what does Indian Patent Law say about foreign filing. The issue is sensitive as well as critical and lack of expert legal advice on the same may have fatal consequences.

Accordingly to Section 39 (*Residents not to apply for patents outside India without prior permission*) of the Patents Act 1970, a person who is resident in India shall not make application for grant of patent outside India without:

1. Either taking Foreign Filing Permission (FFP) from the Controller of Patents. This permission is usually granted by the Controller within 21 days and is required not only for foreign filing but also for filing a PCT application; or
2. Filing for a patent for the same invention in India, waiting for 6 weeks and then file in foreign country.

Who is “Resident of India”?

The term “Resident of India” has not been defined in the Patents Act, 1970 but according to Income Tax Act, an individual can be termed as a 'Resident of India' if he stays for the prescribed period during a fiscal year i.e. 1st April to 31st March, either for:

1. 182 days or more; or
2. Has been in India in aggregate for 365 days or more in the previous four years.

Any person who does not satisfy these norms is termed as a 'Non-Resident'. A resident individual is considered to be 'ordinarily resident' in any fiscal year if he has been resident in India for nine out of the previous ten years and, in addition, has been in India for a total of 730 days or more in the previous seven years. Residents who do not satisfy these conditions are called individuals 'not ordinarily resident'.

Rationale behind filing in India first

Main rationale behind having Section 39 is to safeguard national defense and security. If the invention is relevant for defence purpose or atomic energy, the Controller shall not grant permission for foreign filing without the prior consent of the Central Government. Such application may be imposed

Secrecy Directions and the Controller may give direction for prohibiting or restricting the publication of such application if it appears to him that the invention in question falls in one of a classes notified to him by Central Government as relevant for defence purposes or the Controller himself considers it to be so. However, this section shall not apply in relation to an invention for which an application for protection has first been filed in a country outside India by a person resident outside India.

Do you lose anything by filing in India first?

It is a myth that by filing in India first and US later, one loses on the date and the date of filing in US gets delayed. The fact is that even if you file for a patent in India first, you can file the same application in US (as convention application) immediately after expiry of 6 weeks from the date of Indian filing. At the time of filing in US, you can claim priority date from your Indian filing as both India and US are convention countries. Effectively, this means that even though you file in India first and US later, the same date of priority can be maintained in US as well as India. Infact when priority is claimed from Indian filing, the applicant has to submit to USPTO, the priority document obtained from the Indian Patent Office.

Therefore, it actually doesnot matter where you filed first, but yes, it certainly is a better and a safe choice to either file for a patent in India first or take permission from the Controller for foreign filing.

Consequences of violating section 39

If a person makes or causes to be made an application for the grant of a patent in contravention of section 39, he shall be punishable with imprisonment for a term which may extend to two years, or with fine, or with both. Hence, it is important to either file application in India first or take FFP from the Controller of Patents.

In the instances where the applicant is a resident of India, it is important to consider filing for a patent in India or taking permission for foreign filing from the Controller, before filing for a patent in foreign country or PCT the reason being that violation of this provision can lead to serious consequences.

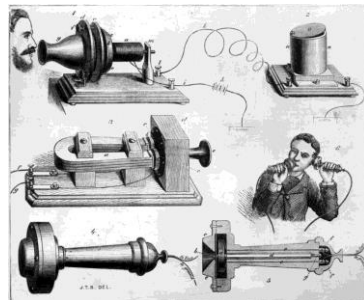
CHAPTER 13

Process of patenting: India and PCT

A patent is statutory grant by Government for the inventions (a product or a process) that are novel, industrially useful and non-obvious to a person skilled in the art. It gives its owner the exclusive right to prevent or stop others from making, using, offering for sale, selling or importing a product or a process, based on the patented invention, without owner's prior permission.

Date of filing patent application is very significant in patent law. The day of first disclosure of the invention to patent office is called as "*Priority Date*".

A very famous example to prove importance of first filing or getting earliest priority date is telephone patent controversy in 1870s, where two inventors Elisha Gray and Alexander Graham Bell both independently designed devices that could transmit speech electrically (the telephone) and both men rushed their respective designs to the patent office within hours of each other, Alexander Graham Bell patented his telephone first. Elisha Gray and Alexander Graham Bell entered into a famous legal battle over



the invention of the telephone, which Bell won. Today we all know Alexander Graham Bell as inventor of telephone.

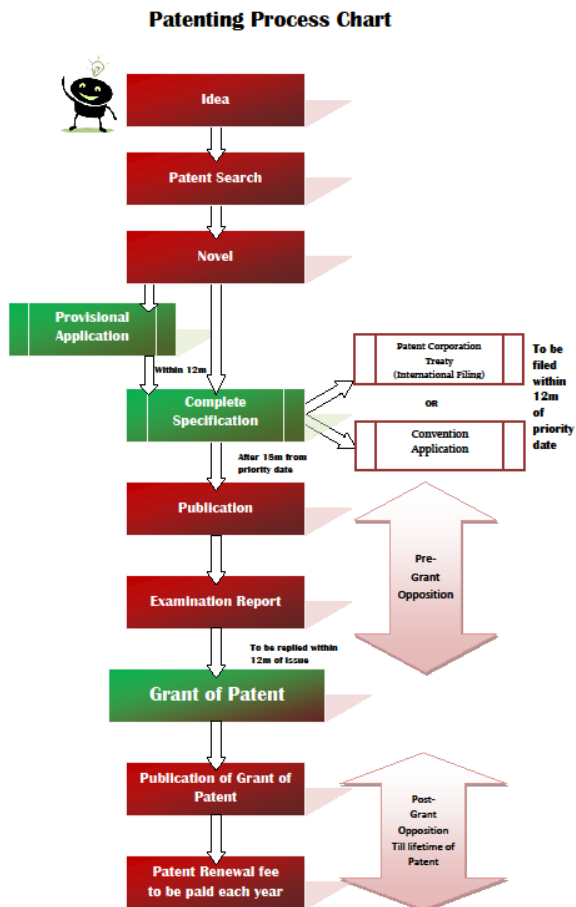
In order to claim the earliest priority date, the inventor may be interested in filing provisional patent application. The filing of provisional application enables the inventor to have "Patent Pending" status for the invention. In case, the applicant has filed provisional application, the complete specifications shall be filed within 12 months of filing provisional application. Provisional application can only be filed at Indian Patent Office [National Office] and not at PCT or convention country. Immediately on receiving the Provisional Specification the Patent office accords a filing date and application number to the Application.

The main advantages of filing provisional application are:

- Drafting provisional application is less-time consuming compared to drafting complete specifications, hence it is quick method of claiming the earliest priority date
- Gives 12 month time to the inventor to take decision on whether he wants to file complete specification or not. This 12 month period is also useful for the inventor to assess the invention commercially.

Applicant has to file complete specifications within 12 month of filing provisional application.

Prima stages from filing patent application till the grant are as follows:



Filing application: You may file complete or provisional application in India to claim earliest priority. However, if you don't wish to file in India and directly want to file in foreign country, Foreign Filing Permission is required from Indian Patent Office. If provisional application is filed, the complete application shall be filed within 12 months from the date of filing provisional application. The complete specification can be filed directly as a PCT application after taking necessary permission if required.

Publication: The application is published by patent office after expiry of 18 months from the date of filing. Date of publication is very significant as upon publication, the invention forms part of prior art. After publication, in case anyone is interested, the application may be opposed on various grounds such as lack of novelty, non-obviousness and industrial application etc. Indian patent law also provides a provision for early publication of application before the expiry of 18 month on request by the applicant.

Examination: After publication, examination of the application takes place and on the basis of examination, examination report is sent by the examiner that has to be replied in a given period of time.

Grant of patent: After replying examination, applicant may hear grant of the patent and this is the time when payment of annual renewal fee to maintain patent is also to be made. Grant of patent is published and in case anyone is interested, the patent may be opposed on various grounds such as lack of novelty, non-obviousness, industrial application etc.

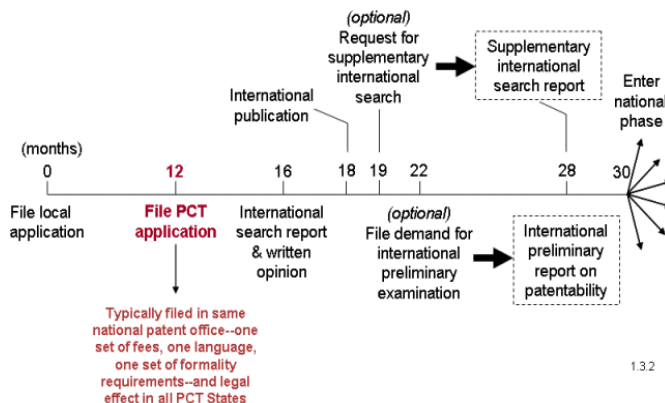
Foreign filing

If the applicant is interested in filing patent application in foreign country (ies), it shall be done within 12 months from the date of priority. Once foreign filing is done, one has to submit “Priority Document¹”, obtained from India Patent Office to the foreign country or PCT as the case may be.

Foreign filing of application can be of 2 types:

- a. **Convention application:** When an application is filed directly in a country which is a member of Paris Convention, is called as convention application. For example, if an application is first filed in India and then directly filed in USPTO, the application filed in USPTO is called as Convention Application.
- b. **PCT application:** This is an application filed through Patent Cooperation Treaty (PCT) which is a filing platform (does not grant patents) and enables you to file application in multiple countries within 30 or 31 months from the priority date. The PCT is only a patent filing procedure and does not provide for the granting of patents. The granting of patents is the responsibility of each member countries (Contracting States) to PCT.

¹ It is a certified copy of the application which is issued by Indian Patent Office and it is required by foreign country as a record or Indian filing.

