UNIT I

PATENTS AND TRADE SECRETS

INTRODUCTION

Intellectual property is a property that arises out of the creations of the human intellect. It ranges from literary works to technical inventions and includes artistic works, musical compositions and designs. The concept that the creators of intellectual property also should enjoy the same rights as that of the owners of any other property gave rise to Intellectual Property Rights (IPR).IPR very broadly, means the legal rights conferred to the creator of such intellectual property. According to the statute of Article 27 of the Universal Declaration of Human Rights, "Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author". Countries have laws to protect intellectual property for two main reasons. One is to give moral and economic rights to creators in their creations. The second is to promote, creativity and to encourage fair trading which would contribute to economic and social development. The economic benefit reaped by the creators of the intellectual property would not only lead to a better focus on research and development but also in tapping the potential of new and budding artists.

History of Intellectual Property Protection: Emergence of WIPO, WTO and TRIPS

The need for a system to protect intellectual property internationally arose when foreign exhibitors refused to attend an International Exhibition of inventions held in Vienna in 1873, as they feared that their ideas would be stolen and exploited commercially in other countries. This led to the creation of the Paris convention for the protection of Industrial Property in 1883. The Paris convention was the first major international treaty designed to help the people of one country to obtain protection in other countries for their intellectual creations, in the form of industrial property rights. In 1886, copyright entered the international arena with the Berne convention for the protection of literary and artistic works. The aim of this convention was to help nationalists of its member states to obtain international protection of their right to control, and receive payment for the use of literary and artistic works. Both Paris and Berne convention set up international organization called the United International Bureau for the protection of Intellectual property (BIRPI). BIRPI was the predecessor of what is today known as the World Intellectual Property Organization (WIPO). WIPO is a specialized

agency of the United Nations (UN), with a mandate to administer IP matters recognized by the UN member states. There are 21 international treaties which are administered by WIPO. The treaties fall into three groups namely treaties which establish international protection, treaties which facilitate international protection and treaties which establish classification systems.

Ideas and knowledge constitute an important part of trade. Creators have a right to prevent others from using their inventions, designs or other creations. The extent of such protection and enforcement varied widely around the world and these differences were a source of tension in international economic relations. There was thus a need for harmonization and predictability for disputes to be settled more systematically. The World Trade Organization (WTO) Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS Agreement), which came into force in 1995, brought with it a new era in the multilateral protection and enforcement of IP rights.

The IPR regime in India is governed through the following laws:

1. The Patents Act, 1970
2. The Copyright Act, 1957
3. The Trade Marks Act, 1999
4. The Design Act, 2000
5. The Geographical Indication of Goods Act, 1999
6. The Semiconductor Integrated Circuits Layout Design Act, 2000
7. Protection of Plant Varieties and Farmers' Rights Act, 2001
8. The Biological Diversity Act, 2002.

Types of Intellectual Property

Intellectual Property (IP) is divided into two main categories:

1. Industrial property which includes patents for inventions; Trademarks, Industrial Designs and Geographical Indications.
2. Copyright and related rights which cover literary and artistic expressions [Ex: books, films, music, architecture, art) and rights of performing artists in their performances, producers of phonograms in their recordings, broadcasters in their radio and television broadcasts.

Industrial Property is regulated by the Department of Industrial Policy and Promotion of the Ministry of Commerce and Industry through the office of the Controller General of Patents, Design and Trade Marks (CGPDTM). The ministry of human resource development looks after copyright and related rights.

Patents: A patent grants exclusive rights over an invention for a limited period of time in the specified territories to an inventor in exchange of full disclosure of his invention. Through grant of exclusive rights, the patent system provides the incentives to invent, invest, design and disclose which encourages creation of inventions and their utilization for public benefit.

Trade Marks: Trade Mark (TM) is asignor symbol used to distinguish the products or services of an enterprise and which may be registered with a competent authority. TM serves four specific functions of identification, source, quality, advertising symbols- justifying it a legal protection.

Industrial Design: Industrial Design is professional service of creating and developing concepts and specifications that optimize the function, value and appearance of products and systems for the mutual benefit of both user and manufacturer.

Geographical Indications: Geographical Indication (GI) refers to protection of products originating from a certain geographical area having special characteristics, qualities or reputation may be due to various factors, eg natural factors such as raw material, soil, regional climate, temperature, moisture etc. or the method of manufacture or preparation of the product such as traditional production methods.

Copyrights: Copyright is the right given by law to the creators of literary, dramatic, musical and a variety of other works. It ordinarily means the creator alone has the right to make copies of his or her works or alternatively, prevents all others from making such copies. The basic idea behind such protection is the premise that innovations require incentives. Copyright recognizes this need and gives it a legal sanction.

Patents

Introduction

The concept of patent is not of recent origin but has developed over a period of time and dates back to the year 1323 when a German engineer was granted the first known privilege for the construction of a model grain mill, which could cater to the storage needs of entire Venice. However, the first patent law in the sense of a promise of exclusive rights to inventors was enacted in the year 1474 by the Republic of Venice.

India had its first patent statute passed in the year 1856. This was passed in response to the recommendations made by a committee appointed to revise and update the laws to serve the society's changing needs. Thereafter, there were several modifications and re-enactments of patent Act ultimately resulting in Patent Act of 1970 which came into force on 20th April, 1972. The Patents Act 1970 was amended thrice after India became a member of WTO. As a WTO member, India had to adhere to a set of agreements, which included the agreement on TRIPS. One basic standard of the agreement was that the inventions must not be discriminated based on the field of science and technology to which they belong. As India was discriminating drug, chemical and certain other inventions by granting only process patents, it had to amend its patent law. The amendment in 2005 removed the discriminatory treatment by granting both product and process patents to drugs, chemicals, food inventions.

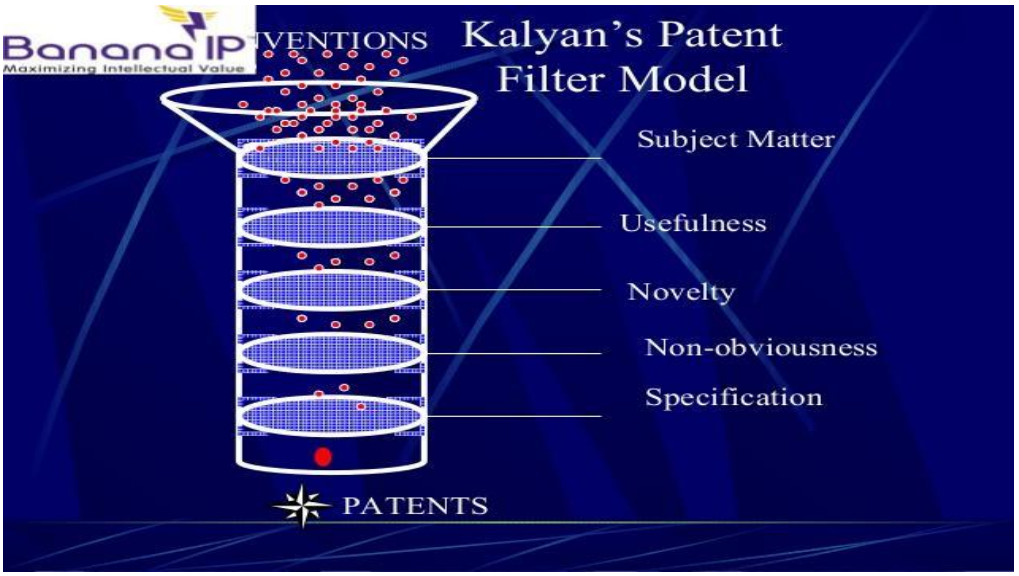
Scope and Salient Features of Patent:

In order to be patentable, an invention must be worthy of a patent grant. The patent worthiness of an invention is assessed by the government through patentability requirements. the five patentability requirements are:

1. The invention should be directed to patentable subject matter;
2. The invention should have industrial application;
3. The invention should be novel;
4. the invention should involve an inventive step; and
5. The invention should be described in detail in a specification and must be enabled.

To get a patent grant, an invention should satisfy all of the afore-mentioned requirements. The patentability requirements may be visualized as filters in a funnel and inventions correspond to the particles entering the funnel. A patentable invention should pass through all the filters in order to be granted. Figure 1 shows the patent filter model propounded by Dr Kalyan.

The configuration of each filter patentability filter differs from country to country based on socio-economic conditions.



Patentable Subject Matter

Patentability subject matter requirement is the first and basic filter for assessing patentability of an invention. Through this filter, the government defines the list of subjects that are eligible and ineligible for a patent grant.

in addition to eligible subjects, the subject matter requirement consists of a list of ineligible subjects enumerated by the law, which are also called as exclusions or non-patentable inventions.

The exclusions or non-patentable inventions in India are:

- An invention which is frivolous or which claims anything obviously contrary to well-established natural laws is not patentable in India. For example, a perpetual motion machine alleged to be giving output without any input would not be patentable as it would be contrary to well established principles of natural law.
- An invention that's primary or intended use or commercial exploitation is contrary to public order or morality or which causes serious prejudice to human, animal or plant life, health or the environment. For example, a machine for creating violent environment would not be patentable as it would be prejudicial to public order.

- The mere discovery of a scientific principle or the formulation of an abstract theory. For example Einstein theory of relativity is not patentable.
- The discovery of a living thing or a non-living substance occurring in nature is not patentable.
- The mere discovery of a new form of a known substance which does not enhance the known efficacy of that substance, the mere discovery of a new property or new use for a known substance or the mere use of a known process, machine or apparatus unless the known process results in a new product or employs at least one new reactant (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 will be considered to be the same substance, unless they differ significantly in properties with regard to efficacy) For example, if a substance X is known to treat muscle fatigue, a chloride form of X, Xcl, will not be patentable as it is a new salt form of a known substance. (Novartis case)
- A substance obtained by a mere admixture resulting only in the aggregation of the properties of the components thereof or a process for producing such substance is not patentable. For example, mixture of sugar with pieces of coconut to make a coconut sweet is not patentable because it is a mere admixture.
- The mere arrangement, rearrangement or duplication of known devices which function independently of one another in a known way is not patentable. For example, wrist watch with a compass attached to it is not patentable as both devices function independently of each other.
- A method of agriculture or horticulture is not patentable. For example, a method of growing plants on roof top is not patentable.
- 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. For example, a method of performing acupuncture is not patentable.
- Plants and animals in whole or any part thereof other than microorganisms, including seeds, varieties and species and essentially biological processes for production or

propagation of plants and animals is not patentable. For example a genetically modified mouse is not patentable, whereas a genetically transformed bacterium being micro- organism is patentable.

- A mathematical or business method, a computer program per se or algorithms is not patentable. For example, a computer program to display a screen saver is not patentable.
- A literary, dramatic, musical or artistic work or any other aesthetic creation, including cinematographic works and television productions is not patentable. For example, books, films are not patentable.
- A mere scheme, rule or method of performing a mental act or playing a game is not patentable. For example, a method of playing chess is not patentable.
- A presentation of information is not patentable. For example, a power point presentation is not patentable.
- The topography of integrated circuits is not patentable but is protected under different legislation.
- An invention which, in effect, is traditional knowledge or an aggregation or duplication of known properties of traditionally known component or components is not patentable. For example, use of ginger for stomach problems is not patentable.
- Invention relating to atomic energy is not patentable.

Industrial Applicability/Utility

In India an invention is considered to have industrial application, if the invention is capable of being made or used in an industry. However, if the applicants indicate vague and speculative objectives of the invention, then the invention is considered to lack industrial application. For example, stating that the invention would be very useful for locomotion when human beings live on moon would lack industrial applicability.

Novelty

This requirement verifies if an invention is new in the light of what is already existing (prior art) and therefore, worthy of a patent grant. Novelty of an invention is assessed based on any disclosure (prior art) which relates to the invention and which is in the public domain before filing of patent application for that invention.

The Indian patent act defines 'new invention' as any invention or technology that is not being 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. The prior art which anticipation an invention and negates novelty of an invention can be categorization as follows:

1. Anticipation by publication;
2. Anticipation through public knowledge and public use;
3. Anticipation by public display; and
4. Anticipation by sale.

Inventive step/Non-obviousness

An invention is said to possess an inventive step if it is not obvious to a person skilled in the art in the light of prior art. In India, an invention is said to have inventive step if the invention is:

1. Technically advanced in light of prior art or has economic significance; and
2. Was not obvious to a person skilled in the art.

To assess inventive step, all information in prior art references can be combined provided they are all in the same art. Some of the questions that will be considered in determining inventive step are:

what are the problems which the patented development addressed?

how long had that problem existed?

how significant was the problem seen to be?

how widely known was the problem and how many were seeking a solution? and so on.

Case Study for assessing novelty and inventive step

A complete specification directed to an invention related to water bottle cap is filed with Indian Patent Office. Claim 1 of the complete specification recites:

A water bottle cap, said cap comprising:

a base defining an opening, said base having a locking mechanism configured to engage said base with a bottle;

a water outlet pipe adapted to be received inside the opening, said pipe attached to said base; and

a closure member hinged engaged to said base, said closure member adapted to move between an open position, where the closure member moves away from said pipe, and a closed position, where the closure member moves towards said pipe and abuts said base.

Prior art

Prior art references uncovered by the patent Examiner for this invention are:

Prior Art 1:

Prior art 1 discloses a water bottle cap having a base with an opening. Further, a straw adapted to be received inside the opening is disclosed. The straw extends inside the bottle. The straw has a closure member just enough to close an opening defined in the straw. Further, the straw has a sealing mechanism which seals the opening defined by the base.

