



URDIP

Intellectual Property Fundamentals of Patents

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Information Synthesis for Knowledge Management



What is intellectual Property?

- Property
 - Ownership
 - Free to use it as owner wishes
 - Exclude others from so using that owned item of property
- Intellectual Property
 - Types of property that results from creations of human mind, the intellect.



WIPO Convention

“Literary artistic and scientific works; performances of performing artists, phonograms, and broadcasts; inventions in all fields of human endeavor; scientific discoveries; industrial designs; trademarks, service marks, and commercial names and designations; protection against unfair competition; and "all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields.”



Intellectual Property Rights

- Literary, artistic and scientific works e.g. books. Protection of this property is governed by laws concerning **Copyright**.
- Performances, broadcasts e.g. concerts. Protection of this property is governed by laws concerning Copyright's **Related Rights**.
- Inventions e.g. a new form of jet engine. Protection of inventions is covered by laws concerning **Patents**.



Intellectual Property

- **Industrial designs** e.g. the shape of a soft drinks bottle. Industrial Designs may be protected by its own specialized laws, or those of Industrial Property or Copyright.
- **Trademarks**, service marks and commercial names and designations e.g. logos
- Names for a product with unique geographical origin, such as Champagne are protected by **Geographical Indicators**.



Intellectual Property Rights

- Technical Designs of electronic devices are protected by **Integrated Circuits**.
- New Plant varieties are protected by **Plant Varieties Protection Act**.
- Confidential information not in public domain can be protected as **Trade Secret**.



Why IP has become Important?

- Development of Global Technological capability
- Reverse Engineering feasible in developing countries
- Follow-up of General Agreement on Trade and Tariffs (GATT)
- Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS Agreement)



WHY DO IP RIGHTS MATTER?

- Provide incentive towards various creative endeavors of the mind by offering protections;
- Give such creators official recognition;
- Create repositories of vital information;
- Exclusive rights – high market share
- To protect your own business and inventions from your competitors



Why do IP Rights matter?

- To avoid the risk of being exposed to assertions of patent infringement by competitors/ third parties
- Facilitate the growth of domestic industry and international trade
- Monetisation - Income from licensing
- Attract Investors



WHY IP IS IMPRTANT TO INVESTORS?

- IP is integral part of value creation in a tech-based enterprise
- Investors are faced with considerable uncertainty and therefore rely on patents as signals when trying to assess
- IP is the basis for putting resources to risk
- Appropriate use of the IP system is a powerful tool for competition, stability and mitigation of risks on capital investments.
- Venture capitalists want to maximize returns and minimize risks



WHAT IS A PATENT ?

A RIGHT GRANTED TO INVENTORS TO ***PREVENT*** UNAUTHORIZED USE OF AN INVENTION, WITHIN A ***PARTICULAR TERRITORY***, FOR A ***LIMITED TIME***. DOES NOT GUARANTEE THE ***FREEDOM TO EXPLOIT*** THE INVENTION.



Patent-Explanation

- Negative Right
- Patents are territorial
e.g., an Indian patent has **no force in other countries** , just as a foreign patent has **no force in this country**.
- Limited Time: 20 years from Date of application.
- Positive right restricted by previous patents
-Freedom to operate/market/practice

All patent applications are published after 18 months



Social Contract

- Patent rights are granted in return for the inventor's full disclosure of the technology to the public
- The patent holder receives the right to prevent anyone else from practicing the invention
- In exchange, the government ensures that the information regarding the invention is publicly disclosed, and the invention itself is available for anyone's use after the expiration of the patent.



REQUIREMENTS OF PATENTABILITY

SUBSTANTIVE REQUIREMENTS

- SUBJECT MATTER
- NOVELTY
- NON-OBVIOUSNESS
- UTILITY

PROCEDURAL REQUIREMENTS

- ENABLEMENT
- DEFINITENESS
- BEST MODE

IDEAS/CONCEPTS CANNOT BE PATENTED



REQUIREMENTS OF PATENTABILITY **URDIP**

SUBJECT MATTER

- MANUFACTURE
- MACHINE
- COMPOSITION OF MATTER
- PROCESS

e.g. GENETICALLY MODIFIED BACTERIA
HUMAN ENGINEERED MICE

UTILITY

MINIMUM DEMONSTRATION

NOVELTY

NOT ANTICIPATED IN "PRIOR ART"

