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India's Patent Regime: Historical Evolution and Impact on Innovation in the Indian Pharmaceutical Industry

Shilpi Kumari

Introduction

It has been recognized by industry, academia, and policy makers alike that innovation is pivotal to value creation, competitive advantage, and sustainable economic growth. With knowledge economy becoming the cornerstone of globalization, innovation opportunities have been incessantly emerging around the world for value-added products, processes, and services to meet the ever-growing needs, wants, challenges, and opportunities of humanity. As a result, today we find many individuals, companies, communities, and nations working relentlessly on innovation. Thus, policy makers, both nationally and internationally, have recognized that innovation either flourishes or suffers depending upon the innovation ecosystem. However, the robustness of the innovation ecosystem of a nation depends upon three primary factors, namely, technology environment, business environment, and policy environment.

Consequently, academia, industries, and governments have been focused on strengthening and promoting the innovation ecosystem in order to meet the national priorities, as well as achieve competitive advantage, sustainable economic growth, and creation of employment in the global economy.

In this regard, the vision and strategies of a country's patent regime play a crucial role in (a) advancing the goals of its innovation ecosystem (indigenously or as part of international agreements), (b) protecting its social and economic interests, and (c) safeguarding the legitimate business interests of competition.

It is in this light that the historical evolution of the Indian patent regime and its impact on innovation in the Indian pharmaceutical industry must be analyzed and understood.

India is a unique global player in the pharmaceuticals business world. The country has a large pool of well-trained scientists and engineers who have the potential to innovate and steer the industry to meet India's vision, national needs, and future goals.

Goals and Priorities of the Indian Patent Regime

The Indian pharmaceutical industry is well aware that innovation is critical for wealth creation, competitive advantage, and sustainable growth. Innovation in the pharmaceutical industry is often a high-risk, high payoff gamble. While companies reap high returns on investment (ROI) when innovations are successful, innovation failures can threaten the very survival of the company. Consequently, Indian pharmaceutical companies rely on successful innovations to make high profits, deliver consistent ROI to shareholders, and achieve sustainable growth. On the other hand, the policy makers of the Indian government depend on the patent regime to ensure that pharmaceutical innovations deliver affordable medicines and accessible health care to all citizens. Therefore, successful pharma companies are those that can innovate to solve the healthcare needs, wants, and challenges of millions of people in India while also posting robust revenues,

profits, market share, and growth. In other words, nations such as India aim to balance social goals (which aim to ensure affordable medicines and accessible healthcare to all citizens) against the economic goals (which are aligned with the interests of pharmaceutical companies).

Conclusion

Indeed, it is this powerful undercurrent that has been shaping the policies of the Indian patent regime since India's independence in 1947, through the 1970s, the economic liberalization era that started in the 1990s, through the membership of WTO and TRIPS Agreement in 1995, post-TRIPS in 2005, and all the way up to today. Therefore, the historical evolution of the Indian patent regime, imperfect as it may seem, makes sense only when one understands how India tries to continually balance its social goals and priorities against the economic goals.

Patent Indemnification

Shikha Srivastava

Indemnity is a form of protection or an insurance. It is a legal agreement between two parties in which the "insurer" i.e., the indemnifier promises to protect the indemnified (insured) from losses sustained as a result of some specified act or omission. Much like an automobile insurance policy, which protects the policy holder from loss associated with theft or accident, indemnity protects the "insured" (or the indemnitee) from covered losses.

Example: Insurance companies are in the business of indemnification—you pay them a small amount so they can pay you a big amount if something bad happens[1].

Indemnity helps you in protecting your business from lawsuits or any financial liabilities. Also, being responsible for the protection of the customers enhances the company's image (indemnifier). Thus, provisions of IP indemnity can act as a stepping stone to business expansion as well.

Indemnity clause in Patents

An example in context of IP: *suppose party A has a patent on a product and it grants license to party B which starts making and selling the product. Now, suppose a third party (party C) sues party B for infringement of party C's own product patent.* In this scenario, party A and party B should have signed an agreement with party A indemnifying party B with a clause mentioning, "Party A shall be responsible for all expenses (including attorney's fees) and damages (e.g. royalties, settlement costs) incurred in defense of a claim of infringement by party B's sale of licensed products[2]".

