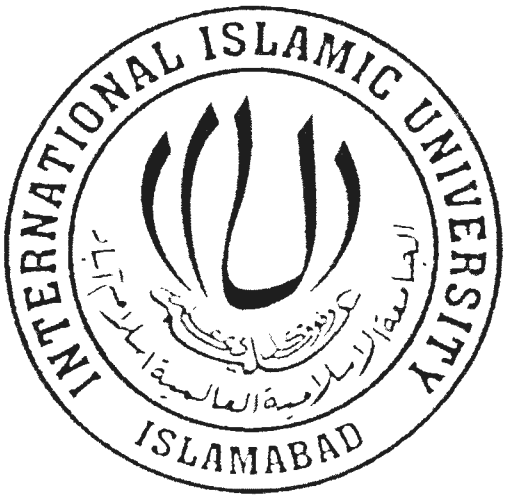
Stringent Patent Laws esp. *"First to File than First to Invent"* is Hampering Innovation: A Comparative and Analytical Study of American, Pakistani and Indian Laws.

A thesis submitted in partial fulfilment of the requirements of the degree of LL.M (Corporate Law)



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Dedication:

I dedicate this dissertation to my Respected and loving Parents, father, Mohammad Siddique Bhatti (S.P) (R) and mother, Mrs. Perveen Bhatti and to my loving and caring Wife, Dr. Sadia Sharif {Department of Physics, Government College University, (G.C.U.) Lahore} and particularly to my beautiful daughter, Eshal Nasir Bhatti who never spared me for this task. Their motivation, inspiration and kind prayers never left me alone throughout my endeavour. Their love and support is what I would always be in great need.

Acknowledgement:

After thanking Allah Almighty for His countless blessings upon us, I am very grateful and highly appreciate my Respectable Head of department, Department of Sharia and Law, IIUI, Professor Syed Afzaal Ahmad for the kindness he extended and the trust he reposed in me which helped me a great deal in completing this dissertation. I am also extremely thankful to my very Respected Supervisor, Col. (R) Prof. Mohammad Younus, who has always been so kind and generous to me and he mentored me right from the beginning till the end. I am all indebted to him because it was but for him that I could complete this uphill task which at many occasions looked impossible to me. He encouraged me and showed his trust in me. Sir, I shall always be grateful to you. May Allah enhance you in your respect and keep you healthy and happy, for so many more years. It would be unjust on my part if I do not say thanks and acknowledge his greatness, my much respected teacher, Maj. (R) Prof. Attaullah. Sir, I shall always remain indebted to you.

International Islamic University Islamabad (IIUI)

It is certified that we examined this thesis, titled, **"Stringent Patent Laws esp. First To File than First to Invent" is hampering Innovation: A Comparative and Analytical Study of American, Pakistani and Indian Laws"** submitted by **Mr. Nasir Siddique Bhatti**. student of LLM (Corporate Law), **Registration No. 268-FSL/LLMCL/S10.** After carefully wading through the whole text. we have solid reason to believe that this research work is up to the mark and fulfils all the requirements for the prescribed Program. We unanimously give our consent to its approval and recommend the Faculty of Sharia and Law, **International Islamic University Islamabad**. to award him Masters Degree in Law.

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It is certified to the best of my knowledge and belief that this dissertation is genuine and none of its part or whole has been copied from anywhere. It has already successfully passed the plagiarism test. And that it is an original piece of writing and never been published anywhere or presented in any University before this. And that I bear witness to it and in case, any of the above said claims prove wrong, I take full responsibility and shall be liable to any punishment prescribed for such crime of cheating.

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List of Abbreviations:

FTF:	First to File
FTI:	First to Invent
FITF:	First Inventor to file
FTU:	First to Use
USPTO:	United States Patent and Trade Office
FTC:	Federal Trade Commission
CRC:	Congressional Reforms Committee
IPR:	Intellectual Property Rights
WTO:	World Trade Organization
TRIPS:	Trade Related aspects of International Property Rights
PTO:	Patent and Trade Office
NGOs:	Non Governmental Organisations
R&D:	Research and Development
WIPO:	World Intellectual Property Office
KIPO:	Korean Intellectual Act
AIA:	American Inventors Act
AMC:	Association of Manufacturing Chemist
IPC:	Intellectual Property Commission
NSA:	National Security Agency
USITC:	United States International Trade Commission
IP:	Intellectual Property
PCT:	Patent Cooperation Treaty
IPO:	Intellectual Property Office
USC:	United States Constitution

IPHC:	Intellectual Property High Courts
SPLT:	Substantive Patent Law Treaty
PTAB:	Patent Trial and Appeal Board
AARP:	After Awarding Review Proceedings
PARP:	Post Awarding Review Proceedings
PAR:	Post Awards Revisions
JPO:	Japan Patent Ordinance

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Abstract:

This dissertation is about the unjustified American Patent Law's shift from 'first to invent' to 'first to file System' which is, already in vogue in Europe and almost in the rest of the world. America has been doing pretty well with her unique 'First to invent rule' that has served the country for well over two hundred years. America has always led the world in the field of inventions and achieved the level of development, progress and economic growth for which Europe took about double the time. Critics assert that first to invent rule has played significant role in making America the uncrowned leader of the world when it comes to inventions.

This switch in patent laws has not only shaken the foundation of the entire paradigm of patent laws but also challenged the Constitution because it can easily be inferred from the basic law that the framers of the Constitution were clear that the first inventor should be conferred with Patent to protect inventor's rights and to spur development.

The first three chapters are about the general information regarding patents and little bit about how the first to file system is hampering innovation. Fourth chapter delves deep into what problems America is up against just because of this switch and it's repercussions in the form of innovations diminution. The writer is convinced that the first to file rule is biased in favour of the big inventors and multination corporations and discourages the small inventors, rather, it might be possible that behind this switch, hidden hands of large stakeholders be involved to gallop more profit. That whole makes the basic point of discussion.

Fifth chapter encompasses and evaluates the working of Indian and Pakistani Patent laws and their performance. How these states are doing in this field, what deficiencies are there to cope with and how to boost innovation in this part of the world. Despite having laws on first to invent system how these two states are working on First to file rule and what losses they are incurring to their economies?

It is also suggested that instead of switching to first to file system, it's better to introduced amendments to the provisions which are pinching and clogging the system to flourish and that India and Pakistan should remain stick to their first to invent rule.