Prior Art 2:

Prior Art 2 discloses a water bottle cap having a base. The base of the water bottle cap defines the opening. Further, a closure member is hingedly attached to the base. The closure member moves between an open position, where the closure member moves away from the opening of the base, and closed member moves towards the opening of the base. The projection of the closure member, in the closed position, extends inside the opening and thus seals the opening.

Following table compares the claimed elements and the elements disclosed in the prior art.

Invention	Prior Art 1	Prior Art 2
Base	Yes	Yes
Water outlet	Yes	No
Closure member	No	Yes

Novelty assessment:

The invention will be considered novel if all the elements of the water bottle cap are not present in a single prior art reference.

Prior Art 1 does not anticipate the claimed invention because as seen in the table, the closure member as required by claim 1 of the invention is not disclosed by prior art 1.

Prior art 2 does not anticipate the claimed invention because, as seen in the table, the water outlet as required by claim 1 of the invention is not disclosed by prior art 2.

As either of the prior art references do not disclose all elements of the invention, it can be considered novel.

Inventive step assessment:

To assess inventive step, all information in prior art references can be combined provided they are all in same art.

Prior art 1 discloses a base and a water outlet, which are present in the invention as well. Prior art 2 discloses the base and the closure member, which are also present in the invention. On combining the prior art references, a person skilled in the art can easily think of making a bottle cap with a base, pipe or water outlet and a closure member. It would be obvious for such a person to combine the two prior art references to arrive at the invention. No undue experimentation is required for such a combination. Therefore, the invention may be considered to be obvious and therefore, would not possess an inventive step.

Patent procedure:

The procedure to be followed for getting patent is not the same in all countries of the world. However, the procedure for getting a patent in India is under the Patent Act, 1970.

Patent procedure generally refers to rules related to the process of filing and prosecuting patent applications in a particular jurisdiction.

The patent procedure in India can be broadly divided into the following stages:

a) Filing
b) Request for Examination
c) Publication
d) Examination

e) Opposition- Pre Grant and Post grant

f) Registration and Renewal fee payment

Filing: A patent application can be filed either by a person who claims to be true and first inventor of the invention or it may be filed by the assignee of the true and first inventor. The application may also be filed by the legal representative of any deceased person who was entitled to file such an application immediately before the death of the true and first inventor.

The patent office has four branches in India viz. Delhi, Mumbai, Kolkota and Chennai. Patent application originating out of a particular geographical area can be filed only in a specific branch office. For example, a patent application emerging from Karnataka can be filed only in the Chennai branch office.

India recognizes two types of patent filings:

Provisional application: A provisional patent specification is a preliminary application before filing a usual patent. It explains the invention in a broad manner but not completely. It is the document which may be filed before a Complete Specification in the Office of the Controller of Patents pertaining to a prospective patent. It gets the word "provisional" in its name from being incomplete and a predecessor of a complete specification which comes later. Also, although it is not mandatory, it is highly recommended as it has a lot of benefits for the inventor. The provisional application not only gives the applicant 12 months to file the complete application but also helps to secure a priority date.

Complete Application: As the name itself suggests, a complete application is an application that is complete in all respects. It consists of detailed description enabling a person to practice the invention, claims, all embodiments, best mode. One major difference between the provisional and the complete application is that the provisional application may be filed without claims while the complete application compulsorily needs to have claims.

Parts of complete specification: The complete specification must be drafted in the following format.

1. Title
2. Preamble of the invention
3. Technical field
4. Background of the invention
5. Objects of the invention
6. Statement of the invention

7. Brief description of the drawings
8. Detailed description of the invention
9. Claims and
10. Abstract.

Request for Examination (RFE): RFE is a mandatory requirement and is filed at the option of the Applicant when the applicant wants his application to be examined by the Indian Patent Office. Unless a RFE is filed the Indian patent office does not take up the application for examination. The Applicant has the option of filing the RFE at any time within a non-extendable period of 48 months from the priority date of the application. In case RFE is not filed with this time limit the application is considered to be withdrawn.

Publication: A patent application gets published upon expiry of 18 months from the priority date of the application.

The two major reasons that make the publication date a really vital one are:

a) Rights of the patent applicant commence from the date of publication. Once the patent is granted and the patent owner sues someone for infringement then it is possible to receive damages/account of profiles from the date of the publication.
b) Pre-grant opposition opportunity opens up for third parties to oppose the grant of the patent from the date of publication.

Examination: The examination of the patent application will be done by the controller in co-ordination with the patent examiner. The examiner on receiving the application will review the application and make a report in the respect of the following:

a. whether the form of application and specification are in accordance with the requirements of the Patent Act and Rules;
b. whether the invention that forms part of the patent application satisfies the patentability requirements such as subject matter, industrial applicability, novelty, inventive step and specification; and
c. Whether the application confirms to any other requirements such as unity of invention and so on prescribed under the Act and Rules.

Opposition-Pre Grant and Post Grant

Pre Grant Oppositon

Once the patent application is published it is open for the public to oppose the patent application. The Pre-grant representation can be filed at any time up till the grant of patent. However as the patent is not granted for at least six months from the date of publication of the application, the minimum period available for pre grant representation is six months and it is advisable to file the pre-grant representation as early as possible.

The various grounds for pre grant representation can be:

- Wrongfully obtaining the invention
- anticipation by prior publication
- anticipation by prior date, Prior claiming in India or elsewhere
- Prior public knowledge or public use in India or elsewhere
- Obviousness and lack of inventive step
- non patentable subject matter
- insufficiency of description of the invention
- non-disclosure of information as per the requirement or providing materially false information by an applicant
- nondisclosure/ wrong mention of source of biological material
- Invention anticipated with regard to traditional knowledge of any community, anywhere in the world.