Patent indemnity agreements have an indemnity clause in them. The provisions contained in the indemnity clause determines which party will bear the brunt of infringement risk. Due to increasing infringements of intellectual property rights, companies realize the importance of securing their intangible assets.

IP indemnity clauses must be written in clear language and dealt with utmost care. If indemnity responsibility is not clear in the agreement, it can lead to patent indemnification litigation between parties.

Indemnity agreements must specify parties i.e. who is the indemnitee and indemnitor. After identification of parties involved, the nature of liability, the specific items of loss recoverable under the indemnity offered should be well drafted. The time period within which the indemnifier is to reimburse the indemnified may be incorporated in the indemnity clause[3].

By addressing these issues during contract negotiations in a product manufacturer/customer relationship, both parties can minimize uncertainty and avoid potential conflicts and litigation.

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[1] https://www.dictionary.com/browse/indemnification

[2] http://worldipreview/contributed-article/us-jurisdiction-report the % 20importance %20of%20patent%20 indemnification

[3] https://www.lawteacher.net/free-law-essays/commercial-law/indemnity-in-ip-contracts-commercial-law-essay.php

The indemnity contract should be clear and unambiguous**.** IP indemnification plays a pivotal role in reducing the overall rate of IP infringement.

BIOTECHNOLOGY AND PATENTS

Suchi Rai

Biotechnology can transform humanity, provided humanity wishes to be transformed- Geoffrey Carry

What is Biotechnology?

Biotechnology is the broad area of biology involving living systems and organisms to develop or make products, or "any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use".

Indian Scenario

India is amongst the top 12 biotechnology centers in the world and has the third-biggest biotechnology industry in Asia-Pacific. India's biotechnology industry is evolving rapidly and growing at a compound annual growth rate of 20%.

India is a huge market for biotechnology products and services due to its billion-plus population and increasing economic prosperity. The Indian biotech industry is expected to grow at CAGR 30.46 % to reach USD 100 billion by 2025.

Biotechnological Process

A process of genetically altering or otherwise inducing a single or (a) multi-celled organism to-

(i) express an exogenous nucleotide sequence,

(ii) inhibit, eliminate, augment, or alter expression of an endogenous nucleotide sequence, or

(iii) express a specific physiological characteristic not naturally associated with said organism

(b) cell fusion procedures yielding a cell line that expresses a specific protein, such as a monoclonal antibody; and

(c) a method of using a product produced by a process defined by subparagraph (a) or (b), or a combination of subparagraphs (a) and (b).

Important Notes

Louis Pasteur was awarded U.S. patent number 141,072 in 1873 for a yeast.

A man-made microorganism was awarded patent in 1980. The US supreme court took a historic decision in the case of *Chakrabarty v. Diamond* for the genetically engineered pseudomonas aeruginosa bacterium that is capable of breaking down the four major components of crude oil.

Inventions in biotechnology may be for:

-Technology related to recombinant DNA

-Technology including gene splicing techniques

-Transformation and expression, anti-sense

-Technology; cell therapy; gene therapy

-Microbiological inventions; vaccines

-Monoclonal antibodies; plasmids, cosmids, vectors

-Cytokines and interferons; techniques like PCR

-Transgenic plants and animal; cloning life forms

Biotechnology Patent and India

The Patent Act in India was enacted in 1856. It has been modified several times since then. One major amendment to the Act was in 1970 which satisfied the international norms of patentability covering novelty, inventive step and industrial application. But this version had nothing specific concerning Biotechnology invention and protection. At the same time, since the patent offices and courts in US and EU were seeing increasing number of biotech inventions and patent application, the demand for amendment of Indian Patent Act to introduce biotech patentability gained voice in India. The amendment came in 2002 to explicitly include biochemical, biotechnological and microbiological processes within the definition of potentially patentable process.

Statutory obstacles to patentability

The criteria for fulfilling patentability requirements are novelty, inventiveness, and industrial application. Apart from this, some inventions are also excluded from patentability under section 3 of the Patent Act, 1970.