Chapter: 1

Introduction:

A patent is conferring the complete and undivided rights by the government upon an inventor, of course, for a specific time period, which is generally 20 years. It permits the inventor to prohibit others to manufacture, sale and use or to offer it for sale or import his invention and the swap deal is that the inventor has to disclose its full invention to the general public. [1]

Patents are to protect the rights of the actual inventor so that only that person can get the benefit of his invention and to stifle heist. Problems usher when these laws are made so stringent to curb stealing that the spree of litigation starts immediately afterwards, is somewhat hampering innovation and new inventions. Instead of providing incentives for the researchers, patent authorities are discouraging them. People are afraid of improvements which, in the normal parlance, are quite exigent, inevitable and indispensible keeping in view the age of cutting edge technology. Now the question arises, how far these laws are unduly harsh that they are like stumbling blocks in the way of innovation? Whether they are incentives for innovation or they impede the way of new inventions? [2]

The First-to-File system is one of them; it is thought to benefit small inventors who may be less experienced with the patent application system. Critics of this system contend, it will create "race to the mail box", and result in sloppier, last minute patent applications. The First-to-Invent system, however, requires U.S Patent and Trademark Office (USPTO) to undertake protracted and intricate "Interference" proceedings to try to determine who invented something first when confronting claims come up. The First-to-File system

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1. IPR Toolkit- Pakistan Patent Laws, Introduction to Patents, pp-1, http://islamabad.usembassy.gov/root/pdfs/ipr_patents.pdf
2. Bar- Shalom and Cook-Deegan, 2000; Nuffield Council on Bioethics, 2000 OECD.

supporters opine that it would inject much needed certainty into the patent application process. [3]

In 1989, when Canada switched to First-to-File system, number of filing patents significantly plummeted, especially by the small inventors. Big Corporations, by dint of their money and influence win the race of first filing, infringing the rights of the real inventor. The reason of switching this system is that the concerned department has to go through investigations to find out the real inventor. In order to relieve them of this lengthy work, first filing system is introduced but it is rather more unjust. Other provisions like, Opposition to Grant patents, Registration of Patents, Elimination of Best Mode Requirements, Disclosure of Parameters, Absence of Re-examination Procedure and Limiting the Injunction Relief are some of the other harsh provisions causing hurdles in innovation. [4]

1.1: Prelude to the Thesis:

In this chapter patents and patent laws are defined and expounded and the gray areas in these laws termed as 'Stringent Patent Laws' used for this research work, have been discussed. First to file is one of the stringent patent law provision, mainly focussed upon and some others have been mentioned but are not discussed in detail because these are not the field of this dissertation. Just a cursory glance is given on as to what are patent laws? why are they made? How they protect the rights and how they keep the on going process of progress rolling on? What went wrong that why these laws are not fulfilling the requirements and are impeding innovation as is claimed in the topic of this thesis?

Second chapter is about the innovation policy, the economics involved in the innovation policy making, mechanics of patents, innovation policy formulation, contemporary issues pertaining to patent policy and the irritants being faced by the World Intellectual Property Organisation (WIPO) due to dearth of harmony in the patent systems of various states, particularly the leading trading states. Effort has been made to evaluate that how the rational and judicious patent policy making helps promote the innovation in inventions.

Fourth chapter estimates that why the first to file patent system is currently immensely being discussed in America, since almost a decade. Implications of switching to

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[3] . Sequential innovation, Patents and imitation, James Bessen and Eric Maskin 2000.
[4] . Indian Patent Laws by Vaishali Gopal, Brain League IP Services, Dec. 26, 2007. pp-1

FTF system from well performed First to Invent (FTI) system have been discussed in rather detail and point has been made that America, who has been the undisputed leader in innovations, is severely effected by this infamous FTF rule. Moreover, the author of this dissertation has tried to prove that how FTF is badly hampering innovation and is discouraging the inventors. In the same chapter, remedies which are presently available are discussed and analysed and are observed insufficient. A range of all the possible reforms are also put forth to ameliorate the ailing patent system of America.

The chapter on India and Pakistan brings in the limelight the FTF system in these developing economies, working of this system and enforceability of patent laws are discussed and attention has been dragged to the fact that the extraordinary presence of Chinese companies in this region is blocking the innovation spree in these countries and the FTF rule is being exploited to hinder the local inventor's way to Patent houses. It has been tried to prove that FTF is hampering the economies of India and Pakistan way too much as it is damaging America.

Towards the end, the plea of harmonisation which was taken for the shift to FTF is discarded and some concrete suggestions have been tabled by which not only there will be no need to switch to FTF but international harmony can also be achieved.

1.2: Definition of Patent:

Duration of a Patent is 20 years and can be extended for 5 more years under limited circumstances, after that, Patents are public property and are available for public use, reproduction and sale.

Vaishali Gopal, an Indian writer opines on patents as "Grant of exclusive rights to an inventor over his invention for a limited period of time". He goes on to explain that the exclusive rights conferred include the right to make, use, exercise, and sell or distribute the invention in India. The term of Patent is 20 years after the expiry of which the invention would fall into public domain. [5]

[5]. Indian Patent Laws by Vaishali Gopal, Brain League IP Services, now banana IP, Dec. 27, 2007 pp-1

"Rights granted to inventors by the Federal Govt; pursuant to its powers under Article 1, sec. 8, clause 8 of US constitution that permit them to exclude others from making using or selling an invention for a definite or restricted period of time". (US PATENT ACT of 1952)

1.3: What Does Filing of Patents mean? :

It means that when an inventor invents something new like, a machine, some piece of writing or a new medicine, he applies in the relevant department to register that invention in his name so that only he could enjoy the fruit of his efforts and his work might not be copied without him getting its financial benefits.

1.4: Types of Patents:

There are mainly six types of Patents explained as under [6],

1.4.1: Land Patents:

A land Patent is exclusive land grant made by a Sovereign Power over the land in question. To make such a Land Patents legal, the Sovereign (proprietary landowner) must document the land granted, securely sign and seal the document (Patent) and openly publish the same for the public to see so that the public may come to know that a definite piece of land is granted to that person.

1.4.2: Letter Patents:

They are legal Instruments through written orders released by the highest authority in the State, normally granting an office right, monopoly on certain items, title or status to a person or corporation to carry on their businesses related activities without any one meddling in.

1.4.3: Printing Patents or Copyright Patents:

The Printing patents or Printing Privilege is forerunner of modern Copyright. It is an exclusive right to print or publish anything on your name with the legal cover that no one will or can copy it.