"PRIOR ART"- ANYTHING PREVIOUSLY
PUBLISHED, PATENTED, KNOWN, USED, SOLD



REQUIREMENTS OF PATENTABILITY

OBVIOUSNESS

KNOWLEDGE AT THE TIME OF INVENTION MUST NOT BE OBVIOUS TO ONE OF ORDINARY SKILL IN THAT AREA

DETERMINED BY

SCOPE / CONTENT OF PRIOR ART

AS LEVEL OF ORDINARY SKILL IN TECHNOLOGY INCREASES, SO DOES THE OBVIOUSNESS OF ADVANCES



REQUIREMENTS OF PATENTABILITY **URDIP**

ENABLEMENT

ABILITY TO USE THE INVENTION WITHOUT
“UNDUE EXPERIMENTATION” (SPECIFICATION)

DEFINITENESS INQUIRY

UNDERSTANDING LIMITS OF INVENTION
BASED ON CLAIM LANGUAGE

BEST MODE

BEST WAY KNOWN TO HIM/HER TO CARRY
OUT THE CLAIMED INVENTION. DISCLOSURE
MUST ALLOW A PERSON OF “ORDINARY SKILL
IN THE ART “TO PRACTICE THE INVENTION.
CONCEALMENT OF BEST MODE RESULTS IN
REJECTION.



EXCEPTIONS TO PATENTABILITY OF INVENTIONS

URDIP

- An invention which is frivolous or which claims anything obviously contrary to the well established natural laws
- An invention the primary or intended use or commercial exploitation of which would be contrary to public order or morality or which causes serious prejudice to human, animal or plant life or health or to the environment, law, morality or injurious to public health.
- The mere discovery of a scientific principle or the formulation of an abstract theory or discovery of any living thing or non-living thing in nature



PATENTABILITY OF INVENTIONS

URDIP

....Continued

- The mere discovery of a new property or new use for a known substance or of the mere use of a known process, machine or apparatus unless such known process results in a new product or employs at least one new reactant
- 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 substances
- The mere arrangement or rearrangement or duplication of known devices each functioning independently of one another in a known way



PATENTABILITY OF INVENTIONS

URDIP

....Continued

- A method of agriculture or horticulture
- Any process for the medicinal, surgical, curative, prophylactic, diagnostic, therapeutic or other treatment of human beings or any process for a similar treatment of an animal or plants to render them free of disease or to increase their economic value or that of their products



EXCEPTIONS TO THE INVENTIONS

URDIP

- Plants and animals in whole or part thereof other than micro organism but including seeds, varieties and species and essentially biological processes for production or propagation of plants and animals
- A mathematical or business method or a computer programme per se or algorithms
- A literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever including cinematographic works and television productions



EXCEPTIONS TO THE INVENTIONS

- A mere scheme or rule or method of performing mental act or method of playing games
- A presentation of information
- Topography of integrated circuits
- An invention which, in effect , is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known component or components



DEFINITIONS

URDIP

- INVENTIONS

- “Invention” means a new product or process involving an inventive step and capable of industrial application

- INVENTIVE STEP

- “Inventive step” means a feature that makes the inventions not obvious to a person skilled in the art

- CAPABLE OF INDUSTRIAL APPLICATION

- In relation to an invention means that the invention is capable of being used in an industry

(Industry here does not mean manufacturing sector alone. It is an all encompassing definition for the purpose of utility).



PATENTABILITY UNDER US SYSTEM

ANYTHING THAT INVOLVES HUMAN INTERFERENCE CAN BE PATENTED

PLANTS, BUISNESS METHODS, SOFTWARE (ALL TECHNOLOGY AREAS)