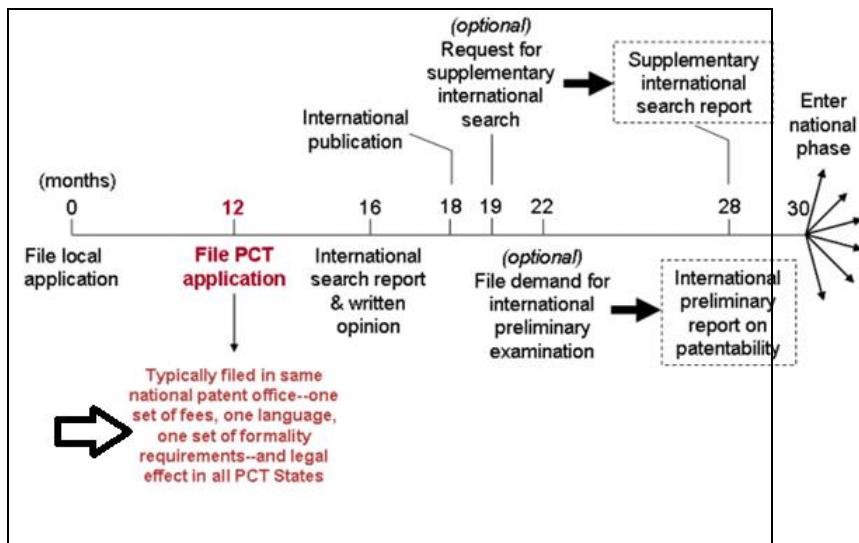


The above timeline provides a graphical representation of the PCT procedure and sequence. Typically, first patent application is filed national or regional patent Office. This patent application is commonly referred to as the local application

Filing a PCT application

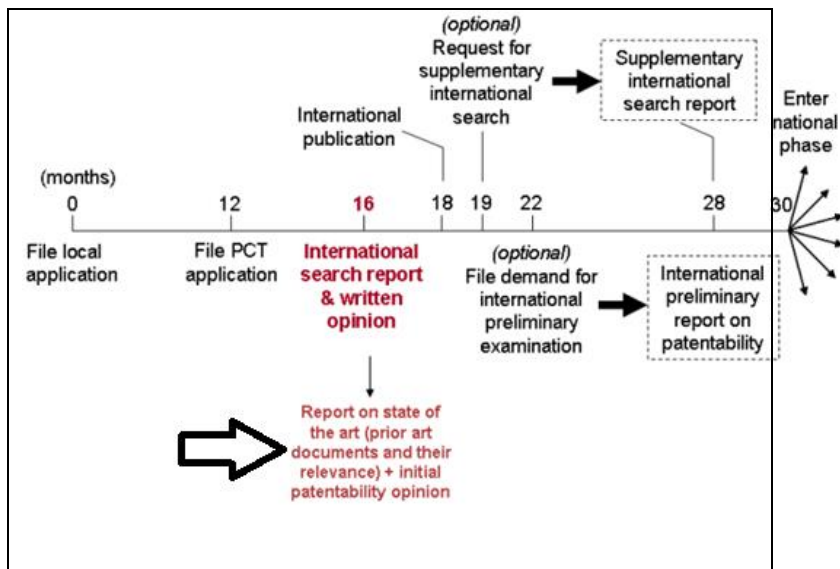
PCT application is filed within 12 months from the filing date of local (first) patent application with the Receiving Office of national or regional Patent Office. It can also be filed directly with the Receiving Office of WIPO, if permitted by the national security provisions of applicant's national law [Refer Section-39 of Indian Patents Act, 1970].

PCT application will have the same legal effect as a separate application filed in each PCT country.



International Search Report (ISR) and Written Opinion of the ISA

Every international patent application is subjected to an "international search" by an International Searching Authority (ISA). An Applicant of an International Patent Application is sometimes given the choice of having a search done on the invention at a patent office other than at the Receiving Office. The patent office which performs the search is called the "International Searching Authority."



Indeed, not all Receiving Offices are qualified to act as International Searching Authorities, and therefore International Applications filed at such Receiving Offices are regularly referred to a different patent office than where the International Application was initially filed for purposes of having a search of the prior art made. Even when the patent office functioning as the Receiving Office also has the status of an International Searching Authority, agreements may have been entered into which allow another patent office to serve as the International Searching Authority at the election of the Applicant.

An International Search Report and a written opinion from the competent ISA will be provided to the applicant within 16

months from the filing date of local application. The written opinion complements the ISR by providing a preliminary non-binding patentability assessment of the invention taking into consideration the references contained in the ISR.

India as ISA and IPEA

WIPO (World Intellectual Property Organisation) has recognized the Indian Patent Office as an International Searching Authority (ISA) and International Preliminary Examining Authority (IPEA) under the Patent Cooperation Treaty (PCT).

The recognition as an ISA and IPEA would be beneficial for India in several ways. International applications received by the WIPO under the PCT route sent to India for search and preliminary examination would generate revenues in the form of fees usually paid to ISA and IPEA. The new status would allow Indian companies and inventors to avail patentability search and obtain International Preliminary Examination report (IPER) and written opinions on a much faster and cheaper way.

International Preliminary Report on Patentability (Chapter I of the PCT)

ISA sends report on patentability to the applicant. After having considered the written opinion of the ISA, the applicant may decide not to continue with the assessment of PCT application and not file a demand for international preliminary examination². In this case, WIPO will attach a

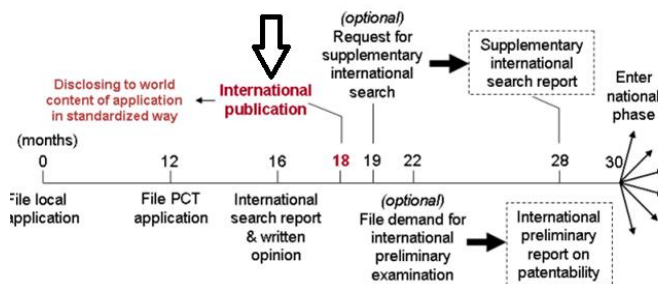
² Filing demand for international preliminary examination is optional.

cover sheet to this written opinion effectively converting it into the international preliminary report on patentability (Chapter I of the PCT). The international preliminary report on patentability (Chapter I of the PCT) is available for public inspection 30 months after the priority date of PCT application (the date of first-filed local patent application).

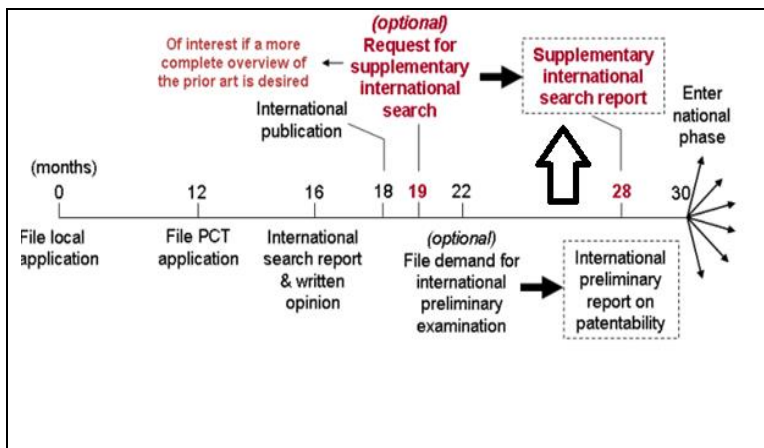
International Publication

The International Bureau of WIPO will publish PCT application on PATENTSCOPE® shortly after 18 months from the priority date of applicants PCT application. Publication provides technical disclosure of applicant's invention fuelling greater technological progress and development.

PATENTSCOPE® is a free search service offered by the World Intellectual Property Organization (WIPO). It is made up of two databases, each with its own search interface.



Supplementary International Search (Optional)

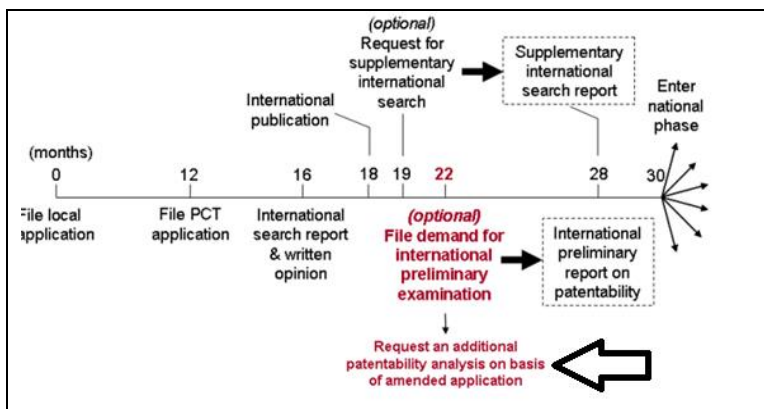


Under PCT system, the applicant is given an option of supplementary international search carried out by participating International Searching Authorities, upon request by the applicant. The request for supplementary international search may be filed any time prior to the expiry of 19 months from the priority date. The supplementary search is completely optional but may be of interest in cases where a more complete overview of the prior art is desired, particularly in respect of specific languages. The supplementary international search service is not available across all International Searching Authorities. Those offering this service do so against the payment of a fee. The supplementary international search report prepared by the International Searching Authority should be available by 28 months from the priority date.

Filing of a Demand for International Preliminary Examination (Chapter II of PCT) (Optional)

This part of the PCT procedure is optional. If the applicant is not entirely satisfied with the contents of the written opinion, he may decide to continue the assessment of invention under the PCT by filing a demand for international preliminary examination with a national or regional patent Office that has been appointed as an International Preliminary Examining Authority (IPEA) under the PCT. Each PCT Member State has appointed at least one IPEA to perform international preliminary examinations for its applicants, referred to in PCT terms as the “competent” IPEA.

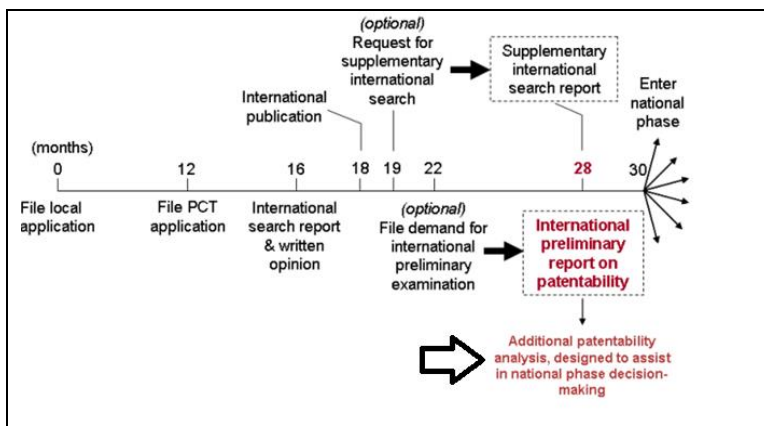
Applicant is given at least 22 months from the priority date of his PCT application to file demand for international preliminary examination with the competent IPEA.



International Preliminary Report on Patentability (Chapter II of PCT)

An international preliminary examination may optionally be requested ("demanded") by the applicant. The international preliminary examination is conducted by an authorized International Preliminary Examination Authority (IPEA). This results in an International Preliminary Examination Report (IPER).

At about 28 months from the priority date, the IPEA sends an international preliminary report on patentability (Chapter II of PCT) containing the opinion of the IPEA for national or regional Offices to use in assessing the patentability of applicants invention. This report is a non-binding opinion on patentability and is only provided to applicants who have filed a demand for international preliminary examination.