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[6]. Patent and Innovation Issues for Inventions, by Sophie E. Caldwell, Nova Science Publishers, inbunden 2011, chap. 1, pp-1-25

1.4.4: Utility Patents:

Most patents filed are for utility patents, which protect processes, machines, articles of manufacture, or compositions of matter. Protection generally lasts for twenty years from the application filing date.

1.4.5: Design Patents:

A design patent protects ornamental designs for manufactured items. While the design may not change the utility of the invention, the design, shape or other ornamental feature may still be protected by patent. Design patents last for fourteen years after the date that the patent is issued.

1.4.6: Plant Patents:

Different methods and techniques are used to grow various fruits, vegetables and crops which are better in taste and they get ripe fast to meet the rampant population growth needs. A plant patent protects asexually reproduced plants, and lasts for eighteen years from the date that the patent certificate is issued. [7]

1.5: A Brief History of Patent Laws in Asia, Europe and America:

Patents have a long history, although some of the earliest patents are simply the grant of a legal monopoly in a particular good rather than protection of an invention from imitation. Early examples of technology-related patents are Brunelleschi's patent on a boat designed to carry marble up the Arno River, issued by the Florentine government in 1421, the Venetian patent law of 1474, and various patent monopolies granted by the English crown between the 15th and 17th centuries. The modern patent, which requires a working model or written description of an invention, dates from the 18th century, first in Britain (1718) and then in the United States (1790), followed closely by France (in both the latter two cases one of the consequences of a revolution). Many other Continental European countries introduced patents during the 19th century, as did Japan (JPO [8], 2006) and India (James, 2007). During the 20th century, the use of patent systems became almost universal and the signing of the

[7] . The Journal of Economic History, vol. 10, chap. 1, Patent Controversy in the 19th Century, Fritz Machlup and Edith Penrose, 1950.
[8] Japan Patent Ordinance.

Trade Related aspects of International property Rights (TRIPS) Agreement has ensured that all countries who are members of the World Trade Organization (WTO) will have at least a minimal level of patent protection.

In 1883 the Paris Convention for the Protection of Industrial Property guaranteed national treatment of patent applicants from any country that was a party to it. Its most important provision gave applicants who were nationals or residents of one member state the right to file an application in their own country and then, as long as an application was filed in another country that was a member of the treaty within a specified time (now 12 months) to have the date of filing in the home country count as the effective filing date in that other country (the 'priority date'). This is an important feature of the patent system, as it enables worldwide priority to be obtained for an invention originating in any one country, in addition to ensuring that in principle all inventors are treated equally by the system, regardless of the country from which they come.

Although the process for granting a patent varies slightly according to the jurisdiction for which protection is desired, the adoption of the TRIPS agreement in 1995 ensures that it is approximately the same everywhere in the world. This agreement requires its member countries to make patent protection available for any product or process invention in any field of technology with only a few specified exceptions. It also requires them to make the term of protection available for not less than a period of 20 years from the date of filing the patent application.

The World Intellectual Property Organization (WIPO) has almost 200 member states and lists an equivalent number of National Patent Offices and industrial property offices on its website. In general, the patent right extends only within the border of the jurisdiction that has granted it (usually but not always a country). An important exception to the one country-one state rule is the European system, where it is possible to file a patent application at the European Patent Office (EPO) that will become a set of National Patent Rights in several European countries at the time of issuing (EPO, 2006). A similar situation exists with respect to the African Regional Intellectual Property Organization (ARIPO). The exact number and choice of countries is under control of the applicant. Patents granted by the EPO have the same legal status as patents granted by the various national offices that are party to the European Patent Convention (EPC). The Patent Cooperation Treaty (PCT) came into existence in 1978, and now has 133 countries as contracting signatories. Any resident or

national of a contracting state of the PCT may file an international application under the PCT that specifies the office which should conduct the search. [9]

The PCT application serves as an application filed in each designated contracting state. However, in order to obtain patent protection in a particular state, a patent needs to be granted by that state to the claimed invention contained in the international application. The advantage of a PCT application is that fewer searches need to be conducted and the process is therefore less expensive. Thus, although application and search are to some extent standardized across offices, grants are not. In fact, 87 per cent of the PCT applications go to one of three patent offices for search: those in the United States, Europe, and Japan (WIPO 2007). Most of the other systems rely on them for the search process and follow them in a number of other areas. Therefore much of what follows focuses on these three major systems.

The usage of patents goes back to 15th century and patents as a term is in use since about the beginning of 18th century. [10] Patent Laws are admitted to have started in Italy with the Statute of Republic of Venice promulgated on 19 March 1474. It used to be issued by Republic of Venice. They would grant a decree to provide legal protection to the inventor and against prospective usurpers for 10 years. "Letter Patents" were granted in England even long before the Act of 1474. In France, King Henry-II introduced the concept of publishing the details of an invention in a Patent in 1455. Statute of Monopolies Act 1623 was first issued by Queen Elizabeth I which was challenged in Darcy vs. Alien case and after amendments was re-enacted by the British Parliament. [11]

In India, the first Patent incorporated in the legal system was the Act VI of 1856 to concede legal cover and incentive for the inventors to reveal their product secrets. A more potent and consolidated Act of 1859, supplanted the former Act and then under the British reign, these laws continued flourishing and becoming more harsh but nevertheless, they also helped the Asians in getting awareness regarding Patenting and all that which letter on helped the natives to formulate better laws and giving proper shape to the already existing laws.

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[9] . Patents and patents policy by Brown H. Hall, university of California at Berkeley and university of Maastricht.
[10] . Jackson M. 2002, from private to public; reexamining the technological basis for copyright, journal of communication 52, pp-416-433
[11] . The journal of economic history. Vol. 10, chapter, 1. The patent controversy in 19th century. Fritz Machlup and Edith Penrose, 1950.

1.6: How to Patent an Invention? :

If somebody makes something new or innovative that he strongly believes, is never made by anyone before then it is definitely a commendable thing and the inventor needs to get its benefit. Before he thinks that he should sell his product to some company it is highly recommended to patent his invention in his name lest some thief should steal it and deprive you of something that originally belonged to you and should have gone in your pocket. Most of the scientists, researchers and inventors do not know what to do? How to register their invention if they happen to invent some new artefact? Here are five simple stages expounded by Andy Gibbs for any layman's knowledge. [12]

1.6.1: Stage 1:

The first step is that whatever somebody thinks of regarding his invention or every step that he has taken in that regard, jot it down in blueprint and make sure that he gets it published in some renowned Patent's Journal instead of mailing it to himself. That will be a solid irrefutable and inimitable proof which will help him in the court of law, if need be.