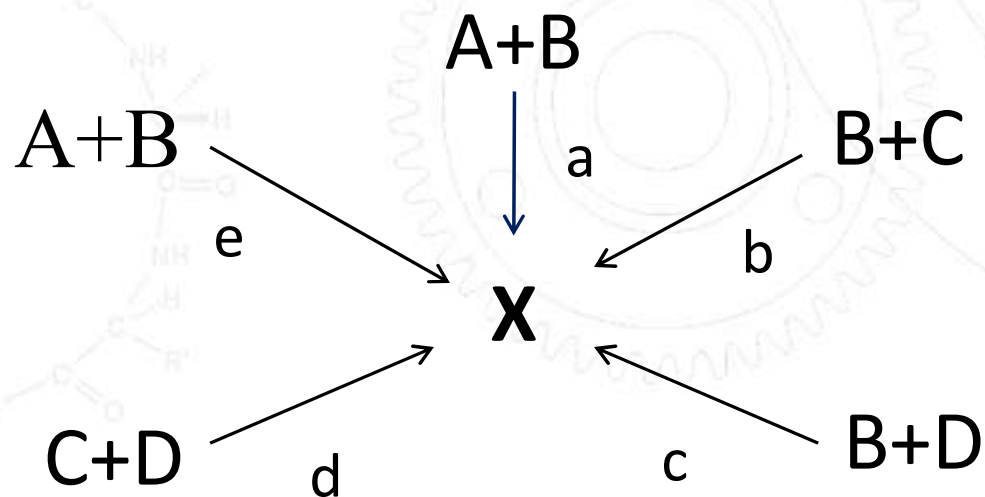


Patent Claim Types

- Product claims- Apparatus/Device/Composition
- Process/ Method claims
- Use/Application claims
- Product-by-process claims
- Biotech claims
- Software claims
- Omnibus claims
- Design claims



Process Vs Product Patent



X – Product

a, b, c, d, e - Processes

A,B,C,D – Raw materials



IMPORTANT CHANGES IN RESPECT OF CHEMICAL PROCESS

Patents to the products capable of being used as food, agrochemicals, drug and medicines and those of chemical process.

Chemical processes to include biochemical, biotechnological and microbiological processes



COMMUNICATIONS THAT COUNT AGAINST AN INVENTOR

URDIP

- PRINTED PUBLICATIONS
 - MICROFILMS / DIGITAL MEDIA
 - SLIDES AND DRAWINGS
 - PHOTOGRAPHS
 - SPEECHES AND HANDOUTS
 - LIBRARY CATALOGUING (THESIS)
 - GOVERNMENT RESEARCH GRANT PROPOSAL
- EMPHASIS ON 'ACCESSIBILITY AND DISSEMINATION OF THE WORK'
- INVENTION ON SALE
- INVENTION AVAILABLE FOR PUBLIC USE.
- USA- ONE YEAR GRACE AFTER PUBLICATION



WHO CAN QUALIFY AS INVENTORS

- PROVIDER OF THE IDEA/CONCEPT
- MEMBERS OF TEAM WHO MADE SIGNIFICANT CONCEPTUAL CONTRIBUTIONS
- EVERY TEAM MEMBERS SHOULD HAVE HIS OWN NOTEBOOK OR DOCUMENT TO RECORD HIS CONTRIBUTION, DATED, SIGNED AND WITNESSED
- IF YOU DESIGN AN EXPERIMENT FOR SOMEONE ELSE TO PERFORM ENTER YOUR INSTRUCTIONS INTO YOUR NOTEBOOK



R&D Alerts for Patent Protection

- Record the date of conception of an idea
- Record the date when the Conception was first “Reduced to Practice”
- Show “Due Diligence” in reducing the invention to practice sign and witness all entries in
- Notebook. The laboratory notebook is a legal record. A System for lab record keeping should be evolved.



INVENTORSHIP Vs. OWNERSHIP

- ORGANISATIONAL IPR POLICIES (WORK FOR HIRE)
- COMMERCIAL WORK OF NON-EMPLOYEES

ARTISTIC WORKS

ARCHITECTURAL OR ENGINEERING DRAWINGS

COMPUTER SOFTWARE

REPORTS BY CONSULTANTS OR
SUBCONTRACTORS

SPONSORSHIPS /GRANTS – ASSIGNMENTS /
MARCH IN RIGHTS / SHOP RIGHTS



Types of Patents

- Utility Patents
- Design Patents
- Plant Patents
- Innovation Patents
- Provisional Patents



TYPES OF PATENTS

Utility Patents-are available for processes, machines, articles of manufacture, or compositions of matter that are deemed new, useful and non-obvious. The traditional subject matter of patents covers tangible, technical inventions, such as improvements to client-server systems, motors, radios, computer chips and various technical product features



TYPES OF PATENTS

- **Patents for business methods:** E.g a method for completing a credit card transaction without the need for the physical presence of the credit card.
- **Design Patents-** to protect ornamental (non-functional) designs. Apple's Patent D 604,305 covering the design of its iPhone interface
- Plant Patents
- Innovation Patents
- Provisional Patents



PROVISIONAL PATENT

- In India, the United States and some other countries, a temporary patent application, to protect invention while work is in progress termed as provisional application, may be filed.
- Must be “completed” within 12 months by the filing of a complete application.
- The legal requirements for a provisional application may be less than those for a complete application, for example, it is not necessary to include claims in a provisional.