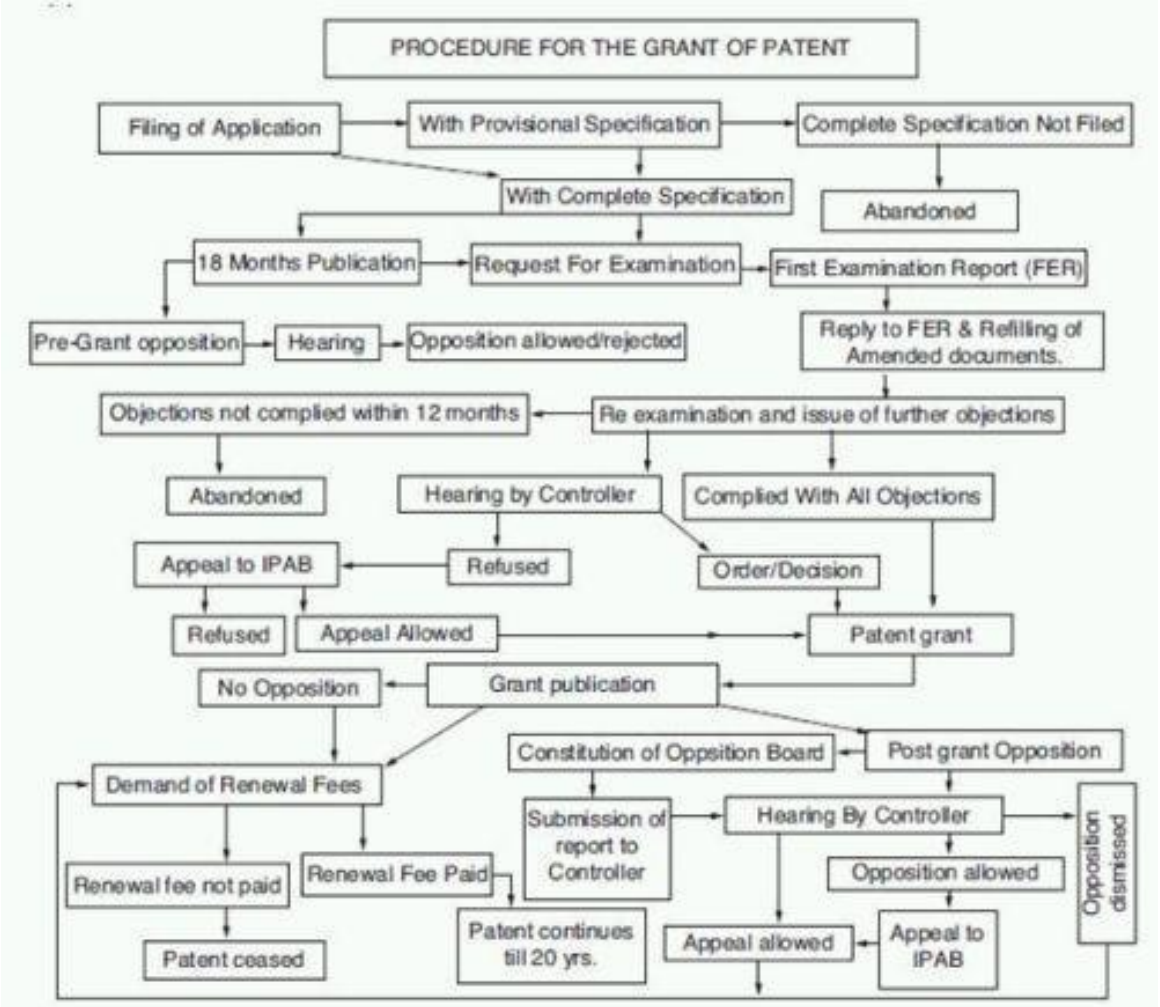
Post Grant Opposition:

A post grant opposition may be filed by any interested person after the publication of patent grant and within one year from the date of such publication.

'Person interested' includes 'a person engaged in or promoting research in the field of the invention'. Such person must have bonafide interest in the invention the onus of proving lies on him. For example, if "X" gets a patent grant on a gene sequence responsible for diabetes, a scientist at National Institution of Nutrition, who researching on diabetes will be considered to be an interested person.

The grounds of filing post grant opposition are the same as the grounds of pre grant representation.

Grant of Patent: Once the application is published and all the objections raised in the examination report are met the application proceeds towards registration given there is no pre grant representation pending. In case there is a pre grant representation against the application the patent is granted once the application is dismissed. Upon grant of the patent renewal fee has to be paid for maintaining the patent for 20 years.



Rights of a patentee: The rights of a patent holder in general include the following:

a. For the period of protection the patent holder may exclude others from making, using, offering for sale, selling, and importing the invention claimed in the patent.
b. The patent owner also has the right to assign (sell) or to license the patent. In other words, the patent owner may if he/she so wishes, transfer his/her exclusive rights to another person through the conclusion of licensing contracts.
c. The patent holder has the right to surrender the patent at any time by giving notice in the prescribed manner to the Controller.
d. The patent holder has the statutory right to institute proceedings for infringement of the patent in a District Court having jurisdiction to try the suit.

JOINT-INVENTORS/CO-OWNERS OF PATENT RIGHTS

If an invention is a work of two or more inventors who make inventive contribution to

various parts of the invention or to different claims of a patent, they are recognized as joint inventors and on grant of the patent for the invention become co-owners of patent rights. Co-owners have equal undivided share in a patent, unless there is an agreement to the contrary. If the patent is for a product, each co-owner is entitled, without accounting to other owners, to the exclusive rights for his own benefit to prevent third parties who do not have his consent from the act of making, using, offering for sale, selling or importing for those purposes the patented product in India; if the patent is for a process then a co-owner is entitled to prevent third parties from the act of using that process and from the act of using, offering for sale, selling or importing for those purposes the product obtain directly by that process in India.

LIMITATIONS ON PATENTEE'S RIGHTS

Use for the Purposes of Government

- Any patented product or process or a product made using patented process may be used by or on behalf of the Government for its own use only. An invention is said to be used for the purposes of Government if it is made, used, exercised or vended for the purposes of the Central Government, State Government or a Government undertaking; this includes Council of Scientific and Industrial Research.

- In case of a patent in respect of any medicine or drug, the medicine or drug may be imported by the Government for its own use or for distribution in any dispensary, hospital or other medical institution maintained by or on behalf of the Government.

Acquisition of Patents and Inventions by Central Government

If the Central Government is satisfied that it is necessary for public purpose to acquire an invention for which a patent has been granted or an application for patent has been filed, it can publish a notification in the official Gazette and all rights in respect of the invention stand transferred to the Central Government. The Central Government will be liable to pay compensation to the applicant or the patentee as may be mutually agreed upon.

Compulsory Licenses

The right of the patentee is limited by the provision for grant of compulsory licenses. The IPA

lays down the following general principles applicable to working of patented inventions:

a) that patents are granted to encourage inventions and to secure that the inventions are worked in India on a commercial scale and to the fullest extent that is reasonably practicable without undue delay; and

b) that they are not granted merely to enable patentees to enjoy a monopoly for the importation of the patented article;

c) that the protection and enforcement of patent rights contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations;

d) that patents granted do not impede protection of public health and nutrition and should act as instrument to promote public interest specially in sectors of vital importance for socio-economic and technological development of India;

e) that patents granted do not in any way prohibit Central Government in taking measures to protect public health;

f) that the patent right is not abused by the patentee or person deriving title or interest on patent from the patentee, and the patentee or a person deriving title or interest on patent from the patentee does not resort to practices which unreasonably restrain trade or adversely affect the international transfer of technology; and

g) That patents are granted to make the benefit of the patented invention available at reasonably affordable prices to the public.

Thus, the purpose granting patents in India is primarily to secure that the inventions are worked in India on a commercial scale and not merely to enable patentees to enjoy a monopoly for the importation of the patented article. Patent rights are meant to encourage technological innovation and help transfer and dissemination of technology for the social and economic welfare. The benefit of the patented invention has to reach the people at a reasonably affordable price.