1.6.2: Stage 2:

Here, we need to make sure that we have done following two things;

a) Before we go to register our invention or talk to our lawyer for that matter, it is of extreme importance that we make sure by our preliminary research that such an idea is not published earlier; in that case, our invention will not be registered.

b) Before we invest time and money in our product, we need to asses that whether our product is new and cost efficient by comparing it with the similar products already in the market because no one is going to buy it if it is not relatively cheaper. So, we have to survey the market potential of our product.

1.6.3: Stage 3:

Make a full-sized functional model rather that just drawing on the paper because if we patent it this way, we cannot amend it later on. There should always be some room left for improvements because, in Science or Arts, nothing is final. Moreover, if the design is so

[12]. Essentials of Patents by Andy Gibbs and Bob DeMatteis, 2003, John Wiley and Sons, chapter. 2, pp-21-48.

costly to make then use the computer graphics to prepare a virtual design of our model. This will give us some extra leverage to amend afterwards it or at the time of presentation.

1.6.4: Stage 4:

This is now high time to file our patent with the concerned Patent Authority of the State. One very important precaution is that avoid filing it by ourselves, unless we are professionally skilled to do it otherwise, it is strongly recommendable to hire the services of some attorney or some other competitor will find the lacunas in our filing and will dent us financially over which we shall repent afterwards.

1.6.5: Stage 5:

Well, it is perfect time to explore the market side of our product and manufacturing it at commercial level. If we decide to make it by ourselves that will be great as it will enhance the chances of making more profit, provided we can afford the hefty costs and painful management or we can simply give the license to some company and start taking the royalty. [13]

1.7: Patents and Patent Laws:

Jean Jacques' Rousseau once said that the first person who occupied the piece of land and declared it as his and the people were simple enough to believe him, was the real inventor of society and the concept of Property [14]. Societies acknowledged the property rights of the citizens and agreed that these rights should be protected. After that states came into being and so were the laws. Laws are made to protect the property rights of the people.

Patents are also property but this property we do not purchase but we invent by our sheer hard work and utmost research. Logic says that one should get the reward of his hard work and the same is provided by Patent laws. Patents laws provided the necessary shelter to the inventors since their inception until recently when big corporations and multinational replaced single inventors. Market economy and open competitions tightened the noose on small inventors. Pressure groups forced the governments to make legislations to protect the

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13. Hesse, C 1990 Enlightened Epistemology and the laws of authorship in revolutionary France, 1977-1993 representations, 109-137.

14. Jean Jacques Rousseau, The Social Contract, 1950, book 2, pp- 6-8.

rights of the inventors. Under the garb of protecting the rights of the inventors, states kept on making the patent laws more stringent. So tight that instead of helping disseminate the knowledge, these laws are putting iron curtain on the smooth flow of knowledge. One of the harsh provisions of Patent laws is First to File rule being followed in almost all over the world. This rule looks simple and fair but the deep study of this system shows that it has put the small inventors of the competition by discouraging them with nightmarish prolonged and costly litigation proceedings and frustration of their inventions stolen under the protection of this so called FTF system of Patent filing.

1.8: A brief Run up to how the Stringent Patent Laws Stifle Innovation in Present Age of Cutting Edge Technology:

Patents and competition play essential roles in promoting innovation. Patents provide property rights and protection against copying that foster incentives to innovate. They encourage public disclosure and dissemination of knowledge that otherwise, might be kept as trade secrets. They make information and technology transferable, facilitating the sharing of knowledge. Patent protection can hinder innovation most importantly when it restricts the way in the necessary technological fields where innovation has a distinct character in the ongoing process of development. In this vein, too wide a security measure on fundamental inventions can dispirit further inventions if the keeper of a patent of an important technology declines right of entry to others under rational circumstances. Promoters of the latest technology, especially of genetic inventions and software often raise a ruckus of this issue. [15]

This also incapacitates the technological absorption and open market economy. The patent possessors try to set the price higher than the normal thus cause a sort of monopoly. This leads to another problem where inventors do not patent their inventions at all lest their inventions should be copied and the secret be out. Patents having broader scope in fact, act as Pre-empting the future inventors and most importantly, the innovation in the same technology. The hefty amounts of damages slashed by the courts in terms of encroachments also hinder the inventors to work on the latest technology.

Law Prof. Michael Heller and Rebecca Sue Eisenberg proposed, based on Heller's theory of the tragedy of the anti commons that intellectual property rights may become so

15. Can Patent deter innovation? The Anicommons in biomedical research, by Michael Heller and Rebbecca S. Eisenberg. 2009, p. 698-701

fragmented that effectively, no one can take advantage of them as to do so would require an agreement between the owners of all of the fragments. [16]

Reynolds Holding. a Reuters Breaking views columnist has pointed out that American Patent laws still have some basic lacunas and almost the same flaws are found in Pakistani and Indian Laws. Like [17]

1. Law favours the first filer of the Patent and Not the First Inventor.

2. Dodgy filing of Patents by bigger corporations, infringe the rights of small geniuses due to the hefty costs of the litigations, which they cannot afford, and presently small companies and individuals account for only 12% of the whole Patent filing.

3. The Law's greatest weakness may be its omissions. The system has in many ways broken down because Patents are often vague and too broad; making it difficult to tell what do they cover.

4. Costs of litigations are too gigantic to be beard by the individuals and small companies. None of the above has to do much with promoting competition which is original reason for having Patents.

Pharmaceutical Patents preclude standard substitute to compete in the market until the original patent expires and thus keep hefty prices of the medicines. This has considerable repercussion on the poor and desperately needy countries which are unable to afford these beefy priced medicines. Critics also question the rationale that the exclusive patent rights and then naturally costly pharmaceuticals are required for pharmaceutical companies to retrieve the large investments needed for research and development.

As per FTC (Federal Trade Commission) report put forth by Prof. Jonathan Evan in the backdrop of Federal Trade Commission vs. Philip Flora case, alluded to the fact that there are two economic consequences that possibly flow from issuing dubious patents. First, such patents may discourage firms from conducting research and development in an area out of trepidation that they could be infringed. This might slow down the follow on innovation. [18]

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16 . Can patent deter innovation? The Anti-commons in biomedical research by Michael Heller and Rabbecca S. Eisenberg, 2009, p-698-701

17 . working paper no. 03-17/R An Empirical Look at software Patents, James Bessen's research.

18. Jonathan Evans Nuecherlein case no. SACV 13-00381 AG(JEMx) Federal Trade Commission vs. Philip Flora

Secondly, even if research goes forward, the patents may induce unnecessary licensing. This taxes consumers and distorts the incentive structure.