What is Not Patentable in India

Section 3 (b): As per the section an invention would not be patentable if it is immoral or against public order, harmful to human, animal or plant life or harmful to environment

Section 3 (c): Discovery of living things or non- living substances in nature

Section 3 (j): Plants and animals in whole or any parts thereof other than micro-organisms but including seeds, varieties and species

Section 3 (j): Essential biological processes for the production or propagation of plants and animals

Section 3 (i): Any Process for the medicinal, surgical, curative, prophylactic, diagnostic or therapeutic or other treatment of human beings or animals to render them free of disease or to increase their economic value or that of their products

Section 3 (h): Methods of agriculture or horticulture

Section 3 (p): Traditional knowledge

Deposition of biological material

Under Section 10(4) and Rule 13 (8)of the Patent Act, an applicant must deposit the biological material mentioned in the specification if it is unavailable to the public and cannot be described adequately as per the provisions of the Act. The material must be deposited with an international depository authority under the Budapest Treaty.

Time period:

The deposit must be made no later than the filing date of the patent application in India. Mention of the deposit must be made in the specification within the prescribed period (i.e. three months from the filing date).

Sequence listing:

Sequence listing is the most important part of any biological invention. It pertains to the listing of nucleotides and amino acids. The details of nucleotides and/or amino acids shall be filed in electronic form. However, the fee with respect to the equivalent number of pages shall be payable. In the case of Biotechnology related inventions, relevant numbers of the

sequence listing shall be mentioned at appropriate place in the specification. Sequence listing should also be given in electronic form.

Moral Issues

It is true that necessity propels any invention. In this new era our necessities are increasingly fuelling inventions but again it is our responsibility to protect our rights too.

Organ Transplant - Organ transplant is a big moral issue for biological inventions. The biological inventions that facilitate the organ transplantation are opposed by many on the basis of their faith and religion. Also, it is anticipated by some that organ transplant gives rise to human trafficking.

Biological Weapons - Biological weapons are the most dreaded weapons, considered far more dangerous than nuclear, chemical or conventional weapons. Discussion on this issue is most crucial.

Bioinformatics - It is a methodology of biological studies implemented with the help of computer programme. It is generally used for gene identification and prediction of new diseases. Many believe that this could bring legal turmoil in the society. Also, it may hamper the natural living of humans.

Conclusion

It is a social responsibility to use biotechnology to save or improve lives, improve the quality and abundance of food, and protect the environment.

It can be seen that biotechnology and life form patentability are a subject of exploration in India. With much research and innovation going on in these fields and keeping in view the rich bio-diversity that India enjoys, there is a real need to protect the interest of inventors. India needs to enable its inventors and inventions to compete globally.

Blockchain Technology and Intellectual Property Rights

Geeta

Introduction

With the continuous development and deployability of blockchain technology, the academic and commercial circles are constantly exploring the research directions and practical applications of blockchains. Increasing interest in blockchain technologies also gives rise to questions about their patentability as innovators seek to protect and profit from blockchain inventions. Blockchain has already proven its immense utility and applicability in areas like finance, sales, medical and others.

Blockchain technology first became famous as the technology behind cryptocurrencies such as Bitcoin and Ethereum. In its basic form it is an open ledger of information that can be used to record and track transactions, and which is exchanged and verified on a peer-to-peer network. Blockchain and other distributed ledger technologies create a trustworthy and transparent record by allowing multiple parties to a transaction to verify what will be entered onto a ledger in advance without any single party having the ability to change any ledger entries later on. Each transaction or "block" is transmitted to all the participants in the network and must be verified by each participant "node" solving a complex mathematical puzzle. Once the block is verified, it is added to the ledger or chain.

Blockchain is an attractive prospect for a variety of industry sectors and businesses, both large and small. In theory any database or ledger can be created and maintained using blockchain. Advocates of blockchain praise the technology for its resilience to fraud, its transparency and relatively low cost of maintenance. It is, therefore, not surprising that many companies are asking whether they might be able to use blockchain technology to update their existing systems, including in relation to the protection of their intellectual and industrial property rights.

Anti-counterfeiting and enforcement of IP rights

A ledger showing who owns what, who is an authorized licensee, and so on, would enable everyone in the supply chain, including consumers and customs authorities, to validate a genuine product and distinguish it from a fake. Blockchain ledgers holding IP rights information allow for provenance authentication, since they can record objectively verifiable details about when and where products are made, and details about their manufacturing process and sources of raw materials. These types of blockchain solutions are fast becoming mainstream and enable users to verify the authenticity of a product and provide confidence and reassurance for businesses, authorities, consumers and insurers.