The IPA, provides for **compulsory license of patent to a third party by the Controller**, on application made at any time after expiry of three years from the date of sealing of the patent,

on the following grounds:

- the reasonable requirements of the public with respect to the patented invention have not been satisfied; or
- the patented invention is not available to the public at a reasonably affordable price; or
- the patented invention has not worked in India.

If the controller is satisfied about the grounds and the facts as set out in the application, he may grant a compulsory license on the patent and direct the patentee accordingly to grant a license to the applicant. In deciding on the application, the controller is required to take into account several factors including the nature of the invention, the time which has elapsed since the sealing of the patent, the measures taken by the patentee to make full use of the invention, the ability of the applicant to work the invention to the public advantage, and the applicant's capacity to take capital risk and whether the applicant has made effort to obtain a license from the patentee on reasonable terms and conditions and such efforts have not been successful within a reasonable period.

The IPA also has special provision for compulsory licenses on notifications by the Central Government in a case of national emergency, or of extreme urgency or of public non-commercial use.

Compulsory license can also be available for manufacture and export of patented pharmaceutical products to any country which has no, or insufficient manufacturing capacity for the concerned product to address public health problems, provided compulsory license has been granted by such country, or such country has allowed importation of the patented pharmaceutical products from India. The Controller on receipt of an application in the prescribed manner will grant a compulsory license solely for the manufacture and export of the concerned product to such country under such terms and conditions as may be specified by him.

A compulsory license can be terminated on patentee's request when the circumstances in which the grant was made no longer exist and are unlikely to recur. The holder of the compulsory license can of course object to the application and the Controller shall take into account that the licensee's interest is not unduly prejudiced.

Case Study: Natco vs Bayers

Inventions for Defense Purposes

If the Controller finds that an invention is relevant for defense purposes, he may prohibit or restrict publication of information subject to ratification from the central government. No appeal lies against these directions of the Controller.

The secrecy directions are reviewed at intervals of six months, or on the request of the applicant, and would be revoked if found no longer necessary by the Central Government. If, in the case of an application filed by a foreign applicant, it is found that the invention is already published outside India then also the secrecy directions are revoked. However, please note that an application in respect of which secrecy directions have been issued can still be processed to the stage of acceptance of complete specification, but the acceptance shall neither be advertised nor the specification published and no patent shall be granted.

No patent application for an invention relevant for defense purpose can be filed outside India except on the written permission of the Controller. All orders of the Controller as to secrecy, as well as orders of Central Government in this context, are final and cannot be challenged in any court on any ground.

Revocation of Patents for Non-working

For a patent under a compulsory license, the Central Government or any person interested can make an application after the expiration of two years from the date of compulsory license for revocation of the patent.

The grounds for the revocation would be:

- the invention has not been worked in India; or
- the reasonable requirements of the public have not been satisfied; or
- the invention is not available to the public at reasonable price.

The Controller, after giving opportunities to the patentee to oppose the application, may decide on revocation on merit.

TRANSFER OF PATENT RIGHTS

A patent is an exclusive property of the inventor and hence can be transferred from the original patentee to any other person by assignment, grant of license, or operation of law.

The IPA requires that an assignment, license or a creation of any other interest in a patent must be in writing, clearly specifying all the terms and conditions governing the rights and obligations of the parties. The person getting such entitlement in a patent has to apply in writing to the Controller for the registration of his title.

Assignment

An assignment means transfer of interest in the patent by the patentee to another person in whole or in part valid over entire India or a part of it. The person to whom the right in patent is assigned is called the assignee and the person who assigns the right is called the assignor.

There are three kinds of assignment:

Legal Assignment

When the assignor assigns the right in a patent through an agreement duly registered, the assignment is called a legal assignment and the assignee's name will be entered in the Register of Patents maintained by the Patent Office as the proprietor/owner of the patent. The legal assignee shall thereafter have all the rights conferred by the assignor.

Equitable Assignment

When the patentee agrees to give another person certain defined right in the patent with immediate effect, by a document (e.g. a letter), and not by an agreement, the assignment is termed as an equitable assignment. However, such an assignment cannot be registered in the Register of Patents. The assignee can convert the equitable assignment to legal assignment by getting the document in writing and getting it duly registered.

Mortgage

When the patentee transfers the patent rights either wholly or in part to the mortgagee to

secure a specified sum of money, such assignment is called mortgage. The patentee can get the patent re-transferred on refund of the consideration money.

License

A license confers a privilege on another person through an agreement to make, use or exercise the invention. The person to whom the privilege is transferred is called the licensee. The license agreement does not transfer any interest in the patent. A license merely transfers a right in patent as compared to an assignment in which there is transfer of interest. There are three kinds of licenses:

Voluntary License

When the patentee, by a written agreement, empowers another person to make, use or exercise the patented invention in a particular manner and on agreed terms and conditions it is called a voluntary license. The Controller of Patents and the Central Government do not have any role in such license.

Statutory License

When the license is granted by the Controller and the Central Government as a compulsory license it is termed as statutory license. In this case, the terms and conditions of the license agreement do not depend upon the will of the patentee and the licensee.

Exclusive License

In case of exclusive license, the patentee confers exclusive right to make, use, sell or distribute the patented invention to a particular person to the exclusion of all others including the patentee himself. Such a person will hold an exclusive license in the patent. The exclusive licensee has the right to initiate infringement proceedings against an infringer. The patentee has the right to impose certain restrictive conditions on the rights of the licensee. But no such restrictions can be imposed which are against the public interest.

For example, in a license to manufacture or use a patented article, or to work a process protected by a patent, it shall not be lawful to insert a condition that will require the licensee to acquire from the licensor, or his nominees, any article other than the patented article or an article other than that made by the patented process.

Biotechnology patents:

One of the most unique features of biotechnology is its diversity. For example, genomics is different from tissue culture in characteristics, applications, processes and products. As the field is growing and evolving at a rapid pace, the list is a non-exhaustive one. Because of diversity in the field and varying characteristics of its sub fields, it is very difficult to devise or establish patent principles or rules for biotechnology as a whole and therefore, the application of patent law to biotechnology is very complex. Therefore patentability requirements for biotechnology inventions have been different in different countries.

Patentable subject matter of biotechnology inventions:

In USA, biotech inventions are considered to be eligible subject matter as compositions of matter or manufactures. In a landmark case of Diamond v. Chakraborthy, where the case related to genetically modified pseudomonas bacterium capable of degrading oil; and a process by which four different plasmids, capable of degrading four different oil components, could be transferred to and maintained stably in a single pseudomonas bacterium, theUS Supreme Court after several sessions gave a judgement that the invention is patentable because it is new bacterium with markedly different characteristics from any found in nature. The Supreme Court further stated that the test for determining whether an invention falls within the scope of 'Product of nature'is whether the invention in question involves a hand of man. If yes, the invention is not product of nature or naturally existing. If No, it is naturally existing and therefore not patentable.