Patent system is a critically important means for achieving progress and enhancing welfare over time. But it must be implemented to avoid the harm to competition and the problems that arise from granting questionable patents. It is expedient that patent laws be made more vibrant and fool proof that they further the discourse and lead us closer to patent system that preserves balance between competition and patent policy in pursuit of our ultimate goals.

The American Patent Law Reforms Acts of 2005, 2007 and 2009 are steps in the right direction which the Congress passed on the strong recommendation of Congressional Reforms Committee (CRC). This has to be done to meet the problem of backlogs. In America, about 1.2 million patents were requested to be registered from 2010 till date, out of which more than half were rebuffed due to one legal hitch or the other. In order to achieve balance in the laws, more reforms are needed so that interest of the inventor can be procured and at the same time, attraction for the researchers stays intact to keep the pace of development rolling on. [19]

Pakistan Patent Ordinance 2000 was introduced to deal Patent issues in Pakistan and to handle the same problem, Pakistan Patent Rules 2003 and Trade Mark Rules 2004 were formulated but somehow in Pakistan too this requires sufficient legislation to guarantee protection of Patent rights and ensure competition. Pakistan as a member of World Trade organization (WTO) and signatory to the Agreement on Trade Related aspects of Intellectual Property Rights (TRIPS) undertook to amend its patent laws to conform to TRIPS obligations. Besides TRIPS' requirements, the industrial developments that ensued in this region have also made it mandatory to amend the Patents & Designs Act, 1911. [14]

[19]. Donner, I. 1992, and the copy right clause of U.S Constitution: why did the framers include it with unanimous approval? The America Journal of history 36(3), 361-378.

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13. Hesse, C. 1990 Enlightened Epistemology and the Laws of Authorship in Revolutionary France, 1977-1993 Representations, 109-137

14. Can Patent Deter Innovation? The Anticommons in Biomedical Research, by Michael Heller and Rebbecca S. Eisenberg. P. 698-701.

15. Working Paper No. 03-17/R AN EMPIRICAL LOOK AT SOFTWARE PATENTS. James Bessen's Research on Innovation and Boston University School of Law (Visiting Researcher) Robert M. Hunt, Federal Reserve Bank of Philadelphia 2003.

16. Jonathan Evans Nuechterlein, case no. SACV 13-00381 AG (JEMx), Federal Trade Commission vs. Philip Flora.

Chapter: 2

Literature Review:

Despite rampant growing problems regarding patent regulations and innovation, sufficient work has not been done. In countries like USA, Pakistan and India, reforms have been introduced to shelve these fringes in patent laws e.g. American patent Ordinance 2002 (Amended), Reforms Act of 2005, 2009, 2011, and finally of 2013. Pakistan and India have also as per exigency incorporated different laws to deal with the modern day developments and requirements in patent law regime. Moreover, researchers from Universities, firms and corporations have ventured to write dissertations on copy right laws but literally very little work has been done to cater the problems ushered from first to file system.

Press Release, Representative Adam Schiff, House Approves Schiff/Issa Patent Pilot Bill (Feb. 12, 2007). These representatives made some astonishing points during their briefing to the house on their report that they prepared on first to file principal. They were unanimous in arguing that first to file rule is going to hurt America a great deal and that the people of the world deserve much better than that. [20]

Impediments in the Intellectual Property Rights (IPR) in Developing countries by Saima Butt. The writer opines that it is, at the same time very easy and very tough to seek benefit from the knowledge in this region. Laws are so lax at point that theft becomes so easy and at some other points they are so hard on some others that dissemination of knowledge looks something beyond possible. There is a need to form uniformity in the laws. [2]

'Copyright Protection in Information Age', by Ayesha Sadia. She narrates that protection of intellectual work has become tremendously important given the easy access on

[20]. Press release, Representative Adam Schiff, House approves Schiff/Issa Patent Pilot Bill, (Feb. 12, 2007)

information technology in present time. Strict measures are needed to be taken to safeguards the interests of writers. [3]

Patents and Innovation issues for Inventors, by Sophie E. Caldwell. The writer has highlighted the issues relating to innovation that the inventors have to face in the backdrop of the proposed reforms that the Congress was intended to introduce in the patent systems. The book is a detailed document containing some serious bundle of problems and their best possible solutions. [4]

How do Patent Laws Influence innovation, Evidence from 19th Century world Affairs Nowotarski Bakos, A short history of Private Patent Laws. This book recollects the memories where private patent laws were causing different issues to stir up and slows down the progress in this field until proper legislation started on this important field. [21]

Royalties, Evolving Patent Rights and the Value of Innovation, by E. F Sherry and D. J. Teece. In this article the writers talk about certain contracts that effect the ligation in patent cases. They say that some contingent settlement fee should be there, paid up by the plaintiff to provide relief to the contesting parties and the attorney also gets something out of it. [6]

Economists say Copyright and Patent laws are Killing Innovation, by Michele Boldrin and David K. Levine. They don't see any problem in abolishing the laws radically if they are not deemed well for the betterment of the economy. They do not look very happy with the current patent system and suggest bringing the patent laws in line with the market economy. [7]

Promoting Innovation Prizes Challenging and Open Grant Marking, by Brad Rouke. In this report presented by a group of 35 members to the Congress stressed the need of government to show up its presence and participate in the progress of innovations. They said that over the years, private sector has surpassed the government sector and major participation has come from the private sector. [8]

Aligning Pharmaceutical Innovation with medical need, by Carl Nathan. He is of the view that government, philanthropists, companies and scientists should come together to accumulate resources and conglomerate expertise to fight better with the diseases by

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21. How do patent laws influence innovation, evidence from 19th century world affairs, by Nowatarski Bakos, a short history of private patent laws?

producing more cogent medicines and latest procedures to cope the needs of this growing concern. [9]

Prizes for Technical Innovation, by Thomas Kalil. This discussion paper by the author basically provides a platform for the scientists and policy makers to get together and table their suggestion for making better policies regarding patents. Such policies which help improve the economic growth and economic security by designing such patents and devising such policies which are easy to execute but more effective in impact. [10]

Federal Trade Commission, to promote Innovation: The Proper Balance of Competition and Patent Law and Policy, a Report by FTC. This report presents recommendations about the significance of patents and competition. Healthy patents increase competition and questionable patents incur frustration in the economy. Report goes on to say that Federal Trade Commission and Patent and Trade office should complement each other's efforts. [22]