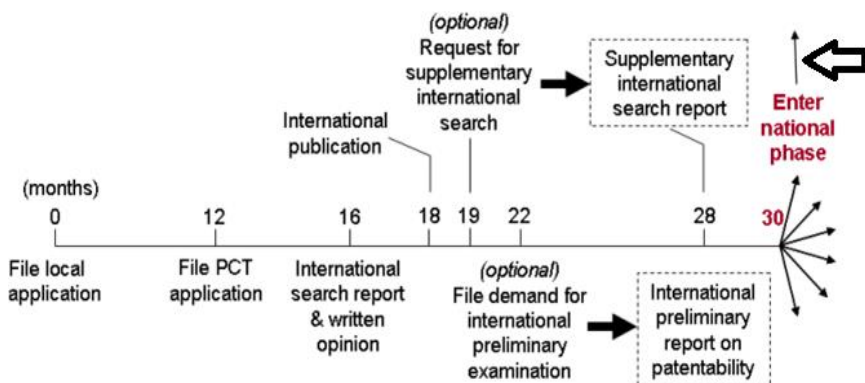


National Phase Entry

National phase follows international phase. Entry into the national phase represents the end of the international phase

of the PCT procedure and the start of the national patent grant procedure. During national phase the applicant can file patent application in the countries of his choice within prescribed time. A PCT application has to enter into nation phase with in 30 or 31 month from the priority date.

The international preliminary report on patentability (either under Chapter I or Chapter II), received during the international phase of the PCT procedure, will help the applicant to evaluate the chances of obtaining a patent in the countries of his interest. The international preliminary report on patentability also provides guidance to patent Offices on whether a patent should be granted for the invention.



Once entered in to the national phase, the patent application is subjected to the patent laws, regulations and practices of each country. Rejections on form and content may not be raised provided that they conform to the requirements of the PCT.

When a PCT application is filed in India at national phase, it is processed under following stages:

1. On receipt of an application, the Office accords a date and serial number to it. PCT national phase Applications and non-PCT Applications are identified by separate serial numbers.
2. All applications and other documents are digitized, verified, screened, classified and uploaded to the internal server of the Office.
3. Patent applications and other documents are arranged in a file wrapper and the Bibliographic sheet is prepared and pasted on the file cover, so that the files move on for storing in the compactors.
4. The Application is screened for:
 - a. International Patent Classification.
 - b. Technical field of invention for allocation to an examiner in the respective field.
 - d. Correcting/completing the abstract, if required. If found not proper, the abstract will be recasted suitably, so as to provide better information to third parties.
5. Requests for examination are also accorded separate serial number.

Advantages of PCT

The PCT is an important part of the international patent system and application filed at PCT is also called as international application or PCT application. It provides a worldwide system for the simplified filing of patent applications that:

- Brings the world within reach
- Postpones major costs and provides the applicant with additional time to consider his various patenting options
- Provides a strong basis for patenting decisions
- Used by the world's major corporations, universities and research institutions when they seek international patent protection

A single PCT application has the same legal effect as a national patent application in each of the PCT Contracting States. Without the PCT, one may have to file a separate patent application in each country of interest.

CHAPTER 14

Unity of Invention: Indian Patent law perspective

As per the Indian Patent Law, one patent application shall relate to a single invention. However, if more than one invention is to be claimed in a single application, it is necessary to establish that the inventions so claimed have unity and they form a single inventive concept. The golden rule is that the claim (s) of a complete specification must relate to a single invention, i.e. the concept of unity of invention must be present.

According to Section 10 of the Patents Act 1970, if claims refer to a group of inventions, such inventions shall form a single inventive concept. The claims shall be clear and succinct and shall be fairly based on the subject-matter disclosed in the specification and moreover, a single inventive concept may be recognized between independent claims of different categories.

The invention comprising a polymer, process to prepare polymer and commercial utility of polymer can be claimed in the single patent application because even though the invention has three main components, all of them relate to a single invention and have unity. On the other hand, the invention relating to two independent formulations used to treat cancer and HIV/AIDS shall not be claimed in a single patent application as both formulations are independent of each other and hence lack unity of invention.

The purpose of this requirement of unity of invention is administrative, as well as financial. That is, the requirement serves to prevent the option of filing one patent application for several inventions, while paying only one set of fees, such as, fee for filing application, examination, early publication or annual renewal etc. Moreover, the concept of unity of invention also makes the technical classification easier.

Under section 16 of the Indian Patents Act, 1970, if a single patent application has been filed with more than one invention and inventions so claimed lacks unity, the applicant shall be required to divide main application into divisional application (s). However, the further application (divisional application) and the complete specification accompanying it shall be deemed to have been filed on the date on which the first mentioned application had been filed, and the further application shall be proceeded with as a substantive application and be examined when the request for examination is filed within the prescribed period.

However, during the process of examination of the patent application, the examiner may also ask the applicant to divide the application into two or more applications and file divisional application. It is interesting to note that both parent application and divisional application will have the same priority date though divisional application is often filed later than parent application. For example:

Date of filing provisional application and priority date: 15th November 2006

Date of filing complete specification: 13th November 2007

Publication and examination of the patent application takes place and the Controller raises the objection that the invention lacks unity of invention and hence the application shall be split into two applications i.e., main parent application and divisional application. Here, the date of filing divisional application will be 10th Jan 2009.

In such a case, both parent application and divisional application will have priority date of 15th November 2006 even though the divisional application was filed 10th Jan 2009, which also mean that both parent application and divisional application expire on the same date irrespective of the date of filing.

A specification in respect of a divisional application under section 16 must contain specific reference to the number of the original application from which the divisional application is made. The request for examination in case of divisional application shall be filed within 48 months from the date of filing or priority of the parent application or within six months from the date of filing the divisional application, whichever expires later. Request for divisional application shall be filed only after filing request for the parent application to ensure the requirement of section 16(3).

Moreover, the complete specification of a divisional application should not include any matter not in substance disclosed in the complete specification of the first application. The reference of parent application should be made in the body of the specification. A divisional application has to be filed before the grant for a parent application.

Though it sounds economical to club multiple inventions together and file for a single application, it is logical to follow the concept of unity of the invention and ensure that separate applications are filed for each invention.

CHAPTER 15

Can idea be patented?

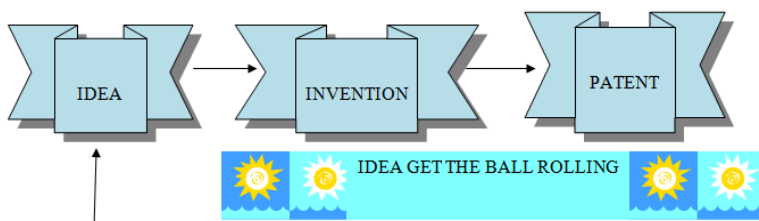
‘Patentability of an idea’ is one of the most common, controversial and toughest questions a patent attorney has to often reply in the first meeting with the enthusiastic and passionate inventor. Though there is no clear answer to this question to be replied in YES or NO but it is worth exploring at times. The answer to this question may vary from idea to idea.



Before assessment of patentability of an idea, it is important to understand what can be patented. As per law, only expression of ideas can be patented in the form of copyright and idea in the form of inventions can be patented as per the Indian Patent Act 1970. The line between idea and invention is very thin because all inventions are ideas before they mature to patentable inventions.

In order to get a patent, the invention needs to be novel, industrially useful and non-obvious to a person skilled in the art. If we talk about idea, the idea can also be novel, industrially useful and non-obvious to a person skilled in the art. So there is a very thin line of difference between idea and invention.

Many inventors get stuck in the idea phase, as they lack a strategy which can be adopted to convert the idea into an invention that can be protected. So instead of getting despair, every inventor should think of ways to move from idea phase to invention phase as idea is the first critical step towards being able to obtain a patent.



Let's delve deeper and understand the provisions that talk about the information that shall form part of the patent application. Apart from the basic requirements of patentability, according to Section 10 of the Patents Act, 1970, every specification, whether complete or provisional, shall describe the invention and shall begin with the title sufficiently indicating the subject matter to which invention relates to. It further states that every complete specification shall fully and completely describe the invention and its operation or use and the method by which it is to be performed. Additionally, the complete specification shall also disclose the best method of performing the invention which is known to the applicant and for which he is entitled to claim protection. For better explanation of the invention drawings can be incorporated in the patent application and having quality patent drawings is the single best and most

economical way to broaden and expand any patent application.

Section 10 of Indian Patents act clearly indicates that in addition to fulfilling basic requirements of patentability; the invention must describe the method of implementing the invention practically. Now, if the idea has capability of being performed and the inventor know a process of how the idea works, the idea may get matured into invention and it can certainly be filed for a patent. Since the complete specification requires the best mode of performing the invention to be disclosed, one can file provisional application with the idea and subsequently work on the invention to identify the best mode of working and within 12 months of filing provisional application, a complete specification may be filed.

Further, the preamble for description of provisional application says that “*the following specification describes the invention*” whereas the preamble for description of complete application says that “*the following specification particularly describes the invention and the manner in which it is to be performed*”, indicating that the complete details needs to be disclosed only at the time of filing complete specification. By filing a provisional application inventor can share the ideas without the fear of it being stolen; also filing a provisional application provides 12 months of time period for the inventor to come up with more details of the invention and more practical applications.

For example, one has an idea pertaining to mobile application security system and has expertise to transform idea into an invention. With such idea, provisional application can be filed

and later complete specification may be submitted which fully and particularly describes the invention and its operation or use and the detailed method of performing the same. Failure to disclose the best mode of performing the invention can lead to invalidation of the patent or patent application as a result of post-grant opposition/revocation or pre-grant opposition respectively on the ground that the complete specification doesn't sufficiently and clearly describe the invention or the method by which it is to be performed. Therefore, before filing for an idea, one should analyse critically whether the idea has capability to be performed or not.

CHAPTER 16

Early publication of patent application: Pros and Cons

One of the prime stages in the process of obtaining a patent is publication of the patent application in the official journal of the patent office, which takes place automatically after expiry of 18 months from the date of filing patent application or from the priority date, whichever is earlier. The publication of application happens on its own without any specific request made by the applicant. The date of publication is very crucial because on this date, the patent application is published by the patent office and from this date, the invention forms part of the prior art.