In Europe, with respect to Novartis case relating to patentability of transgenic plants into which DNA had been inserted using recombinant technology, the Technical Board of Appeals stated that if a genetic modification can be applied to more than one variety then the invention is patentable subject matter. In Oncomouse case, the Technical board of Appeals held that a genetically altered mouse, which involved inserting an activated oncogene to develop a cancer in the mouse was patentable subject matter. In the light of Oncomouse case, non-human multicellular organisms including rodents and mammals can be considered to be patentable subject matter in Europe. Gene sequences have also been held to be patentable subject matter in Europe.

In India, prohibited subject matter include plant and animals in whole or any part thereof including seeds and essentially biological processes for production or propagation of plants and animals. However micro-organisms and microbiological processes are patentable subject matter. Genetically modified multicellular organisms including plants, animals, human beings

and their parts are excluded from patentability in India.

Utility/Industrial Applicability of biotechnology inventions:

The standards of utility have been heightened for biotechnology inventions due to lack of maturity of the field. In US and Europe biotech invention must satisfy substantial, credible and specific utility in order to satisfy utility requirement. General uses of the invention will not be accepted for purposes of utility and specific uses must be shown.

In India, for an invention to be industrially applicable, it is necessary to prove that the inventions can be made and used at least in one field of activity and can be reproduced with the same characteristics as many times as necessary. However, gene and DNA sequences whose functions are not disclosed do not satisfy the Industrial Applicability requirement.

Novelty in Biotech Inventions:

In USA, the courts have held that isolated and purified gene sequences were novel even if they are identical to the sequences in nature. In Europe, the EPC regulations say that the biological material which is isolated from its natural environment or produced by means of a technical process even if it previously occurred in nature is patentable.

In India, the law provides that the biological material such as recombinant DNA, plasmids and processes of manufacturing thereof are patentable provided they are produced by substantive intervention.

Inventive step in Biotech Inventions:

In USA, the non-obviousness standards required for biotechnology inventions have been interpreted by courts to be different from the generally accepted principles. In Hybrid vs monoclonal a case involving a patent over "Immonometric Assays using monoclonal antibodies", the court held the patent non-obvious despite the existence of twenty prior art references because the prior art as a whole did not make the invention obvious at the time the invention was made. The court in this case reiterated the importance of secondary indicia by determining the sandwich assays using monoclonal antibodies to be nonobvious because of the commercial success, unexpected advantages and praise from experts of the diagnostic kits made by Hybritech.

In Europe, the non-obviousness determination is always done from the point of view of a person with ordinary skill in the art. According to R.v. Genentech, a case concerned with interferon-gamma and the DNA sequence coding for it, the Board stated that skilled person in the art must be concerned as that of a team of the appropriate specialists, who know all the difficulties still to be expected when considering cloning a new gene.

In India, due to dearth of case law, the approach to inventive step with regard to biotechnology inventions is not clear. As per the manual, it can be safely concluded that isolated gene sequences and protein sequences will be considered to have an inventive step in the light of their naturally existing counter parts. Furthermore, economic significance requirement is relatively easy to prove for biotechnology inventions due to their various applications in drugs and diagnostics sector.

Enablement and written description for biotechnology inventions:

In India, for biotechnology inventions, which describe biological material in the specification, the law provides for deposit of such biological materials at a recognized depository. The manual of patent practice and procedure requires the invention to be described completely in the specification to enable a person skilled in the art to be able to vary out the invention by reading the specification.

Protection of Traditional Knowledge:

The topic of protecting traditional knowledge, especially knowledge related to herbs, herbal formulations, folk lore, art and crafts through legal framework has been a topic of debate and discussion globally and in particular in India for quite sometime. More often than not the general prescription is that traditional knowledge (TK) possessed by societies should be protected under the legal framework of IPR. The concern and legitimate urge to protect TK is relatively a recent development triggered by the convention on biological diversity which stipulated that each country has sovereign rights over the biological diversity possessed by it, and setting up of World Trade Organization (WTO) which brought IPR matters upfront as an essential instrument for international trade.

Nature of Traditional Knowledge:

It is quite difficult and a complex exercise of logic to define Traditional Knowledge (TK). There could be many reasons which render the task very difficult and some of them are given below.

a. TK is not limited to any specific field of knowledge.
b. An element of long past is associated with TK. Origin of TK is often indeterminate. TK represents the entire field of human endeavor.
c. It is an aggregation of many different fields of knowledge viz. science, technology, arts, music, dance, folklore, beliefs, medicine, bio-diversity conservation, agriculture, environment and so on.

d. Its development has not been systematic but has developed as a continuous response to environment, more as an experiential knowledge system.
e. TK is usually held collectively and not by a single individual.
f. Most TK is transmitted orally and little documentation exists for TK in many human societies.
g. TK systems are frameworks for continuing creativity and innovation and are deeply rooted in social and cultural systems.
h. Any one is free to add to the knowledge system. It extremely difficult to determine individual contributions and also community contributions in TK as we see today.
i. Over the years geographical boundaries among nations have changed as new nations have emerged, large scale migration of population has taken place and massive diffusion of knowledge has taken place across communities, societies and nations. Hence ownership of TK is extremely difficult to determine.

Case of turmeric patent:

A US patent was granted to University of Mississipi, USA with Das, Cohly and Jackson as inventors claiming wound healing property of turmeric when applied locally or orally in 1995. This patent was first located by the author and brought to the public knowledge. This caused adverse public relations in India at all levels because the use of turmeric as wound healing agent is known to Indians for centuries and turmeric is used in many households in India for this purpose. The US patent and Trademark office was approached to re-examine the patent for its revocation by CSIR. As evidence, a Persian document of 19th century highlighting the use of turmeric was produced before the USPTO which accepted the evidence and cancelled all the claims. This was considered a big step in attracting world attention to misappropriating TK through patents.

Case of Ayahuasca patent:

Baisteriopsiscappi plant is known to about 400 tribes in and around Amazon for centuries. Plant is used for making ceremonial drink “ayahuasca”. The plant has medicinal and religious importance. A US patent was granted to a US citizen, Mr. Miller in 1986 for a new variety of plant located/discovered by him in a domestic garden in a rain forest of South America. This plant was reproduced asexually from cuttings by Mr Miller. The coordinating body of Indigenous Organizations of the

Amazon Basin (COICA) knew about the patent in 1994. It was learnt that Mr. Miller intended setting up a pharmaceutical lab in Ecuador to process ayahuasca plant and that the USA and Equador were planning a bilateral IP reciprocity agreement. CIOCA feared that indigenous people will lose their right over their sacred plant. CIOCA approached USPTO for re-examination of patent. USPTO rejected the claims on the grounds of novelty on November 5, 1999. Equador did not go ahead with the bilateral agreement in view of these facts.