Blockchaining the IPO (Indian Patent Office)

Countries around the world have started realising the potential of blockchain and India is also witnessing a similar pattern of higher incidence. The IPO is also keen on staying at par with the technological advancements and wants to amalgamate all the benefits the decentralized ledger has to offer to improve the processing of patent

applications and smoothen the overall life cycle management of IP rights provided to individuals or businesses.

The IPO expects to be able to foretell timelines for users concerning different actions to be taken by the office. A scientifically-handled workload-based allotment of patent applications to examiners, will make optimal use of human resources available. Automated checking against formal requirements such as application formats, attachments, and so on, can reduce the manual intervention required, and speed up the process considerably. Reduced manual interference will also affect transparency and accountability procedures in an optimistic way.

To achieve all of the above, the IPO is setting up a legal framework for a blockchain-based IP registry to protect smart ideas and for commercialising them. The IPO hopes that the blockchain-based IP marketplace will simplify the patent granting procedure for the innovators. On the commercial front, once a patent is ratified by the concerned authorities, it can be made available to investors through an in-built bidding system providing a central and authentic market place for innovators to catch the eyes of the tech-titans.

The recent tender titled announced by IPO, "Expression of Interest for Making use of Artificial Intelligence, Blockchain, IoT and other latest technologies in Patent Processing system of IPO", provides a glimpse of stage-wise perception of the Block-chained-AI-IP system which makes use of machine learning and blockchain to simplify and fasten all the stages of patent application processing. The next step will be its extension to all other parts of IP system.

Patentability of Blockchain Technology

The key issue involved in patentability of block chain technology which is implemented as software platform is whether invention will be considered as patentable subject matter under section 3(k) of Indian Patent Act which prohibits patentability of computer programme per se, algorithm, business methods, etc. The invention covering techniques which improves functionality of technology, processes or security of payment system may be considered eligible for patentability.

Blockchain Patents globally

Country	No. of Patents
China	790
USA	762
South korea	161
Australia	136
Canada	67
India	67
U.K.	36

Conclusion

Blockchain can be seen as a definite boon to the IP industry offering benefit both in terms of patent filings and being an essential element in simplifying the management system. Ultimately, it is expected to be more potent for the IP industry, more than it has been to even Fintech industries. The challenge lies in creating the right adoption path for the technology.

The IPO has started paving the path for connecting the blocks to unify the blockchain technology and the IP ecosystem. Without doubt, the path would involve overcoming the hindrances mentioned above, before we can see the revolution it promises to bring to the table but as they say, the initial step is always the paramount one.

Further, all of this is just the tip of the iceberg. Once the IPO gets a grip, it can move towards more sophisticated uses of blockchain in IP like ledger management and other creative ideas put forward by WIPO like a supervisory authority for tracking the use of IP assets in the market, and using that information to require regulatory obedience, including license maintenance and working of patents, to name a few.

Divisional Application – Revisited[4]

Tushar Kohli

The mechanism of filing divisional application for the protection of multiple inventions disclosed in single patent application, was introduced by Patents and Designs (Amendment) Act, 1930. Though, the provisions of divisional application were introduced way back in 1930 but the Indian patent office still lacks clarity when it comes to differentiating between applications to allow or deny divisional.

IPAB rulings on divisional applications in *LG Electronics Inc v Controller of Patents & Designs (OA/6/2010/PT/KOL), Bayer Animal Health GmbH v Union of India (OA/18/2009/PT/DEL)* and *Syngenta Participations AG v Union of India (OA/17/2009/PT/DEL)*, the issues raised and resolved by IPAB in these cases were peculiar to the switching over from process patent regime to the product patent in 2005. The voluntary division of the application in these cases in fact, was an attempt to rewind the examination clock to hoodwink the earlier objections on non-patentability of product patent. This situation no longer exists now. Most of the mail box applications or other applications filed between 1995 and 2005 would have been examined and disposed. With fear of submarine patents like '*Hyatt shock*' to computer industry giants relating to 'microcontroller' or 'liquid crystal displays' or Lemeision's 'submarine patent salvos' on "machine vision" patents (Barcode readers) by use of Byzantine tactics to exploit loopholes of the patent system, being a remote possibility, a re-look into the exiting practice of IPO in relation to suo moto division of patent application is required.