Applicant may request for publication of the application before expiry of 18 months by making request in a prescribed manner for “Early Publication”. It is important to note here that provisional application is never published and it is only the complete specification, which is published. The advantages and disadvantages of early publication of the application are as below:

1. Upon publication of the application, the invention forms part of prior art. However, Indian patent law gives a chance to the applicant to withdraw application within 15 months from the date of filing and such withdrawal makes sure that confidentiality of the invention is maintained. In such a case, the inventor may further work on the invention and file the

patent application again. If the applicant has opted for early publication, he loses the chance to withdraw the application.

2. The pre-grant opposition can be filed by any person upon publication of the application and anytime before grant of the patent provided examination fee has been paid. Thereby, early publication certainly gives more time for the opponents for pre-grant opposition.

3. Another point to be noted here is that on and from the date of publication of application for the patent and until grant of the patent, the applicant has rights and privileges of the patent holder as if the patent for the invention has been granted to him on the date of publication, provided that the applicant shall not be entitled to institute any proceedings for infringement until the patent is granted. Moreover, in case of any infringement, the applicant can claim damages from the date of publication. Hence, the applicant gets the advantages if he opts for early publication.

4. No suit or other proceedings shall be commenced or prosecuted in respect of an infringement committed before date of publication of the application, meaning that publication of the application is critical to initiate any suit or any other proceeding.

The period within which the Controller shall refer the application and specification and other documents to the examiner in respect of the applications where the request for examination has been received shall ordinarily be one month from the date of its publication or one month from the date of the request for examination whichever is later. Hence, we can conclude that early publication of the application for a patent

has certain advantages as well as disadvantages which shall be taken into account depending upon the circumstances and preferences.

CHAPTER 17

Joint ownership in patent: Important considerations

Indian patent law allows more than one person to apply jointly for a patent. Upon grant of such patent, these applicants become joint/co-owners of the patent. Joint-ownership in a patent might be unavoidable in certain scenarios due to various reasons, such as, more than two parties would have invested jointly or may have common interest in commercialisation of the product. Though, it is a good option to apply for a patent jointly, as the cost and effort are shared, one should be aware of the risks and legal complications of filing a patent application jointly.

Joint ownership of a patent is dealt under sections 50 and 51 of the Indian Patents Act, 1970. Section 50 [Rights of co-owners of patents] lists out the rights of the co-owners as below:

1. Each co-owner is entitled to an equal and undivided share in the patent, unless there is an agreement to the contrary.
2. Each co-owner is entitled to equal patent rights for his own benefit without accounting to the other person or persons. However, a license under the patent shall not be granted and share in the patent shall not be assigned by one of such persons without consent of the other co-owner. If proper care is not taken with respect this clause while entering into a joint ownership of a patent, it may lead to big trouble.

When a patented article or process is sold by any one of the co- owners of the patent, the rights the buyer of the product or process acquires will be same rights he would have acquired if the patented product or process were sold by a single owner.

A patent shall be treated as a movable property and rules of law applicable to the ownership and devolution of movable property generally shall apply in relation to patents. Movable property is property that can be moved from one place to another. It includes personal items such as clothing and jewellery, household goods such as furniture and appliances etc.

“Though it is a good option to apply for a patent jointly, as the cost and effort gets divided, one should be aware of the risks & legal complications involved as well.”

In order to understand this in a better manner, let us take the following example:

Let us consider a situation where a patent has two co-owners A and B. So according to Indian Patents Act, 1970 both of them have an equal and undivided share in the patent and both of them can exercise the rights granted to them under section 48 of the Act (i.e., exclusive rights to prevent a third party without his consent, from the act of making, using, offering for sale, selling or importing for those purposes that product or process in India) on their own without accounting or waiting for the other’s consent. At this juncture, it would be apt to recollect that a patent should be dealt with in the same manner as a movable property for the purposes of ownership and devolution.

Though both the co-owners can enjoy equal patent rights and privileges, the problem starts when one of them wishes to assign or license the patent. If a patent has to be licensed in India, license deed has to be written, duly executed and registered. If A wants to license the patent to someone, he/she has to obtain the permission of B. If B is not willing to consent for such licensing then it will complicate the situation. In such circumstances A is left with only one option. He/she will have to approach the Controller seeking for directions to B to agree for the licensing under Section 51 (1) of the Indian Patents Act. Section 51 empowers the Controller to give directions to co- owners regarding the sale or lease of the patent, grant of licenses etc.

Approaching the Controller for directions might turn out to be a time consuming process. Also, it may lead to uncertainty as it will be the Controller who then will decide about the directions to be given. No directions shall be given under this section so as to affect the mutual rights or obligations of trustees or of the legal representatives of a deceased person or of their rights or obligations as such, or which is inconsistent with the terms of any agreement between persons registered as grantee or proprietor of the patent. This situation may get further complicated if the ownership of the patent itself is questioned. These possibilities make it imperative for A to take utmost care while entering a co- ownership of a patent.

This whole scenario can be pre-empted if both A and B enter into an agreement about how they would exercise the licensing rights so that they can avoid such complexities later on. Section 50 (3) provides means to this arrangement. Hence, with a little precaution at the time of entering a co-ownership of a patent, a lot of hardships may be prevented later.

CHAPTER 18

Position of software Patents in India

India has become a favorite destination for many multinational companies to establish and outsource software development work. Large investments are happening in the IT sector with an expectation of bringing new technology and new products to the market. For anything to be new, there has to be an element of innovation involved in it and thus securing innovation is of prime concern today!

A patent is a valuable tool in protecting an innovation. Once a given technology has been patented, the owner of the patent can enjoy monopoly over the technology for 20 years. The term patent that was once more significant to the scientific community is slowly gaining prominence in the software industry as well. One of the earliest filed patents on software was filed as early in 1962, for a British patent application entitled "A Computer Arranged for the Automatic Solution of Linear Programming Problems". The invention was concerned with efficient memory management for the simplex algorithm, and could be implemented by purely software means. The patent was granted in August 17, 1966 and seems to be one of the first. The patentability of software-related inventions is currently one of the most heated areas of debate. Software has become patentable in recent years in most jurisdictions. Software related inventions are patentable in United States since 1982. The only criterion for patentability is that the invention must produce useful, concrete and tangible results. In Europe and Japan, the invention is patentable, if it is sufficiently technical in nature. When it comes to India, the

criterion for patentability of software inventions seems to be more stringent than most of the countries.

The Indian Patent office published the Draft Guidelines for computer related inventions in June 2013. This document is projected as a tool to be used by the Indian Patent Office for streamlining the procedure of examination of patent applications related to computer-related inventions (CRI). In addition to this, the Draft Guidelines give some clarity on the scope of section 3(k) and section 3(n). According to Section 3 (k) of Indian Patents Act, “a mathematical or business method and a computer program *per se* or algorithms are not patentable”. The term *per se* means computer program in isolation or standalone software. Thus, the computer program alone is not patentable, even software products also come under computer program *per se*. It is also noted that computer implemented business methods are not patentable in India unlike US. The term business method includes all activities in a commercial or industrial enterprise relating to monetary transactions or transaction of goods and services such as marketing or sales-purchase methodology. With the development of e-commerce and associated B2B and B2C business transactions, it is possible to have claims drafted with certain technical features such as internet, networks, telecommunication and so on for business methods. The omission of business method includes such claims as well. In such cases, the substance of the claims is considered while examining the patentability of an invention. If the matter of the claim relates to business method then such claims are not permitted under Section 3(k) of Indian Patent Act.

For a computer program to be patentable in India, it has to have a technical applicability or should be combined with hardware. The clause means that the invention should contain

something more than a computer program to be eligible for a patent protection. An invention in which the technological advance is nothing more than a computer program, is not patentable if the computer is suitable for the particular purpose without special adoption or modification of hardware or organization. However, an invention that relates to a particular manner of organizing the Central Processing Unit or other peripheral units, regardless of whether the invention is implemented by means of a program or special hardware facilities, is patentable. Thus, if a patent is claimed for some tangible device coupled with software in such a manner that the software controls the hardware and patent office considers that it is not computer program per se, is considered patentable. Software that works with a new or novel hardware is also considered as patentable.

The awareness on the importance of software patents in India is on the rise. Big Indian software giants who were filing patents only in the USA are now filing even in the Indian Patent office. The nature of the software patent not only involves new operating systems and software but also includes inventions that we use in our day-to-day life such as conversion of a TIFF into PDF, provision to have multiple network providers on the same cell phone, remote monitoring of data usage etc.

Thus, we can conclude that even though guide lines are provided there are many aspects that need to be evolved for a better protection of software inventions in India to remove ambiguity regarding patentability of software inventions as well as the scope of technical advancement while considering the patentability of software inventions.

CHAPTER 19

Software Patents: Myth and Reality

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Introduction: Dispelling Misconceptions About Software Patents

I am a patent attorney based in the U.S. who specializes in obtaining, maintaining, and enforcing patents on computer technologies—including software—for clients worldwide. I have personally written and obtained hundreds of software patents in the U.S. and many other countries over almost two decades. Yet I continue to hear sophisticated technologists, businesspeople, inventors, academics, and others express significant misconceptions about software patents. With this article I hope to clear up the most prominent of these misconceptions.¹ - Robert Plotkin

¹ *Although the statements made in this article apply primarily to U.S. patent law, they also apply to a greater or lesser degree in other countries.*

Myth: Software Is Not Patentable

Many continue to believe that software cannot be patented. This is not true. Patents on software are granted routinely every day, and have been granted regularly for decades. There was an explosion in the number of software patent applications filed in the U.S. in the 1990s after a series of court decisions significantly expanded the patentability of software, and software patents have been a staple of the U.S. patent system ever since that time.

Even in Europe, where the European Patent Convention (EPC) prohibits patents on computer programs “per se,” software patents are issued regularly. To overcome the EPC’s apparent prohibition on software patents it is necessary to use expert knowledge of the EPC to draft each software patent to point out clearly the technical effect and contribution of the invention. The same is true in many other jurisdictions. Although certain particularly abstract kinds of software may not be patentable, the assumption that no software is patentable anywhere is false in nearly every jurisdiction and has been so for a long time. The key to obtaining a strong and defensible software patent in any jurisdiction is to retain the services of a patent practitioner who is well-versed in the laws of that jurisdiction as they apply to software.

Myth: Software Patents Are Not Valuable

Even those who understand that software can be patented often falsely assume that software patents are not valuable because they are too vague to enforce or for some other reason. The evidence demonstrates, however, that software patents have proven to be among the most valuable kinds of patents that can be obtained.

For example, consider the near-legendary RSA encryption patent (U.S. Pat. No. 4,405,829), which covered both hardware and software implementations of RSA's groundbreaking encryption algorithm. This patent was licensed to countless companies for untold millions of dollars over the course of its 17-year lifespan. Several of RSA's competitors attempted to invalidate the patent in court but none succeeded. Cryptography companies reportedly held parties when the RSA encryption patent expired in celebration of their ability to use the RSA encryption patent without needing to pay licensing fees to RSA any longer.