Infringement of patents and remedy case studies

A patent infringement exists if any person exercises the exclusive rights of the patent holder without permission within the country of patent grant and during the patent term. While assessing patent infringement it is important to ascertain the following:

- whether the person alleged of infringement exercised the rights of the patent holder with respect to the patented invention;
- whether the rights have been exercised without authorization of the patent holder;
- whether the actions of the alleged infringer are within the country or territory of patent grant; and
- whether the patent has not expired or lapsed.

A person will be liable for infringement only if answers to all the above statements are affirmative.

Based on its nature, infringement can be classified into two types:

a. Direct infringement; and

b. Indirect infringement.

Direct infringement is once again classified into two types:

a. Literal infringement

b. Equivalence infringement

Literal Infringement: Literal Infringement exists if all the elements of a claim are literally present in an alleged procedure process. Determination of literal infringement is done by comparing elements of claim to those of a product or process one on one.

Equivalence infringement: Equivalence infringement determination is carried out only if a product or process does not literally infringe on claims of a patent. In India, a product or process is infringing if the product is in substance equivalent to that of the claim.

Example:

Consider Patent A granted to inventor X on a composite gutter guard. A composite gutter guard is adapted for being positioned at an opening of a longitudinally extending, generally U-shaped gutter used for collecting and distributing rainwater runoff from the roofs of residential homes and other buildings. The gutter guard includes an elongate polymer guard panel defining a plurality of spaced filter openings. The guard panel is adapted to extend laterally across the opening of the gutter and longitudinally along the length of the gutter. A polymer-coated mesh layer overlies the guard panel in an area of the filter openings and cooperates with the guard panel to capture and separate debris from rainwater runoff entering the gutter. A heat weld connects the mesh layer to the guard panel.

Claim 1 of patent A recites

A composite gutter guard adapted for being positioned at an opening of a longitudinally extending, generally U-shaped gutter used for collecting and distributing rainwater runoff from the roofs of residential homes and other buildings, said gutter guard comprising:

(a) an elongate polymer guard panel defining a plurality of spaced filter openings, said guard panel being adapted to extend laterally across the opening of the gutter and longitudinally along the length of the gutter;

(b) a polymer-coated mesh layer overlying said guard panel in an area of said filter openings and cooperating with said guard panel to capture and separate debris from rainwater runoff entering the gutter, said mesh layer having first and second opposing side edges and first and second opposing end edges; and

(c) a continuous heat weld defining an uninterrupted longitudinal weld line connecting said mesh layer to said guard panel, and extending from one end edge of said mesh later to the opposing end edge of said mesh layer.

A person Y manufactures gutter guards having guard panel and a mesh layer. However, the mesh layer is attached to the guard panel by an adhesive instead of a continuous head weld.

Given the scenario, the gutter guard of Y does not literally infringe because all the elements of claim 1 are not literally present in Y's gutter guard. The claim states that the mesh layer and the guard panel are attached by continuous weld but Y's gutter guard uses adhesive instead of weld to attach the mesh layer and the guard panel.As the attachment element is different from the patent claim, Y's gutter guard does not literally infringe on the claim.

However, Y may be considered to infringe claim 1 of patent A by equivalence if attaching the

guard panel and the mesh layer through adhesive may be considered equivalent to attaching the guard panel and the mesh layer through continuous heat weld as stated in the claim.

Indirect Infringement: Indirect infringement is said to exist if a person includes, encourages or instigates another person to infringe a patent. In case of indirect infringement, the person including or encouraging does not directly infringe a patent but encourages another person to infringe. Indirect infringement may exist if a person induces another person to infringe through advertisement, sales and so on.

Remedies for patent infringement include

a. Injunction: Injunction is an equitable remedy granted by a court ordering a party to act or refrain from acting in a particular manner.
b. Damages: Damages is the money paid to the patent holder to make good the loss sustained by him due the infringement.
c. Accounts of profits: Accounts of profits are profits made by an infringer based on the infringing action. In addition to damages, the patent holder can also get profits made by the infringer after succeeding in an infringement case.
d. Costs: After succeeding in an infringement suit, the patent holder may also apply for costs incurred for the infringement suit.

TRADE SECRETS

Introduction

Competitive strength usually depends on innovative techniques and accompanying know-how in the industrial and/or commercial field. However, such techniques and know-how are not always protectable by patent law. Firstly, patents are in principle available only for inventions in the field of technology and not for innovative achievements concerning the conduct of business, etc. Moreover, some technical discoveries or information, while providing a valuable commercial advantage for a particular trader, may lack the novelty or inventive step required to make them patentable. Furthermore, while a patent application is pending, as long as the information has not been disclosed to the public, the owner of the information to be patented ought to be protected against any wrongful disclosure of the

information by others, regardless of whether or not the application eventually leads to the grant of a patent. All such information can be classified as a trade secret. Although the Paris Convention does not mention trade secrets as such, Article 10b is on unfair competition requires protection against any act of competition contrary to honest practices in industrial or commercial matters; the need for protection against wrongful disclosure of undisclosed information (another term for trade secrets) is generally recognized.

There are many examples of trade secrets, which are very well guarded. To name just one, the formula of soft drink coca-cola is one of the most successfully guarded trade secret till date. Naturally, lot of efforts are taken to keep this secret, which is quite expensive affair. The trade secrets are also kept at small scale. You may have a bakery in your locality, which bakes the cakes or cookies in unique way. The recipes of these items are the trade secrets of that baker. There are many traditional dishes cooked in a family, whose recipes are passed on from generation to generation, but kept just within the family. All these types of trade secrets are also protected in some national laws.

In this Unit, you will learn about the protection of trade secrets. Some basic aspects like how to guard a trade secret, what is meant by violation of a trade secret, how to make a choice between patent protection or trade secret, are also discussed.

What is a trade secret?

Before we start discussing the reasons for protecting a trade secret,let us first understand, what is a trade secret

There are several lines of inquiry that serve to determine what information constitutes a trade secret: the extent to which the information is known to the public or within a particular trade or industry, the amount of effort and money expended by the trader in developing the secret information, the value of that information to the trader and to his competitors, the extent of measures taken by the trader to guard the secrecy of the information and the ease or difficulty with which the information could be properly acquired by others.

From a subjective point of view, the trader involved must have a considerable interest in keeping certain information as a trade secret. Although contractual obligations are not necessary, the trader must have shown the intention to have the information treated as a secret. Frequently, specific measures to maintain the secrecy of the particular information are also required. The fact that the information has been supplied confidentially will not always be sufficient. In some countries (for example, the United States of America and Japan), the efforts made by the owner of the information to keep it secret are considered by courts to be of primary importance in determining whether the information constitutes a trade secret at all.