David kin, "Against Intellectual Monopoly". Writer is extremely critical about such patent that establish sort of monopoly and clog the dissemination of knowledge. Such patents are exploiting in nature and badly affect the psyche of the public. He gives the examples of life saving drugs. Drugs that are used mostly to cure cancer and AIDS and such other lethal diseases. [12]

Joseph Stiglitz, "Give Prizes Not Patents". It is ironical piece of writing where the commentator analyses and comments on the patent system being beyond the access of the poor. Innovation should be rewarded but the element of exploitation is rampant when it comes to enjoy the life style or dealing with the life saving drugs. System sets high a price to reward the inventor that it goes away from the reach of the poor. [23]

Joseph Stiglitz, "Patents, Profit and People". Much of its focus on inappropriate way that many agencies and NGOs have relied on 'one size fits all' approach to international intellectual property rules as exemplifies by the way the trade related aspect of IP agreement has been enforced. He explains the role of state infrastructure and the role of NGO and international agencies. [14]

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22. Federal Trade Commission (FCT), to promote innovation: the proper balance of competition and patent law and policy, a report by FCT.

23 . Joseph Stiglitz, "Give Prices not Patents".

Adam B. Jaffe, "Innovation and its Discontents: How our broken System is endangering Innovation and Progress and what to do about it". In this joint venture, the writers unequivocally suggested to the administration that first to file system will no more be serving America the way first to invent has been until infamous first to file came into being. They term it precarious for innovation particularly for small inventors and tiny companies besides being ridiculously expensive. [15]

James Bessen and Micheal J. Mevrer, "Patent Failures". The US patent system is not working. It stands accused on all sides of stifling innovation instead of nurturing it. These economists show that the system no longer provides predictable property rights. They go on to offer solutions based on empirical evidence from history, law and economics. [16]

Peter S. Menell, "A Method of Reforming Patent System". This article sets forth a method for evaluating and formulating patent policy that considers both systematic and categorical reforms and sketches out how that method could be applied to the current patent crises i.e. lack of uniformity and discrimination. [24]

Claude Bartfield, John E. Calfee, "Biotechnology and the Patent system: Balancing Innovation and Property Rights". They clearly arcane issues of patent law and the tremendous effect that they can have on our economy, our technological progress and on our health. They measure the strengths and weaknesses of current system as the Congress was seeking reforms. [18]

Joseph Farrell & Robert P. Merges, "Incentive to Challenges and Defend Patents'. Given the limits of patent office scrutiny of patent applications one might hope that ex post litigation can fix all the least important errors. What he wants to suggest here is that if proper check and balance and scrutiny system is introduced in PTO, most of the ligation can be avoided. Administrative reviews system should be ameliorated. [25]

Robert P. Merges, "As many as Six Impossible Patents before Breakfast". In this paper, the writer describes the emergence of patents for business methods or concepts such as internet air plane tickets purchase system. Professor Merges is agonistic about whether these patents are worthwhile. Nevertheless, he argues that the increased volume of patent applications stemming from this newly patentable subject matter has pushed the patent

[24] . Peter S. Menell . "A Method of Reforming Patent System.
[25] . Joseph Farrel & Robert P. Merges, "Incentive to Challenges and defend Patents".

system into crises. He proposes to adopt the patent opposition system currently in vogue in Europe to discourage such patents and foster completion. [20] Berkeley Technology Law Journal (1999).

The "First-to-File" Patent System: why adoption is not an option! By: Rebecca C.E. McFadyen. The writer out rightly opposed American entry in first to file regime and came up with thorough research of its impact on American economy and industry. She proved that American first to invent rule was superior and had served the country for well over 200 years. It will be an insane decision to switch it to first to file system just to bring it in line with the rest of the world. [26]

Vijay Pal Dalmia, "Patent Laws in India- everything you must know". This is very generalist piece of writing. The writer explained overall Indian patent law without delving deep into any controversial topics. If someone wants to have a general idea of how Indian patent system works with minimum of reading material, this article is helpful. [22]

Patlit: The Patent Litigation Weblog, "Does India follow 'First to File or First to Invent' Rule. He is not ready to believe that India follows first to file system. His brief article revolves around the point that Indian Patent Act of 1970 directs the administration to grant patent to the true inventor. He forgets the point that the first to file system has become a tradition and the real intention of the law is also to make sure that only the real inventor gets the patent but this rule is being misused putting the interest of the inventors at stake. [27]

George E. Frost Duke in his article compares first to file system with first to invent system of America and concludes that American laws have always intended that the first inventor should be awarded patent. This is what mostly happens but in certain cases conflict occurs and the state machinery mobilizes to resolve the tussle. He further says that President's Commission has recommended that America should turn to purely first to file system and this preposition has already been included in the proposed legislation tabled in the Congress. He reveals furthermore that American system is neither first to file nor first to invent but a hybrid system of both and that blind and hasty shift should be avoided to

[26] . The First to file patent system: why adoption is not an option? By Rebbecca C.E McFadyen.
[27] . Patlit: the patent litigation weblog 'does India follow first to file or first to invent rule'.

minimise the chances of backlash. He suggests that favourable aspects of both the systems ought to be retained. [28]

Suzanne Scotchmer and Gerry Green in their article, "Novelty and Disclosure in Patent Laws" say that the stringency of the novelty requirement in patent laws effect the place of innovation as it affects the amount of technical information which is disclosed amongst the firms. It also affects the probable profitability of the research. We compare strong and weak novelty requirements from the standpoint of social efficiency. We ask how our answers depend on our rules that determine which firm gets the patent when two firms are at logger heads for the patent on the identical technology. The famous rule is first to invent that applies in America and the other one is first to file currently promulgated in other countries. [25]

Petra Moser in her article on, How Do Patents Influence Innovation? Evidence from Nineteenth Century World's Fair writes that the study of innovation has focused on the effects of patent laws on the number of innovations, but has ignored effects on the direction of technological change. This paper introduces a new dataset of close to fifteen thousand innovations at the Crystal Palace World's Fair in 1851and the Centennial Exhibition in 1876 to examine the effects of patent laws on the direction of innovation. The paper tests the following argument; if innovative activity is motivated by expected profits, and if the effectiveness of patent protection varies across industries, then innovation in countries without patent laws should focus on industries where alternative mechanisms to protect intellectual property are effective. Analysis of exhibition data for twelve countries in 1851 and ten countries in 1876 indicate that inventors in countries without patent laws focused on a small set of industries where patents were less important, while innovation in countries with patent laws appears to be much more diversified. These findings suggest that patents help to determine the direction of technical change and that the adoption of patent laws in countries without such laws may alter existing patterns of comparative advantage across countries. [29]

The Economic and Political Journal of India in its article, A Confusing Patent Law for India, confesses that the amendments to India's patent legislation have left the country with a

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[28] The 1967 patent law debate: first to invent vs. first to file, George E. Frost Duke Law journal vol. 1967. No. 5, pp 923-942.