A well-drafted software patent can cover a wide variety of implementations of a particular invention. Furthermore, a software patent application can be filed based merely on a sufficiently detailed description of how to create a software invention, without the need to have created a working version of the software itself in most cases. As a result, careful planning can enable innovative software companies to file broad software patent applications early, thereby obtaining software patents that can later be used either offensively or defensively against a wide variety of infringing parties. These and other features of software patents can make them particularly valuable assets.

Myth: Copyright Protection is Sufficient for Software

The code of a computer program is protectable by copyright law. As a result, many falsely assume that obtaining copyright protection for a software application is sufficient to provide complete legal protection for that application. This assumption is based on a failure to understand key differences between the protections afforded by copyright and patent law.

Copyright law protects only the expression of an idea. In the case of software, this means that copyright law protects the particular way in which a computer program is expressed in code. Copyright law does not, however, protect the functions performed by a computer program. For example, copyright protection for a computer program which uses an innovative algorithm to control a thermostat protects only the particular code contained with the program, leaving others free to write their own software which performs the same algorithm using different code. Furthermore, a copyright on such a program can only be used by the copyright owner to stop others who have access to the copyright owner's program from copying that program, not to stop others from independently inventing the same program themselves.

In contrast, a patent can cover the functions performed by a computer program, regardless of the particular program code that is used to implement those functions. Furthermore, a patent can be infringed by someone even if that person had no prior knowledge of the patented invention. In the thermostat example above, assuming that the thermostat control algorithm is sufficiently novel and inventive, a patent can be used to obtain protection for the algorithm regardless of the particular code that is used to implement it, and regardless of whether the infringer copied the original inventor's algorithm or created it independently. As a result, a patent can provide significantly stronger and broader protection for software than copyright. As a result, in many cases it is advantageous to secure both copyright and patent protection for individual computer programs.

Myth: Software Inventions Must Include New Hardware To Be Patented

Although some patents covering software also include innovative hardware, this is not always the case and need not be the case to satisfy the law in the vast majority of jurisdictions. To understand why, keep in mind that the act of programming a computer with a computer program causes the computer to be reconfigured into a new state. This resulting programmed computer contains hardware which has been configured to perform a particular function specified by the software with which it has been programmed. If the computer program is novel and inventive (“nonobvious” under U.S. patent law), then the resulting programmed computer contains inventive hardware. As a result, typically it is not necessary to invent any additional special hardware to satisfy the legal requirements for patentability.

This is not to say that every computer program—even every new computer program—can be patented. A computer program which merely plays a particular song will likely be seen as failing to satisfy the “utility” requirement under U.S. patent law, the “industrial applicability” requirement under the European Patent Convention, and similar requirements in other jurisdictions. That is why a patent firm with expertise in the law of the applicable jurisdiction must be consulted in connection with every software patent. The fact that some computer programs cannot be patented does not, however, alter the general conclusion that most software for performing patentable functions can be patented if it satisfies the applicable legal requirements and if the patent application is written by a competent patent practitioner.

Conclusions

Software patents have been a feature of patent systems worldwide for decades and will continue to remain prominent and valuable assets of leading technology companies. Any organization which develops innovative software must consider software patents as part of its overall intellectual property strategy. The law governing software patents is complex and requires both sophisticated knowledge of computer technology and expertise in the patent law of the relevant legal jurisdiction. Furthermore, the law governing software patents tends to change rapidly in response both to new legislation and decisions rendered by patent offices and courts. As a result, successfully implementing a software patent strategy requires close cooperation with a patent firm with deep experience in software patents to avoid the many pitfalls that can befall the unwary.

About the Author

Robert Plotkin, Esq. is a U.S. patent attorney specializing in patent protection for software and other computer technologies. He is the founder of the law firm of Robert Plotkin, P.C. (www.rplotkin.com), which represents leading technology companies worldwide. Attorney Plotkin is recognized as an expert in the subject of software patents and has written, spoken, and taught extensively on the topic internationally.

CHAPTER 20

Biotechnology Patents in India

Before beginning with discussion on patent ability of biotechnological inventions, we will start our discussions with Biotechnology. What do we mean by Biotechnology? Biotechnology is the use of living systems and organisms to develop or make useful products or any technological application that uses biological systems, living organisms or derivatives thereof, to make or modify products or processes for specific use. Biotechnology harnesses cellular and bimolecular processes to develop technologies and products that help improve our lives and the health of our planet. Biological processes of microorganisms have been used for more than 6,000 years to make useful food products, such as bread and cheese, and to preserve dairy products. Depending on the tools and applications, it often overlaps with the related fields of bioengineering and biomedical engineering.

One of the most unique feature of biotechnological inventions is diversity. Each invention has characteristics and features which are different from the others. For example, some relate to genomics field while others belong to tissue culture, plant tissue culture, animal tissue culture and the list goes on. As the field is growing and evolving at a rapid pace, the list is a non-exhaustive one. Many biotechnological inventions promise better drugs, medical treatment, new crops and new industrial processes. Sometimes biotechnology companies spend millions of dollars to develop a product. Hence these biotechnological companies desire a patent that provide them assurance to risk the capital necessary in long development

process, so that the investment could also generate some profit. In the absence of patent regime, investors would not be interested in investing millions on long term R&D because their research output can be exploited by any person which jeopardizes their returns and profits. However, the application of patent system to biotechnology as a field has been fraught with uncertainty and ambiguity because of the nature of the field.

Hence, looking at the current scenario, Indian Patent office has recently come up with guidelines for examination of patent applications in the field of pharmaceuticals. The guidelines are prepared with the objective that will help the Examiners and the Controllers of the Patent Office in achieving consistently uniform standards for patent examination and grant. In case of examination of application relating to biotechnology and pharmaceutical field, following sections of the Act are emphasized.

a) Section 2 (1) (j): Novelty, inventive step & industrial applicability of products or processes.

b) Section 3 specifies that the following are not patentable inventions within the meaning of the Act:

(i) Section 3 (b): Inventions contrary to morality or which cause serious prejudice to human, animal or plant life or health or environment,

(ii) Section 3 (c): Discovery of any living thing or non-living substance occurring in nature,

(iii) Section 3 (d): Mere discovery of new form of known substance which does not result in enhancement of known

efficacy or mere discovery of any new property or new use for a known substance,

(iv)Section 3 (e): Mere admixture resulting only in aggregation of the properties of the components thereof or a process for producing such admixture,

(v) Section 3 (i): Method of treatment and diagnosis,

(vi)Section 3 (p): An invention which in effect is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known component or components,

c) Section 10 (4): Sufficiency of disclosure, the best method of performing the invention and claims defining the scope of invention, and

d) Section 10 (5): Unity of invention and clarity, succinctness and support of the claims.

All these sections are further explained in greater detail.

What is an invention: Section 2 (1) (j)

According to **Section 2 (1) (j)** of the Act, an "invention" means a new product or process involving an inventive step and capable of industrial application. An invention will be patentable only if it is new in the light of prior art, or is not anticipated by prior art. The four categories of claims mentioned below are not to be considered as inventions, since the claimed subject matter neither pertains to product nor to process. Further, an objection with regard to Section 3(i) would be invoked.

1) Use of compounds in the treatment of -----

- 2) Use of compound A in the process of preparing B.
- 3) Use of compound A in the composition of -----
- 4) A product of a known substance for the treatment of new disease (which is nothing but use/application claim).

Also, it may be noted that sometimes such claimed inventions relate to the second use of already known compounds which have fallen in the public domain. Necessary care may be exercised to examine those cases in the light of Section 2(1) (j). Further, it should be borne in mind that finding the new property of an already known substance does not make the substance novel and/or inventive.

Inventions not patentable

Section 3 (b): Inventions contrary to morality or which cause serious prejudice to human, animal or plant life or health or environment are not patentable. Any invention, the primary or intended use or commercial exploitation of which is against the public order or morality or is capable of causing serious damage to the human, animal or plant life or cause damage to the environment or public health is not allowable under this section. Since an invention is a reward to the owner of an invention in the form of monopoly, such rewards are not justified from the public policy angle, if they are prejudicial to the public interest.

Section 3(c): Scientific principles or abstract theory or discovery of living things or non-living substances are not patentable. Section 3 (c) of the Act, excludes mere discovery of a scientific principle or the formulation of an abstract theory or discovery of any living thing or non-living substance

occurring in nature from the scope of patentability. Compounds which are isolated from nature are not patentable subject-matter. However, processes of isolation of these compounds can be considered subject to requirements of Section 2 (1) (j) of the Act.

Example of an invention which is not patentable under Section 3 (c) is an invention relating to a compound for cardiac disorder related activity in which the compound is obtained from the cerebrospinal fluid of horseshoe crab, *Tachypleus gigas*.

Analysis: The subject-matter is not patentable under Section 3 (c) of the Act, because the application attempts to claim a compound, which is isolated from cerebrospinal fluid of embryos of horseshoe crab, *Tachypleus gigas* (i.e. a compound which is non-living substance occurring in nature). As per Section 3 (c) of the Act, a non-living substance occurring in nature is statutorily non-patentable subject-matter.

Section 3(d): The mere discovery of a new form of a known substance which does not result in the enhancement of the known efficacy of that substance or the mere discovery of any new property or new use for a known substance or of the mere use of a known process, machine or apparatus is not a patentable invention unless such known process results in a new product or employs at least one new reactant.

Explanation:- For the purposes of this clause, salts, esters, ethers, polymorphs, metabolites, pure form, particle size, isomers, mixtures of isomers, complexes, combinations and other derivatives of known substance shall be considered to be the same substance, unless they differ significantly in properties with regard to efficacy.

In the context of the pharmaceutical inventions, Section 3(d) deserves special attention. Section 3(d) stipulates that an incremental invention, based upon an already known substance, having established medicinal activity shall be deemed to be treated as a same substance, and shall fall foul of patentability, if the invention in question fails to demonstrate significantly improved therapeutic efficacy with respect to that known compound. After analysing the legislative history of Section 3(d), the Hon'ble Supreme Court commented, "We have, therefore, no doubt that the amendment/addition made in section 3(d) is meant especially to deal with chemical substances, and more particularly pharmaceutical products. The amended portion of section 3(d) clearly sets up a second tier of qualifying standards for chemical substances/pharmaceutical products in order to leave the door open for true and genuine inventions but, at the same time, to check any attempt at repetitive patenting or extension of the patent term on spurious grounds".