IPAB Ruling on Suo moto division

If we see the later decisions of IPAB we find further clarity in relation to filing of suo moto divisional application particularly in *Milliken & Company v Union of India (OA/61/2012/PT/MUM)*. In this case it was held that the applicant's second divisional application, which was filed voluntarily without receiving an objection on lack of unity in the first divisional application, was valid. In this case applicant's request for voluntary amendment of claims for adding new set of claims during prosecution of the first divisional application was disallowed. IPAB held that in the absence of any other efficacious remedy to pursue the scope of

[4] https://www.mondaq.com/india/patent/599818/divisional-patent-practice-revisited#:~:text=IPAB%20Ruling%20on%20Suo%20moto%20division&text=IPAB%20held%20that%20in%20the,second%20divisional%20application%20is%20valid.

the disallowed claims filing of the second divisional application is valid. It is clearly an indication towards suo moto division of an application to allow filing of further application with new set of claims.

'After Claiming'

The '*after claiming'* in Milliken ruling of IPAB, though raised many eyebrows on the issue of uncertainty but same can be answered by mandatory early publication of the new set of claims and subjecting these claims to the public scrutiny of pre-grant representation. The new set of claims may or may not have adversely affected the public. But this potential danger would be eliminated as every divisional application is treated as substantive application and it is governed by the requirement of mandatory publication. Rule 24 B (iv) provides a time limit for making request for examination of further applications filed under Section 16

> *(iv) The request for examination of application as filed according to the 'Explanation' under sub-section (3) of section 16 shall be made within forty-eight months from the date of filing of the application or from the date of priority of the first mentioned application or within six months from the date of filing of the further application, whichever is later;*

Further as per the proviso to Rule 24 B (2)(i) as amended on 16.05.2016, not only early publication but also out of turn examination is envisaged in respect further application filed under section 16. The proviso reads as:

> *Provided that in case of a further application filed under section 16, the order of reference of such further application shall be the same as that of the first mentioned application.*
>
> *Provided further that in case the first mentioned application has already been referred for examination, the further application shall have to be accompanied by a request for examination, and such further application shall be published within one month and be referred to the examiner within one month from the date of such publication*"

These changes in the rules are a step forward in treating the further applications (divisional applications) as distinct from other substantive applications. Having said so, such changes are merely facilitating the examination process. They do not provide for special treatment to further applications.

Post addition of claims

The premise that an applicant is voluntarily filing a divisional application for the sole

purpose of adding new set of claims when such an amendment in the parent application was disallowed raised no eyebrows in respect of IPAB ruling in Milliken. Rather, it is seen as an opportunity to include additional matter. But one must remember that in US multiple applications (Continuation in part) are filed to bring the best claims to reap the maximum benefit of the invention in shortened term of 20 years. So how does this this work in US? The systematic filing of a succession of continuation applications can delay the prosecution of the patent application by number of years, and during this prosecution delay new set of claims are added. The patents granted later in fact were modified to match the standards technology has established by then. These modified continuation applications were also filed as PCT applications thus, covering the protection worldwide.

Generally, the patent specification disclosure forecloses addition of further claims during prosecution stage except by way of modifications in the already filed claims. If the applicant failed to claim certain subject matter disclosed in the specification he will be barred as it will be 'deemed to be dedicated to the public'. Applicability of this rule is not absolute. If we see *Pfizer Inc Vs Teva Pharmaceuticals*, case apart from other aspects, the Federal Circuit made a notable clarification relating to dedication of subject matter to the public for the purposes of the doctrine of equivalents. The Federal Circuit clarified that:

"*the public notice function of patents suggests that before unclaimed subject matter is deemed to have been dedicated to the public, that unclaimed subject matter must have been identified by the patentee as an alternative to a claim limitation*."

Conclusion

An applicant should be entitled to claim any subject matter that was earlier unclaimed in the parent application through filing voluntary divisional application along with addition of new claims since they have every right to claim what was disclosed in the parent application along with some corrections, if any.