[29] . How do patents influence patents? Evidence from 19th centaury world's fairs, by Petra Moser, the American Economic Review, vol. 95, 4 Sep. 2005, pp 1214-1236.

law which at certain times exceeds the requirements of the TRIPS Agreement or has provisions unique to India, not to be found anywhere else and at other times, appears to be in conflict with the international Agreement. The procedural and substantive amendments seem to be tilted in favour of the patent applicant. Overall, the result is a more complicated and confused law than needed and overall situation is more perplexing. India's policy-makers and legislators did not take the opportunity to simplify the law and procedures; they did not also seem to have any overall policy objective to achieve, other than pleasing all sides. [30]

In the Article, Economic Development and Patenting Behaviour, authors, Biswajit Dhar and C. Niranjan Rao say that the capacity of the countries to capitalise on the advantages of the patent system hinges upon the relationship with their respective stages of development. This paper ventures to explore the relationship between economic development with that of indigenous and foreign patenting behaviour. The study uses a unique dataset covering 55 countries with span of 24 years. It determines the association of domestic patenting with gross domestic product per capita and openness to trade, and the association of foreign patenting with these variables and with foreign direct investment as a proportion of GDP. This piece of writing tries to make a point that patents have direct relevancy with the overall economic position of the country and at macro level of the world economy. [31]

Brad D. Pederson, in his article, narrates the confusing position of American patents particularly, after the enactment of new law and says that almost a year after the promulgation of Leahy-Smith America Invent Act (AIA) 2013; we are yet to experience the biggest change resulting from what was the most significant patent reform in the United States, since 1832. Some are of the opinion that the biggest change was in the form of 1952 Act but majority of them say that this One is the most alarming change so far that America has had ever. As of yet, no appeal is lodged in Patent Trials and Appeal Board (PTAB) but if one is filed, it will take about four years that any decision comes out to analyse how it goes. He is also not sure about the Multiple Defence Litigation that whether it will be replaced or not? [32]

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[30] . A confusing patent law for India: Economic and political weekly, vol. 40, no. 16, April (16-22) pp 1576-1579.

[31] . Economic Development and Patenting Behavior by Biswajit Dhar, vol.43, no. 23 (jun. 7-13-2008) pp-14.

[32] . Patent litigation after first to file: how long we wander in a wilderness? By Brad D. Pederson, Business Law Today (sep. 2012) pp 1-4

In the article, intellectual property rights regimes: comparison of pharma prices in India and Pakistan, Rakesh Basant says that almost all earlier studies making comparison of pharmaceutical prices in Pakistan and India have indicated higher prices in Pakistan mainly to the differences in the intellectual property right regime between the two countries. And that Pakistan allows product patents while India does not is in fact not true. This paper argues that a fragile patent regime tinges with policies to bring down market concentration, curb monopolies and encourage bulk drug production, initially through public sector investments, and the size of the Indian market could have led to development of indigenous process capabilities. Meanwhile, in Pakistan, the same patent policy was not combined with policies adopted in India and since the market size is much smaller, it did not have the same effect. [33]

[33] . Intellectual Property Rights regime: comparison of Pharma prices in India and Pakistan, by Rakesh Basent, Economic and Political Weekly, vol. 42. No. 39, (sep. 29-October 5, 2007) pp 3959-3977.

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5. How do Patent Laws Influence innovation, Evidence from 19th Century world AffairsNowotarski Bakos, A short history of Private Patent Laws.

6. Royalties, Evolving Patent Rights and the Value of Innovation, by E. F Sherry and D. J. Teece.

7. Economists say Copyright and Patent laws are Killing Innovation, by Michele Boldrin and David K.

8. Promoting Innovation Prizes Challenging and Open Grant Marking, by Brad Rouke.

9. Aligning Pharmaceutical Innovation with medical need, by Carl Nathan.

10. Prizes for Technical Innovation, by Thomas Kalil.

11. Federal Trade Commission, to promote Innovation: The Proper Balance of Competition and Patent Law and Policy, a report by FTC.

12. David kin, "Against Intellectual Monopoly".

13. Joseph Stiglitz, "Give Prizes Not Patents".

14. Joseph Stiglitz, "Patents, Profit and People".

15. Adam B. Jaffe, "Innovation and its Discontents:

16. James Bessen and Micheal J. Mevrer, "Patent Faillures".

17. Peter S. Menell, "A Method of Reforming Patent System".

18. Claude Bartfield, John E. Calfee, "Biotechnology and the Patent system: Balancing Innovation and Property Rights".

19. Joseph Farrell & Robert P. Merges, "Incentive to Challenges and Defend Patents'.

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21. The "First-to-File" Patent System: why adoption is not an option! By: Rebecca C.E. McFadyen.

22. Vijay Pal Dalmia, "Patent Laws in India- everything you must know".

23. Patlit: The Patent Litigation Weblog, "Does India follow 'First to File or First to Invent' Rule.

24. The 1967 Patent Law Debate: First to invent vs. first to File, George E. Frost Duke Law Journal vol. 1967 no. 5, pp 923-942.

25. Novelty and Disclosure in Patent Law, by Suzanne Scotchmer and Gerry Green. Rand Journal of Economics vol. 21 no. 1, spring, 1990.

26. How Do Patents Influence Innovation? Evidence from Nineteenth Century World's fair, by Petra Moser, the American Economic Review, vol. 95. 4 (sep., 2005) pp. 1214-1236.

27. A Confusing Patent Law for India, Economic and Political Weekly, vol. 40, no. 16 (Apr. 16-22) pp. 1576-1579.

28. Economic Development and Patenting Behaviour, by Biswajit Dhar and C. Niranjan Rao, vol. 43, no. 23 (jun. 7-13, 2008), pp. 39-46.

29. Patent Litigation after First-to File: How Long we wander in a Wilderness? By Brad D. Pederson, Business Law Today (sep. 2012), pp.1-4.

30. Intellectual Property Rights Regime: Comparison of Pharma Prices In India and Pakistan. Rakesh Basant, Economic and Political Weekly, vol. 42, no. 39 (sep. 29-Oct. 5, 2007) pp.3969-3977.