One of the land mark case pertaining to Section 3 (d) is Novartis AG vs. Union of India (UOI).

Section 3 (e): It is a well-accepted principle of Patent Law that mere placing of old integers side by side so that each performs its own proper function independently of any of the others is not a patentable combination, but that where the old integers when placed together has some working interrelation producing a new or improved result, then there is patentable subject matter in the idea of the working inter relations brought about by the collocation of the integers.

Example of an invention not patentable under Section 3 (e) is an invention related to a composition of Paracetamol

(Antipyretic) and Ibuprofen (analgesic)] to control pain and inflammation.

Analysis: The compounds used in the alleged invention are known for their activity. The application is silent on a combinative effect of these two compounds over the sum of their individual effects. Thus, the claimed subject-matter is non-patentable under Section 3 (e) of the Act.

Section 3 (i): According to Section 3 (i) of the Act, any process for the medicinal, surgical, curative, prophylactic, diagnostic, therapeutic or other treatment of human beings or any process for a similar treatment of animals to render them free of disease or to increase their economic value or that of their products is not an invention. Under this section, the Manual of Patent Office Practice & Procedure states that the followings are excluded from patentability:

(a) Medicinal methods: As for example, a process of administering medicines orally, or through injectable, or topically or through a dermal patch;

(b) Surgical methods: As for example, a stitch-free incision for cataract removal;

(c) Curative methods: As for example, a method of cleaning plaque from teeth;

(d) Prophylactic methods: As for example, a method of vaccination;

(e) Diagnostic methods: Diagnosis is the identification of the nature of a medical illness, usually by investigating its history and symptoms and by applying tests. Determination of the

general physical state of an individual (e.g. a fitness test) is considered to be diagnostic;

(f) Therapeutic methods: The term “therapy” includes prevention as well as treatment or cure of disease. Therefore, the process relating to therapy may be considered as a method of treatment and as such not patentable;

(g) Any method of treatment of animal to render them free of disease or to increase their economic value or that of their products. As for example, a method of treating sheep for increasing wool yield or a method of artificially inducing the body mass of poultry;

(h) Further examples of subject matters excluded under this provision are: any operation on the body, which requires the skill and knowledge of a surgeon and includes treatments such as cosmetic treatment, the termination of pregnancy, castration, sterilization, artificial insemination, embryo transplants, treatments for experimental and research purposes and the removal of organs, skin or bone marrow from a living donor, any therapy or diagnosis practiced on the human or animal body and further includes methods of abortion, induction of labour, control of estrus or menstrual regulation;

(i) Application of substances to the body for purely cosmetic purposes is not therapy;

(j) Patent may however be obtained for surgical, therapeutic or diagnostic instrument or apparatus. Also the manufacture of prostheses or artificial limbs and taking measurements thereof on the human body are patentable.

Section 3 (p): According to Section 3(p) of the Act, an invention which, in effect, is a traditional knowledge or which is an aggregation or duplication of known properties of traditionally known component or components is not a patentable subject matter. Example of inventions falling under this section is given below.

Claim: A method of treating an inflammatory bowel disease (IBD) in a subject in need thereof, comprising administering to the subject an effective amount of an extract of *Andrographis paniculata*, wherein said extract contains andrographolide, 14-deoxy-andrographolide, 14-deoxy-11, 12-dehydrogen-andrographolide and neoandrographolide.

Analysis: The claimed subject-matter falls within the scope of statutorily non-patentable inventions under Section 3 (p) of the Act, as being directed a traditional knowledge in effect. This is clearly evident from an article published in the Journal of Natural Medicine (Kakrani et al., “Traditional treatment of gastro-intestinal tract disorders in Kutch District, Gujarat State, India”, Journal of Natural Medicine, Vol. 2/1(2002), pages 71-75). The cited article describes traditionally known treatments of gastro-intestinal tract disorders in Kutch district of Gujarat. In this article, 41 species of 37 genera belonging to 22 families are reported along with plant parts used for the medicinal treatments, including *Andrographis paniculata* and its medical indication. Thus, the claimed subject-matter, in effect, is traditional knowledge and non-patentable under Section 3 (p).

Section 10 (4) (a) and (b): According to Section 10 (4) (a) and (b) of the Act, the complete specification shall fully and particularly describe the invention and its operation or use and the method by which it is to be performed and it should

also disclose the best method of performing the invention which is known to the applicant and for which he is entitled to claim protection. As per Section 10(c), every complete specification should end with a claim or a set of claims defining the scope of invention. Section 10(5) prescribes that the claims should be clear, succinct and fairly based on the description. Also, the claims must relate to a group of inventions linked so as to form a single inventive concept. For convenience, unity of invention has been discussed below, under separate head.

Sufficiency of micro-organisms and deposits: If the invention relates to a biological material which is not possible to be described in a sufficient manner and which is not available to the public, the application shall be completed by depositing the material to an International Depository Authority (IDA) under the Budapest Treaty. The deposit of the material shall be made not later than the date of filing of the application in India and a reference of the deposit shall be given in the specification within three months from the date of filing of the patent application in India. All the available characteristics of the material required for it to be correctly identified or indicated are to be included in the specification including the name, address of the depository institute and the date and number of the deposit.

Patenting activity in India in the field of biotechnology has increased since 90's and significant increase in the number of patents has been observed in recent years. Patenting activity by a number of countries from outside India also plays a dominant role, accounting for 70% of Biotechnology patents. Significant increase in number of institutions filing biotechnology patents, both private and public including research institutions and colleges has also been observed.

Hence it shows that India is in path of motivating innovators and researchers to come up with genuine biotechnology patents that fulfils statutory requirements and benefits mankind.

Chapter 21

What is a Compulsory License?

In developing countries like India, where AIDS is spreading widely, access to lifesaving medicines is a dire need. The Indian Pharmaceutical industry is mainly involved in producing generic drugs and there are very few R&D centers in the country that invent new drugs. Thus, we mainly depend upon importing those valuable medicines from the developed nations. Several multinational pharmaceuticals use this opportunity to hike the prices of their drugs when it is being sold to the markets of the developing nations. This prevents the easy access of medicines to the needy patients. Compulsory licensing plays an important role in preventing such dominance of monopoly exhibited by the multinationals.

A compulsory license (CL) for a patented product is granted when the government allows someone to produce the patented product without the consent of the patent owner. It is an involuntary act between a willing buyer and an unwilling seller, enforced by the state.

Patents are granted to encourage the inventors to disclose their inventions and also to grant them monopolistic right to exploit the invention. The objective of patent system in India is to ensure that the inventions are worked in India on a commercial scale and to the fullest extent without any undue delay. If the patentee is not commercializing the invention and as a result, the reasonable requirements of the public are not met or the patented product is not available to public at

reasonable price, such compulsory license is available as a remedy against abuse of patent right.

Many patent systems provide for the granting of compulsory licenses in various situations. The Paris Convention of 1883 provides that each contracting state may take legislative measures for the grant of compulsory licenses. The Article 5A (2) of the Paris Convention reads:

"Each country of the Union shall have the right to take legislative measures providing for the grant of compulsory licenses to prevent the abuses which might result from the exercise of the exclusive rights conferred by the patent, for example, failure to work."

Compulsory licensing is one of the flexibilities on patent protection included in the TRIPS (Trade Related Aspects of Intellectual Property Rights) agreement. Article 31 of TRIPS lists a number of conditions for issuing a CL. India joined the TRIPS agreement in 2005 thereby providing stronger provisions for CL. Today, many countries such as Canada, France, UK, USA, Australia, Zimbabwe, Ghana, Brazil, Ecuador, Malaysia, and Thailand have provisions for granting CL. Section 84 of Indian Patents (Amended) Act, 1970 states the provisions for granting CL. It mainly deals with three major conditions for granting a CL: a) Reasonable requirements of the public with respect to the patented invention have not been satisfied, b) The patented invention is not available to the public at a reasonably affordable price and c) The patented invention is not worked in the territory of India.

The first Compulsory License in India was granted recently on 9th Mar 2012, to Natco Pharma for the manufacture of patented anti-cancerous drug, Nexaver. Natco would sell the

drug at 97% lesser rate of its original cost. The grant of the first CL in India has been welcomed with mixed reviews. Undoubtedly, the CL would ease the suffering of the needy patients by getting cheaper access to valuable medicines. However, the pharma giants had to swallow a bitter pill. It takes around 2 billion dollars to innovate a single drug and launch it in the market, grant of such compulsory licenses would shake their product pipeline as the ROI (Return of Investment) for such expensive drugs would not be met. Experts say that such events will also reduce the innovations in the pharma sector. Nevertheless, the main notion of inventing new drugs is to meet the needs of the patients, hence it would be wise for pharmaceutical companies to come up with new price slabs while launching their product in respective countries.

CHAPTER 22

Certain acts that don't deem to be infringement

A patent gives exclusive rights to the patentee to use, sell, manufacture and import the product into the country where the patent is granted. While a process patent gives the rights to exclusively use the process and prevents everyone else to use, sell and manufacture the product that is developed through the process. Any violation to these rights without the permission from the patentee would cause patent infringement. However there are certain exceptional Acts where the use of patented invention without consent of the patentee doesn't constitute infringement. Section 107 of Indian Patents Act details such exceptions.

In certain countries including India, the generic drug makers are allowed to use the patented invention without the consent of the patentee for development and submission of information required under law. This provision is called **Bolar-like provision** or **Regulatory provision**. This provision came into existence from the case of Roche Products v. Bolar Pharmaceuticals. Roche is a discovery based pharmaceutical whereas Bolar is a generic drug maker. At that time, Roche held a patent over the drug Valium. Bolar intended to submit an Abbreviated New Drug Application (ANDA) to the FDA for a similar drug containing the same active ingredient as to Valium. Hence, Bolar used the patented chemical in its experiments, before the expiry of term of

patent in order to determine if the generic version is bioequivalent to Valium. Roche responded to this by filing a suit for patent infringement. The District Court of Eastern District of New York declined Roche's appeal saying that no infringement had taken place owing to the experimental nature of Bolar's work. The Court of Appeal for the Federal Circuit however disagreed with Bolar's argument as it intended to sell its generic product in competition with Roche's Valium, soon after its patent expiry and stated that the exemption does not apply to experiments which have commercial objective. Bolar argued that such violation of exemption would extend the monopoly of Roche over Valium even after its patent expiry. Thus, in 1984, in response to Roche vs Bolar judgement, and in an attempt to promote competition by simplifying authorisation for generics while maintaining appropriate protection for the interests of research-based pharmaceutical manufacturers, the US Congress passed the Drug Price Competition and Patent term Act (known as Hatch-Waxman Act). This law permits the use of patented products in experiments for the purpose of obtaining FDA approval and it established the modern system for FDA approval of generic drugs.