Compulsory Licensing

- In certain cases, in fact, the use of the patented invention may be authorized to a third party either by the competent court or by a Patent Office (depending on the law of the country)
- Prevents the abuses which might result from the exclusive rights conferred by a patent. This regime may also be applied in case of non-use of the patented invention within a prescribed period (generally four years from the filing date of application for patent, or three years from the issue of patent).



FOREIGN PATENTS

- TERRITORIAL RIGHT- RESTRICTED TO GRANT GIVING COUNTRY
- NO CONCEPT OF WORLD PATENT or INTERNATIONAL PATENT
- SYSTEM OF FILING INTERNATIONAL PATENT APPLICATION FOR THE PURPOSE OF PRIORITY DATE AND EXAMINATION EXISTS UNDER THE PATENT COOPERATION TREATY (PCT) ADMINISTERED BY WORLD INTELLECTUAL PROPERTY ORGANISATION (WIPO)



Patent Cooperation Treaty (PCT)

- Filing in a home country
- International Search (ISA)
- International Publication (WIPO)- 18 Months
- International Preliminary Examination (optional)
- National Phase (Optional in designated countries)- up till 12 months after publication



ADVANTAGES of PCT

- Simplify the process
- Single Priority date
- **Gain time to make a decision**
- Disseminate more effectively the technical knowledge contained in patent documentation.
- Increased efficiency of national patent offices



European Patent System

- EUROPEAN PATENT CONVENTION
 - EUROPEAN DIRECTIVES
 - NATIONAL LAWS ON THE SUBJECT MATTER
- EUROPEAN PATENT OFFICE (EPO)
 - PATENT VALID IN CONTRACTING COUNTRIES
- NATIONAL PATENTS (GERMAN-DE) ETC.
- AFRICA and MIDDLE EAST TO FOLLOW SIMILAR PRACTICE



PARIS CONVENTION OF INDUSTRIAL PROPERTY

- Oldest Convention (1883)
- The Right of Priority – Filing within 12 Months
- Concept of National Treatment
- Independence of Patents



PATENT PROSECUTION

- EXAMINERS SEARCH
- CITATION OF PRIOR ART
- NORMAL FOR ALL CLAIMS TO BE REJECTED
- GROUNDS ON WHICH CLAIMS HAVE BEEN REJECTED
- INVENTION HAS TO BE OF AN EARLIER DATE THAN CITED PRIOR ART
- ANSWER TO THE OBJECTIONS/AMEND CLAIMS/ WITHDRAW



Patent Protection in India – Important Milestones **URDiP**

- **1856 - Protection for inventions formally started**
 - Based on the British Patent Law of 1852
- **1911 - The Indian Patents & Designs Act**
 - Product patents / composition of matter patents available
- **1972 - The Indian Patents Act (April 20, 1972)**
 - Only process patents in pharmaceuticals, agrochemicals and food
 - Term – 5 years from date of grant or 7 years from date of application, whichever was earlier





Patent Protection in India – Important Milestones

- 1994 – Indian signs GATT agreement
- 1997 – India becomes a PCT member-state
- Amendments to the 1970 Act
 - 1999 - (effective Jan 1, 1995)
 - 2002 (effective May 20, 2003)
 - 2005 (effective Jan. 1, 2005) – Reintroduction of product patents for pharma, food and agrochem.
 - Patents for other technology areas like Biotech

INDIAN IPR LAWS ARE TRIPS COMPLIANT



Commercial exploitation of patents

- Patents to Exclude the Competition - the Pharmaceutical Industry
- Patents for Survival - the Biotechnology Industry
- Patents as Bargaining Chips - the Electronics Industry
- Patents as a Source of Royalty Income - Universities
- Patents as Marketing Tools- National Labs
- Patents as Lottery Tickets - Individual Inventors



Patents : Hidden Benefits

- Advancement of Technology
- Source of Information
- Economic Indicators (R&D Investment)
- Innovation Indicators
- Delineation of technology fronts
(Useful for Technology Forecasts)
- Research and Business Planning



PUBLIC PERCEPTIONS

- HYPE Vs. REALITY
 - BASMATI RICE
 - NEEM
 - TURMERIC
- NEED FOR INFORMED OPINION
 - PIRACY
 - COUNTERFEITS