DIVISIONAL APPLICATION PROCESS IN INDIA

Aayush Sharma

Like many other countries that are part of the Paris Convention, India also allows for the filing of divisional applications. The filing of a divisional application is specified under section 16 of the Indian Patent Act of 1970 as amended in 2005 (the Act) under the heading "Power of Controller to make orders respecting division of application". The Indian Patent Office (IPO) allows for the filing of a divisional application, also referred as a "further application", if the application is filed in a timely manner with claims directed to a distinct invention (e.g., such as in response to a lack of unity of invention objection).

Time Period for Filing Divisional Application

Section 16(1) of the Act allows the filing of a divisional application:

Any time before the grant of the parent application; or

Within 6 months (which is extendable by 12 months) from the date of a first examination report containing a lack of unity of invention objection raised by an Examiner.

A divisional application can be filed at any time before the statutory or voluntary abandonment of a parent application. However, unlike several other patent offices, the IPO does not issue a notice of allowance when an application is allowed. Thus, a direct grant or grant after receipt of a first examination report may result in the loss of an opportunity to file a divisional application. Since there is no window of time available after grant and before paying the grant fee to file a voluntary divisional application, it is best practice to file a divisional, if desired, at the earliest opportunity.

Divisional Applications filed in Response to a Lack of Unity of Invention Objection

If the IPO identifies multiple inventions and raises a lack of unity of invention objection in a first examination report in a parent application, such objection can be overcome by either responding to the lack of unity of invention objection or by electing a (e.g., one) group of claims and pursuing the non-elected groups in one or more divisional applications.

As mentioned in section 16 and as discussed in multiple court decisions, when filing a voluntary divisional or a divisional in response to a lack of unity of invention objection, the existence of multiple inventions is a fundamental requirement. This is emphasized in sections 16(2) and 16(3) of the Act which recite the following

requirements for such divisional applications":

Subject matter not disclosed in substance in a parent application should not be included in a divisional application (section 16(2)); and

A divisional application or a further application should not include claims that overlap with the subject matter claimed in the parent application (section 16(3)).

Claims of a Divisional Application and Double Patenting

As mentioned above, sections 16(2) and 16(3) stipulate that a divisional application must not (1) include any subject matter not disclosed in substance in the parent application; nor (2) contain claims that overlap with the subject matter claimed in the parent application. The phrase "in substance" is interpreted to mean "any subject matter which is encompassed by the scope of the parent application". Additionally, in the order issued by the Intellectual Property Appellate Board (IPAB) in the decision, LG Electronics Inc. v. The Controller of Patents & Designs and others [Order No. 111/2011, IPAB] relating to the filing of a voluntary divisional application, the IPAB stated that section 16(3) of the Act requires the Controller to (1) ensure that the claims of a parent and divisional application do not have the same scope; and (2) require that amendments be made to the claims in situations where the scope of the claims is identical. Readers should note that the Act contains provisions for filing a patent of addition for "new matter" or improvements under section 54.

Double patenting

Similar to the patent laws in many other countries, section 7(1) of the Act says that every application for a patent is only for a single (e.g., one) invention while section 46(2) recites that a patent is granted only for a single (e.g., one) invention. As a result of these two sections, section 16(3) requires that the claims of a parent and any further divisionals contain non-overlapping subject matter. As discussed previously, this section expressly states that the Controller may require amendment of either the parent application or the divisional application to ensure that neither contains subject matter claimed in the other.

Requirements for Filing a Divisional Application

When filing a divisional application, the following must be submitted to the IPO:

1. Copy of the specification and drawings (Form 2);

2. Application for grant of patent (Form 1), statement and undertaking (Form 3) and inventorship (Form 5);

3. Power of attorney (can be submitted within 3 months of the date of filing); and

4. Request for examination on Form 18 (which can be filed at any time after the start of examination of the parent application).

A divisional application should also include a cross-reference to the parent application. If any amendments are required to the specification or any document related thereto, these should be made pursuant to the statutory provisions in section 57 of the Act on Form 13.

Examination and Publication of Divisional Applications

In India, a divisional application is published with its own distinct application number along with a reference to the parent application.