Another instance where an exception made for infringement provided is in the case of **Parallel import**. A parallel import is said to occur when a product sold by a patent holder in a country is imported from another country with the price for the same patented product being lower. The purpose of the parallel import is to keep a check on the abuse of patent rights and to control the price of the patented product. Pharmaceutical companies follow the practice of differential pricing of drugs according to the purchasing capacity of the

prospective consumer in a target country. As a result, the same drug may be expensive in a developed country and relatively cheap in developing countries. This principle of differential pricing forms the basis of parallel trade. It enables countries in which drugs are expensive to import them from cheaper markets.

On March 23, 1995, a decision regarding parallel imports was delivered by the Tokyo High Court. BBS Kraftfahrzeug Technik A.G. ("BBS") of Germany held both German and Japanese patents for certain aluminum automobile hubcaps. The hubcaps were legitimately purchased in Germany by a Japanese company which was engaged in the export of the relevant goods to Japan where an affiliated Japanese company was engaged in the sale of the goods. These two companies were virtually under the same management when the goods were imported into Japan for sale at a price lower than that charged by BBS dealerships in Japan. Subsequently, BBS filed suit for patent infringement in Tokyo District Court in June of 1994. The district court found that the two companies had infringed the BBS Japanese patent. However, on appeal, the judgment in favor of BBS was reversed. In reversing the district court, the High Court held that the patentee's right to enforce its Japanese patent against the imported goods had been exhausted since the patentee had legally transferred title to a rightful purchaser of the patented product.

By and large though the patentee enjoys exclusive rights for his product/process, Indian Patent Act also contains certain exceptions for the public benefit and to prevent the abuse of patent rights by the patentee.

CHAPTER 23

Importance of IP Policy

Intellectual property (IP) is a term referring to creation of human mind in the form of a number of distinct types of expressions for which a set of rights are recognized under the corresponding regimes of law. Innovation plays a vital role in sustainable growth of an organization and securing the organizations IP assets through proper planning is essential for utilizing the IP assets later for commercial success.

In case of Indian IT industry, IP typically means patent, copyright, design, confidential information, trade secret, brand name and domain name etc., wherein handling confidential information or trade-secret needs lots of care for the reason that it is not registered and moreover, there are not adequate laws to protect them. Though there are several IP related issues, however, drawing line between proprietary IP and client's IP may become a challenge at times, especially when the company is bound by stringent agreements.

IP policy in simple words, is a document that defines IP as per company's business; provides guidelines for creation, protection, exploitation, disclosure, ownership of IP; sensitizes employees about aspects of IP and at the same time guides them regarding the precautions that need to be taken to safeguard company's IP as well as prevent or minimize IP infringement risk. IP policy also provides guidelines and procedures for disclosure & non-disclosure of intellectual property whether protectable or not; and to develop and

improve environment of innovation and generate creative & novel IP compatible with business goals of the company.

Coverage of policy

Typically an IP policy is applicable to the employees of the company; however, if company works with outside vendors, freelancers or consultants etc, coverage of policy may be extended to them as well as they have to be involved in the process of creating IP for which ownership and confidentiality issues need to be addressed clearly in the policy.

Meaning of IP

Defining meaning of IP, depending upon core area of business is essential. IP may include patent, copyright, trademark & domain name, design, confidential information or trade-secret that might be proprietary in nature or created by employees during course of employment or by the consultants as a part of contractual relationship with the company. The kind of IP that shall be included in the definition purely depends upon business area and strategies of the company.

“Sensitization of the employees on confidential information and consequences of its misappropriation is necessary from time to time. Whom to disclose, when to disclose, how to disclose such information, must be made clear in the policy. Liability of the employees during course of employment or even after termination or resignation must be dealt with carefully.”

Ownership

Since IP is created by the employees during the course of employment, company would prefer having ownership of such IP with itself. However, in case of patent, the application for a patent shall be filed by true & first inventor, its assignee or legal representative. Therefore, it is extremely important to list out the inventors whose names are going to appear on the patent application, right in the beginning of the project to avoid arising of disputes later on. However, inventor may further assign rights to the company; so that ownership of the patent is with the company. Similarly in case of copyright, applicant is the company and the employee who creates the work is called as author. When company decides to file application for copyright registration, the author (s) is required to give NOC (No Objection Certificate) to the Copyright Registry stating that he/she has created the work during course of employment and he/she has no objections if the work gets registered in the name of the company. However, proprietary IP, confidential information is exclusive property of the company unless company specifically authorises employee to disclose, use or own it.

Security and confidentiality

Even though most of the organizations have implemented multiple security measures to prevent the loss, misuse and alteration of any confidential information under its control, employees must strictly follow the security measures, which are extremely crucial to secure technical and business information of the company. First of all identification of trade-secrets is very important and it can be best protected by segregating it into low, moderate and high confidentiality type

and further by limiting access to it. Employment and non - disclosure or confidentiality agreement may further be used as tools to safeguard confidential information of the company. Labelling documents as “Confidential” is an appropriate way of communicating information as Confidential and serves as an express notice to indicate nature of the document.

Sensitization of the employees on confidential information and consequences of misappropriating is necessary from time to time. Whom to disclose, when to disclose, how to disclose such information shall be made clear in the policy. Liability of the employee during course of employment or even after termination or resignation must be dealt with carefully.

Record of work

Systematic & periodic record of work, research, ideas is extremely critical to serve as an evidence to establish ownership (copyright) or inventorship (patent or design) and date on which intellectual property was created or developed by employee. It could also be helpful to find out infringement of intellectual property, if performed by an employee. Record book shall not be permitted to be taken outside the premises of the company and crucial data or descriptions should be signed and dated by the creator, supervisor, or coordinator of the project.

Liability of employee

Before expecting employees follow the IP policy, they shall be explained essential clauses of NDA and employment agreement that they sign at the time of joining. This will sensitise them about their duties as well as liabilities towards the company. At the time of termination or resignation, exit

interview must be conducted and copy of agreements signed at the time of joining must be handed over to the employee to remind him his responsibilities as well as liabilities. Getting confidential or any sensitive information from prior employer and incorporating such information in the work may land up in a very undesirable condition and any such practice must be strictly discouraged by the company.

Idea Disclosure

As far as patents are concerned, the process starts with conception and disclosure of idea. Here again, the activities such as whom to reveal the idea, how to take idea forward, effort needed to convert idea to executable invention, defining inventors, royalty percentage or reward upon commercialisation of the idea, are few of the critical issues that must be addressed in the IP Policy. However, maintaining confidentiality of idea, documentation, assessment of novelty and business relevance of idea and discussion with patent attorney, filing for patent in India or foreign country requires documentation of the process so that there is coordination between date of filing a patent application and disclosure in the form of product launch. Moreover, in the process of patenting, there are several critical timelines and fee that need to be marked and updated from time to time.

CHAPTER 24

IP Audit: Way of assessment of the intangible assets

Intellectual Property (IP) today has gained more importance than ever before in India as well as around the world. Creation of IP requires huge financial investments along with tremendous human efforts. This is the reason it has become increasingly important for companies to keep track of the extent, quality, and use of their intangible assets, as well as to have processes and procedures in place to create conducive environment within organization.

One traditional definition of an intellectual property audit is, “the cataloguing of an organization's intellectual property assets” but practically, IP audit has a wider meaning and may be defined as, “a systematic review of the IP owned, used or acquired by a business”. Its purpose is to uncover under-utilized assets, to identify any threats to a company's bottom line and to enable business strategists to devise informed strategies that maintain and improve their company's market share and brand equity.

The processes and stages at which audit is generally carried out, varies from organization to organization depending upon their business goals and areas of business. Patents may be important for one organization wherein for the other organization copyright or industrial designs may be critical. The process of IP audit includes review of IP processes within the organization, identification of trade secrets and providing best solutions to secure it by advising on the various

methodologies necessary to maintain security and confidentiality.

IP audit starts with the review of an area of business and the goals that a company intends to achieve. This reveals the kind of IP a company needs to focus on. The aim of audit typically is to examine and evaluate strengths and weaknesses in the procedures that are used to protect each intangible asset, secure appropriate intellectual property rights, to develop additional processes and to make improvements to existing processes. Most of the times, companies have a particular reason for the requirement of audit. The reason could be acquisition or merging of the company or it may be because the company has undergone some misappropriation of IP and by means of audit; it wants to identify the reason of such misappropriation and flaws in the agreements, security processes or sensitization level among employees. Hence, it's essential to define scope of the audit. After getting the requirements and reasons for audit, the proper pre-audit plan will be devised and then the executed in best possible manner.

The typical components of audit are: review and documentation of existing intellectual property, registered, to-be-registered or not-to-be registered. Registered IP shall be checked for its validity; review of agreements such as Non-Disclosure Agreement (NDA), Employment agreement, agreements with contractors, license agreement etc, to ensure that agreements are sufficiently binding on the employees and contractors to secure proprietor IP interview of employees to assess IP awareness level; monitoring of the processes in the company to ensure confidentiality and security of IP; monitoring systems in R & D wing such as maintaining record book, general practices, IP disclosure forms etc.

All you want to know about PATENTS

Based on the observation and information collected, the final report is prepared and presented to the key people in the organization. The report might reveal strengths and weaknesses of the organization and it may also suggest remedies to rectify the flaws in the processes.

CHAPTER 25

IP: How and where do we start?

IP protection today has become a key for economic growth and advancement in the high technology sector. IP is a valuable asset for any organization that believes in innovation, research and development and can be used as a powerful tool to generate revenues. The process of creation, protection and exploitation of IP effectively starts from the awareness of IP & clear understanding of fundamentals of IPR. As development of new products and processes involves high investment in terms of money, time and human resources, it is essential to protect them under appropriate legal framework.

Generation of new ideas and creation of IP needs a conducive environment within the organization to facilitate the employees not only disclose the ideas but also give them assurance that they will get due credit and recognition for their contribution for developing IP. Good IP Disclosure form and operational IP Committee within the organization is a very effective measure to ensure generation of new and innovative ideas from the employees. The procedure of step-wise implementation of IP process may vary from one organization to another depending upon area and goal of business and the business strategies.

The typical procedures to be followed may comprise of following steps:

- ✓ Awareness of Intellectual Property Law to make sure that the IP is protected properly and organization

refrains from using IP of third party (ies) accidentally or otherwise.