From an objective point of view, the information must, in order to qualify as a trade secret, be known to a limited group of persons only, that is, it must not be generally known to experts or to competitors in the field. Even patent applications may be regarded as trade secrets as long as they are not published by the patent office. Therefore, external publications or other information that is readily available will not be considered secret. For example, the use or disclosure of a trade secret by a person who has acquired it in a legitimate business transaction and without any negligence is not deemed unfair. On the other hand, absolute secrecy is not a requirement, for the information might also be discovered independently by others. Also, business partners can be informed without loss of secrecy if it is obvious that the information has to remain secret. Factors that indicate whether the information has the necessary degree of confidentiality to constitute a protectable trade secret are whether it contains material that is not confidential if looked at in isolation, whether it has necessarily to be acquired by employees if they are to work efficiently and whether it is restricted to senior management or is also known at the junior level. Still, the most solid proof is the strict

confidentiality of the information and the contractual duty to keep it secret.

A trade secret can be any formula, pattern, idea, process, physical device or a compilation of information which provides its owner a competitive advantage in the market. The trade secret is expected to be treated in such a way that it is not available to others (public or competitors) unless obtained by theft or by improper acquisition.

Some potential matters of trade secret can be a recipe, chemical formula, survey methods, confidential data, computer programmes, manufacturing process, marketing strategies, financial strategies or a new invention for which patent application is not yet filed.

Why to protect a trade secret?

The information is usually protected as a trade secret when the other forms of IPR protection cannot be used. For example, an idea cannot be protected by patent, it cannot be protected by a copyright, unless it is expressed or fixed. However, to protect this idea can be very crucial from the commercial point of view. In such case, it has to be protected as a trade secret. Many other matters like progress of developing a new product, customer list with critical comments, a negative know-how, which gives information about ineffectiveness of certain product or process, cannot be protected by any other IPR tools, without disclosing them. All this information can be kept as trade secrets.

You may be wondering, how to make a choice between a trade secret and a patent protection for your invention. For this, you must understand the pros and cons of both systems.

Trade Secret versus Patent

The patent protection guarantees that nobody can work your invention without your prior authorization. This protection is valid within the term of the patent protection (typically 20 years). However, in your patent application, you disclose the patent for public knowledge and the moment the term of patent protection ends, the information disclosed in your application becomes a public domain information. Anybody is free to use it. Further, you have to pay prescribed fee for maintaining the patent protection valid and that too, in all the countries, where its protection is expected.

Now, keeping a trade secret can be a much simpler and cheaper method, if you can maintain secrecy in your organization. The less the number of people having access to the entire secret information the better are the chances of retaining the trade secret. The trade secret can be held indefinitely.

There are, however, some disadvantages of protecting confidential business information as a trade secret. If the secret is embodied in an innovative product, others may be able to inspect it, dissect it and analyze it (i.e. reverse engineer it) and find out the secret and be thereafter entitled to use it. Trade secret protection of an invention in fact does not provide the exclusive right to exclude third parties from making commercial use of it. Only patents and utility models can provide this type of protection. Once the secret is made public, anyone may have access to it and use it at will. Also a trade secret may be patented by someone else who developed the relevant information by legitimate means.

A trade secret is more difficult to enforce than a patent. The level of protection granted to trade secrets varies significantly from country to country, but is generally considered weak, particularly when compared with the protection granted by a patent.

Hence, though decision between trade secret and patent protection will have to be taken on a case-by-case basis, in the following circumstances it would be advisable to make use of trade secret protection:

• When the secret is not patentable; or

• When the likelihood is high that the information can be kept secret for a considerable period of time. If the secret information consists of a patentable invention, trade secret protection would only be convenient if the secret can be kept confidential for over 20 years (period of protection of a patent) and if others are not likely to come up with the same invention in a legitimate way; or

• When the trade secret is not considered to be of such great value to be deemed worth a patent; or

When the secret relates to a manufacturing process rather than to a product, as products would be more likely to be reverse engineered; or

• When you have applied for a patent and are waiting for the patent to be granted.

It is important to bear in mind, however, that trade secret protection is generally weak in most countries, that the conditions for, and scope of, its protection may vary significantly from country to country depending on the existing statutory mechanisms and case law, and that the courts may require very significant and possibly costly efforts to preserve secrecy.

Tools to protect a trade secret

Contrary to patents, trade secrets are protected without registration, that is, trade secrets are protected without any procedural formalities. Consequently, a trade secret can be protected for an unlimited period of time. There are, however, some conditions for the information to be considered a trade secret. Compliance with such conditions may turn out to be more difficult and costly than it would appear at first glance. While these conditions vary from country to country, some general standards exist which are referred to in Art. 39 of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement):

- The information must be secret (i.e. it is not generally known among, or readily accessible to, circles that normally deal with the kind of information in question);
- It must have commercial value because it is a secret; and
- It must be subjected to reasonable steps by the rightful holder of the information to keep it secret.

The trade secrets are widely used by the small and medium scale enterprises (SMEs). In fact, many such enterprises rely almost exclusively on trade secrets for the protection of their IP.

This may include:

- Trade secret policy: Making sure that a limited number of people know the secret and that, all those who do, are well aware that it is confidential information.
- Employee agreement: Signing confidentiality agreements with business partners whenever disclosing confidential information.
- Non-disclosure Agreements: Including confidentiality agreements within employees' contracts. Under the law of many countries, however, employees owe confidentiality to their employer even without such agreements.
- Adequate documents: The duty to maintain confidentiality on the employer's secrets generally remains even after the employee has left the employment. This duty may be limited to a certain period of time after the employment ceases.
- Security Systems: It is important to make sure that enterprises take all necessary measures to protect their trade secrets effectively.

Case Studies

Motorola vs. Integrated Circuit Systems (ICS) Motorola on July 1999, filed a lawsuit against ICS and several managers who left Motorola while working in its Timing Solutions Operation, to set up a new ICS operation. Motorola's compliant was that ICS did this to gain access to Motorola's business and technical trade secrets and that the managers who left, had breached fiduciary duties and misappropriated trade secrets. Though ICS and the former Motorola managers denied the allegations, a settlement was reached on 27th March 2000, where Motorola agreed to: dismiss the lawsuit in exchange for the defendants' agreement to make an undisclosed monetary payment, refrain from using or disclosing Motorola confidential information, and for limited time periods to refrain from using certain design technologies, restrict further hiring and solicitation of Motorola employees and grant Motorola certain rights to use certain ICS intellectual property. [http//www.motorola.com].

Walmart vs. Amazon.com Walmart had filed a suit in a US Court against Amazon.com claiming that Amazon was attracting executives and employees of Walmart, together with their consultants, to access the trade secrets of Walmart. The case was settled in 1999. Under the terms of the settlement, Amazon agreed to reassign some of its employees where their knowledge of Walmart's operations would not be used. Limits were also placed on the projects to which the former Walmart workers are involved in Amazon's operations.

ColorSpan vs. Sentinel Imaging This dealt with a case on infringement of Trade Secrets, in which ColorSpan was awarded $2.2 million in damages in a 1997 judgement. ColorSpan alleged that Sentinel had stolen part of its market of consumables for its wide-format inkjet printers by hiring two former ColorSpan employees who imparted trade secrets and customer information.

https://www.architecturendesign.net/40-things-that-will-make-you-say-wow-simple-ideas-but-totally-genius