With respect to examination, Rule 24 B (iv) of the Patent Rules, 2003, provides the time limit for filing a request for examination of a further (e.g., divisional) application. According to this rule, a request for such examination should be made:

(1) within 48 months from the filing date of the application or priority date of the earliest (first) filed application; or

(2) within 6 months from the filing date of the further (e.g., divisional) application,

whichever is later.

Additionally, according to Rule 24 B (2)(i), early publication and expedited (e.g., out of turn) examination is available for a further (e.g. divisional) application. According to this provision, a divisional application filed under this section will be examined in the same order as a pending parent application. Therefore, a request for examination should be filed along with the divisional application when a parent application is already in the process of being examined. In such circumstances, the divisional application will be published within 1 month from the date of filing and will be examined within 1 month from the date of publication.

Looking Ahead: Potential New Changes to Divisional Applications

While multiple opinions from Indian courts and IPAB have provided some clarity on the interpretation of section 16 and other sections related to the filing of the

divisional applications, the practice is still evolving. For example, it is still not clear whether an applicant can file a divisional application for inventions that were disclosed in the parent application, but not claimed, as section 16 is not clear on this point and the courts have not expressed an opinion on this issue.

Another contested issue is how much distinction should exist between the claims of the parent application and a voluntary divisional at the time of filing of the divisional application. Although the IPAB has expressly stated that a voluntary divisional application must primarily be based on an application containing a plurality of inventions that are not linked by a single inventive concept, this distinction is somewhat murky. Moreover, the courts have made it very clear that an applicant cannot file the same claims in a parent application and in a divisional application in order to continue (or delay) examination of the parent application. Although not explicitly mentioned in any IPAB decisions, it can be inferred that trivial amendments to the claims of a patent application may not provide enough of a distinction for purposes of filing a divisional application unless the claims of the divisional application cover subject matter that is substantially different from that of the parent application.

New Science & Technology initiatives and importance of IPR in their management

Parul Srivastava

Introduction

Today's world is witnessing technological renaissance at a pace never seen before. This in turn is driving accelerated growth in products, processes and practices across a spectrum of industries with new inventions being filed every day. Hence, the role of IPR is more central and prominent in such an ecosystem. Let us go through a few examples from the field of Science and Technology to see how innovations are reshaping the world as we know it and how IPR is helping with the transformation:

Machine Learning and Artificial Intelligence-:

Artificial Intelligence and Machine Learning are related areas of computer science. These two currently trending technologies are used for creating intelligent systems. AI is a larger concept for creating intelligent machines that can simulate human thinking capability and behavior. ML is an application or subset of AI that allows machines to learn from data without being programmed explicitly. Given that AI is increasingly seeing more and more applications across industry, the number of AI related patents being filed year on year is also increasing. Although each AI driven application is unique in its own sense, IPR helps in distinguishing the key enablers behind the AI engine. Thus, IPR's role is critical because the AI engine in most applications is usually the same and is the ML part which changes.

Digital Content and IPR-:

We are living through incredibly creative and innovative times. To give an idea, consider what happens online every 60 secs,:500 hours of videos is published on Youtube, ~54 million messages are sent over Whatsapp, 294 billion emails are sent and 4.4 million search queries land on Google. This generates an enormous amount of online data (~321 Million GB) every minute. With this magnitude of digital content getting created every minute, the need of the hour is to put in place stringent and mature IPR practices to dissuade infringers and promote IP protection. Hence, the role of IPR automatically becomes more central and prominent in being the enabler and protector of creativity and efforts that go into authoring of this content.

3D Printing -:

Three- dimensional Printing is an upcoming field that redefines the way traditional printing is looked at. It has potential to revolutionize the printing landscape and take it to the next gen level. For a long time, printing was thought to be an extension of what used to be "painting" in old days. Three-dimensional printing in fact a way to create a copy of any object in the 3D Space. 3D Printing has started to pose new challenges for IPR in recent years. With 3D printers becoming more accessible nowadays, it is opening doors for infringers to blatantly copy designs of protected/patented artifacts and reconstruct the same physical object from scratch easily by themselves. This increases the chance of plagiarism against inventors and being taken for a ride, even though are the original design/object is the original concept.