- ✓ Maintaining IP hygiene within the organization to make sure that IP processes are followed strictly by everyone.
- ✓ Understanding the requirements of patentability in detail especially by R & D group. They have to to understand need to have prior search before planning and investing on research.
- ✓ Develop culture of innovation. Having good invention disclosure measures within the organization to assist and encourage employees to innovate and get due credit for their contribution in generating and materializing the idea.
- ✓ Perform IP audit periodically to know gaps in the IP processes as well as identification of IP. Complete review of contracts such as Non-Disclosure Agreements with freelancer or employment agreements is essential.
- ✓ Implement procedures to maintain confidentiality of the inventions for which the organization may decide to file patents.
- ✓ Have procedures to make sure that IP of the organization is secure when employees resign/are terminated from the employment. It is equally important to make sure that the new employee doesn't bring confidential information from his/her prior employer.
- ✓ Protect IP developed in the organization and explore methods and options to exploit the same.

1. Define your IP Strategies

Developing and maintaining an effective IP strategy is a challenging but essential step in preparing to take an

innovation to market. A patent must be regarded as a strategic asset aimed at improving the competitive advantages and the earning capacity of a company. The term patent strategy is typically used to describe the plan used to develop patents with strategic value in complex competitive relationships. A good patent strategy should cover both the present needs, as well as future developments. Ideally, for any product or product based solutions company, its business strategy and its Intellectual Property protection strategy should complement each other. This is one of the most critical foundation blocks for an organization that strives to be leader in its domain.

2. Importance of patent search

Patent prior-art is any relevant information related to the invention that relates to the knowledge existing prior to the invention or the technology, which has been made available to the public. This knowledge may be in any form such as patent, scientific literature, publications (such as journal articles, proceedings of conferences, data books and display information from technical exhibitions), public discussions or news from anywhere in the world. Patent search or prior art search results can be used to achieve various aims, it may assist in assessing patentability of the invention or designing R & D or devising patent strategies or getting patent landscape overview or to assess infringement risks before product launch.

Prior art search:

- Prevents reinventing the wheel
- Provides ideas to refine and improve the invention or technology

- Helps to identify whether the invention has significant improvement over existing inventions or not
- Points out the boundary of invention which will protect an inventor from infringing or copying other patents
- Increases the knowledge base of the inventor
- Provide inspiration to the inventor in new technologies

8.1 *Types of Prior Art Searches*

There are different types of prior art searches for different purposes at different stage. Generally, prior art search can be classified in to five main types:

1. Patentability or Novelty searches (PAS)
2. Freedom to operate or clearance search or Right to Use searches (FTO)
3. Validity or invalidity or Enforcement Readiness searches
4. State of the Art searches
5. Technology landscape

8.2 *Patentability search (PAS)*

Patentability search is also known as “Novelty search”. PAS is conducted under following circumstances:

- ✓ Any information from patent or non-patent literature already disclosed to the public, in any form disclosed in any part of the world cannot be patented. Therefore, before preparing a patent application, PAS is performed in order to have clarity on the inventions patented already so that patent can be drafted in a better manner.

- ✓ During the initial stage of product or process development PAS is done to identify whether anyone else has publicly disclosed a similar inventive concept prior to a Critical Date¹. For example, when a biotechnology firm is planning to work on genetically modified bacteria to produce insulin on commercial level, it is essential to perform PAS before starting the research. If such organism is already patented or available otherwise, it is not worth to re-work on the same and waste time, resources and money. Instead the company can take license or divert research in different direction.

PAS usually does not have any time limitation; the period varies from yesterday to 200 years back.

8.3 Freedom to operate (FTO)

FTO search is also known as “Clearance search” or “Right to use searches”. This search is conducted prior to launching a new product. For example, if a company plans to launch a new product in UK region, there may be relevant patent (s) which the company is likely to infringe by commercializing the product (may or may not be patented). If the company launches the product without FTO and results in infringing the patent of third party, the consequences of the same may be very fatal leading to Court litigation and loss of finances and reputation.

FTO shall be done in such circumstance to check patents that are in force in UK to ensure that the company is not infringing any patent (s) of third party. FTO is usually done jurisdiction wise as IP rights are specific to different jurisdictions, and a

¹ Critical Date refers to the date of the initial placing on sale, publication, or public display or commercial use of an invention.

FTO analysis should relate to particular countries or regions where you want to operate. If the company will launch product in US, FTO is required to be done in US alone but if the products has to be exported to 4 other countries, FTO shall be done in other 4 countries as well.

FTO analysis focuses on the claims and the report must include the legal status of the identified relevant patent. FTO search is limited by time period of last 20 years (which is considered as in-force patents). The search will require in-depth analysis of the claims and legal status of patents identified in the search. FTO search is conducted not only on issued patents, but also on the pending patent applications to prove that the proposed product or process does not infringe any valid patent of others.

8.4 *Invalidity/Validity Search*

Patent Validity search or Patent Invalidity Search is a comprehensive prior-art search performed after patent issuance. The purpose of validity/invalidity search is to determine whether a patent issued on an invention is valid or not in view of prior art that was already published as of the priority/ filing date of the patent application. The principle of the search is to either validate or invalidate one or more claims of a patent. In other words, when a search is conducted to validate the claims of a given patent, it is called Patent Validity search and when it is done to invalidate the claims of a given patent then it is called Patent Invalidity Search. Both searches are identical except for the desired outcome. This search also includes the non-patent literature. Patent invalidity/validity search is mainly conducted to win the infringement case or overcome the possible risk of infringement.

For example, Company A has a product which infringes patent of company B. Company B sued company A for infringement. Hence, company A conducted invalidity search to invalidate the company B's patent. In another case, an applicant or patentee who has the concern that their patent may infringe another patent, conduct a validity/invalidity search to validate their patent or invalidate the concern patent.

Another example where Validity search proves useful is in licensing negotiations. In assessing the value of the licensed patent a licensee is about to receive, he/she may want to conduct a validity search to determine the strength of the patent. Upon receiving the results, the licensee can then adjust its minimum royalty payments according to the findings before he/she enters into the license agreement

8.5 *State of the Art search*

The state of the art patent search is the broadest and most general of all the patent searches. It is essentially a market survey that should ideally find out what technology already exists and then build on it. State of the Art search is conducted by a company who is considering an entry into a new technology area to gain an overall perspective of a particular technical field. This search helps in identifying the competitors and also shows the trend of technology in a specific area identified. The search is performed to gather and categorize the patents in the specific area and it will be limited for the last twenty years.

8.6 *Technology landscape*

Technology landscape is a continuation search of State of the art which required further deep analysis to understand the technology evolution, major players, current and upcoming

competitors and changes in the timeline trend. The main purpose of technology landscape is to identify the white space or gap in the technology. This type of search provides a comprehensible scope to plan the future R & D, leading to innovative projects to bring out new products/process in an industry. The main purpose of technology landscapes study is to understand the technology trend, strength of competitors, to learn latest technology advancement and analyze the patent activity related to technology of interest. Based on technology landscape analysis, appropriate IP strategy, complaint with business strategy is devised for the companies because a good IP strategy is a critical part of business plan and growth at any stage.

Technology landscape is not limited to patent activities, but also includes non-patent literature and other market information. There is no time limitation on this type of search as it is technology specific.

3. How can Origiin help you?

We, at Origiin, provide complete solution and services to knowledge based companies and academic institutions, enabling them to know the legal framework and to identify, protect and manage their IP in an effective manner.

8.7 Value Proposition

Origiin is a diverse group of professionals with a common set of core values. Transparency, honesty, responsiveness to our Customer's needs and requirements are the basic tenets on which Origiin is founded. We consider these as extremely critical components for long term successful business relationships. We are committed to serve our clients by providing cost-effective, timely and high-quality services.

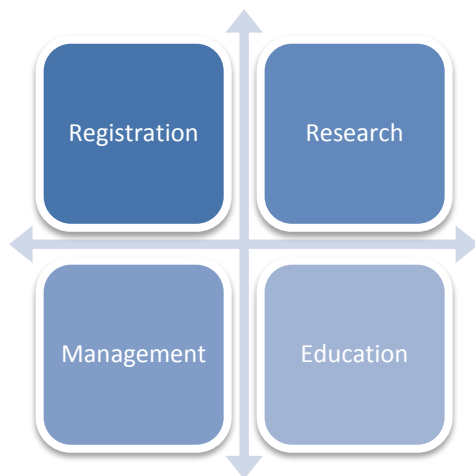
8.8 *Origin Team*

Origin has a team of skilled patent agents and attorneys from various areas of technology. We have so far provided quality services to a large number of companies from diverse areas of technology such as IT, software, electronics & telecommunication, engineering, pharmaceuticals, telemedicine and biotechnology etc.

8.9 *Our promise*

We understand how critical is protection of IP for company and promise to make our customers feel “*safe and secure*” with our quick, cost-effective and quality services and solutions. We enable clients to realize long term value and benefits from IP by identifying, securing, exploiting and managing it in best possible manner.

8.10 *Our services and solutions*



8.11 IP Protection and Registration

- I. **Patents**, which protect inventions such as Mechanical Apparatuses, Medical Devices, Chemical products or processes, Embedded Systems, Hardware, etc.
- II. **Copyright**, which protects artistic and literary works such as software code, scripts, logos etc.
- III. **Trademark**, which protect brand names, logos, slogans, and other words or symbols that distinguish your products from those of your competitors
- IV. **Industrial Design**, which protects the design applied on an article of manufacture such as shape of a bottle, dress design, patterns etc containing some aesthetic value.

IP Research

- I. Patentability /Prior art search
- II. Freedom-to-operate analysis
- III. Technology landscape analysis
- IV. Validity/invalidity analysis
- V. Claim mapping



IP Management

- I. IP Audit and complete review of IP process including assessment of internal agreements
- II. Devising IP strategy and IP Policy
- III. IP License agreements
- IV. IP Valuation & Due Diligence



IP Education

Origiin IP Academy has been actively involved with several programs on IP for corporate, students and academics.



- I. In-house customized sensitization program on IPR for corporate
- II. Certificate course on Patent Law
- III. Indian Patent Agent Exam training [Distance education, online, class-room mode]
- IV. Tutorial on Patent Searches

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ABOUT THE BOOK

The objective of this book is to present an insight to different aspects of Intellectual Property Rights (IPR). The book is a compilation of various articles published by Origiin IP Solutions LLP and aims to provide a clear understanding of importance of patent search, considerations before filing for a patent, process of patenting, position of software related inventions, career in IPR etc.

Further, the book throws light on the ways innovative companies can extract more out of their R&D efforts, for example by means of observing state of the art, generating patent alerts etc. The book is designed to be easily understandable by novices in IP as well as IP professionals in the industry as well as by the students who would like to explore the area IP. We hope everyone would enjoy reading and reap the benefit.



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