Chapter: 3

Patents and Innovation Policy:

3.1: Relation of Patents with Innovation:

Patents are granted to protect the rights of the inventor on one hand and on the other hand, the inventor gets the dividend to share his invention for further development. This is the normal course of development otherwise; bottleneck would have been created in the way of progress. Though, the patent policy has been softened in the recent times resulting in the hike in the patents registration by 40% during the past 20 years or so, particularly in developed states. It is because of this reason that this age is called a "Pro Patent Policy Era". But the patents are awarded for petty and minute innovations as a consequence of which undue money is received by these patent holders from the customers, so much so that, even from the original inventor. [34]

Ibrahim Lincoln once rightly said that a robust patent system adds fuel of interest to the fire of genius. [35] As economic historians Naomi Lammoreaux of Yale and late Kenneth Sokoloff of UCLA opined, "The U.S. patent system had a powerful impact on the pattern of economic activity [3]. Its provision of broad property rights on new inventions, coupled with the requirement of public disclosure, was extremely effective at stimulating the growth of a market for technology and promoting technological change".

Other than them, Sir William Thompson, a British Inventor, Swiss Commissioner Edward Belly, Japan's Assistant Secretary of State Korehiyo Takahashi, British Historian and Jurist Sir Henry Sumner Maine after their lifelong research said that patents are inextricably

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34. Patents and Innovation; Trends and Policy. "Organization for Economic Operation and Development OECD 2004.

35. Abraham Lincoln, second lecture on Discoveries and inventions, Jacksonville, IL, Illinois State library, Feb. 11, 1859. Retrieved Jan. 2, 2011.

attached to the innovation. It's only because of, somehow, fair patent system that we are harbouring the fruits of new inventions every day.

Patents also cause the dissemination of knowledge to the other firms which further results in allocation of resources for delving further deep in research and development. One will be flabbergasted to know that granting Patents is the most potent conduit through which knowledge flows and technology is transmitted. French economist Leveque and Yann Meniere came up with some astonishing survey that 89% of the developed States businesses bank on the information revealed by the Patents which help them to continue technological advancement and redirection of R&D endeavours. Meaning thereby, Patents make the downstream spill over effect possible. [36]

Licensing practices discreetly keeps a tight rein on the access for further research because the broad patents give the proprietor a strong bargaining chip. Their robust bargaining state enables them to extract supplementary revenues through licensing.

3.2: Economics of Patents Policy:

The economic aspect of patents is that they tend to propose a bargain between the society and the inventor and in return get and exclusive time frame of its ownership. The inventor who makes his invention public also makes sure that it is no more a secret.[37] Moreover, the economics of patents also implies that once a new thing is produced, its knowledge should be made public without diminishing its cost so that the real inventor may reap the benefits of his hard work and the ensuing researchers can also take it to the next level. Relevancy and the importance of patents in terms of economics can also be judged from the fact that the first maker is unable to take home as much money at par with his invention sans the patents laws. The Yale University conducted a survey of both categories of states with and without powerful patents laws and they came up with this astonishing data that inventors are taking more money and the economy is also booming in the states where

[36] . The economics of patents and copy right, by Francois Leveque and Yann Meniere, Monopoly Berkeley Electronic Press, July, 2004.

[37]. Patents and patent policy, article by Brown H. Hall, Vol. 1, 2010, University of California and University of Maastricht.

patents laws are more sensible and strong. This shows the strong nexus between the patents and the economy. [38]

First and the foremost duty of every state is to provide economic stability for the citizens created upon service based economy tinged with positive competitiveness. Patents too, play very important role in the economic development in any state. In fact, role of patents in the economic growth is on the increase. In the last decade, patents application filing in industrially advanced countries rose by almost 40%. Patents are double edged weapon, they can halt further development or they can nurture progress by sharing knowledge and ensuring healthy competition. If the patent Laws are so stringent that any innovation is declared as infringement on the inventor's rights and damages are awarded by the courts the economy will not grow, in the same vein, if the laws are too lax, infringement will be the order of the day making it the law of jungle. [39]

To invent a new product, huge amount of hard work, time and above all, hefty sum of money is required. Those who copy it undercut the real amount denting a huge economic blow to the original maker of the artefact. An argument supporting this is that copying is not that easy and it takes time in research and development which comes with exorbitant expenditures. Meanwhile, the real inventor can reap the benefit of its production and innovation by pricing it higher than the normal in the open market. Until the period of exclusivity expires and others can copy cheap alternatives, the real inventor takes home the fruit of his invention. Hence, it's a win-win situation. [6]

The counter argument is that, in today's age copying is relatively cheap by dint of computer aided designs and the rise of gigantic firms having knack, specialization and insurmountable finance in producing alternatives to high priced products. Moreover, the Patent holders can fix a higher price than the original and bag home the cost of innovation.

Particularly, the progressing countries are required to establish such a cogent and supportive patent system where licences are issued to attract local and foreign investment.

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[38]. Do University patents pay off? Evidence from a survey of University inventors in computer science and electrical Engineering: Yale Journal of Law and Technology, 2009, article 2, vol. 16, Brian J. Love, Santa Clara University of School of Law.

[39] Bessen J. and E. Maskin(2000), Sequential Innovation, Patents and Imitation, MIT Department of Economics, working paper no. 00-01.

Moreover, they need to access and absorb the foreign technology as the developed countries have been doing at their developing stages. [40]

The data collected from the catalogues of Crystal Palace Exhibition in London in 1851 and the Centennial Exhibition in Philadelphia in 1876 suggest that patent laws influence the direction of innovation activity. In the nineteenth century, industrial innovation spurred the economic growth due to the absence of patent laws. Inventors focussed on industrial innovations; meanwhile secrecy was the tool which later on supplanted by patent law regime and the countries without patent laws became leaders in technology and industry.[41]

3.3: The Mechanics of Patent System:

Patent right does not accrue automatically. One has to apply to the concerned state office where the officials examine and scrutinize the application thoroughly. The process of acquiring the Patent is called Prosecution. To be patented, the patent product must be novel, must not be based on already existing patent and of benevolent nature.

Once patent is granted, it precludes others to use it in any way, without the permission of the patent holder. This right normally lasts for 20 years. This right is not auto enforceable; the patent holder has to initiate the proceedings in the court of law against the infringers. Courts have discretionary powers to decide. [8]

Mechanics of patents also include designs of industrial machines, transport vehicles models, factory designs, construction paradigms, paramedical equipment, all kinds of processing, measurements, energy production mechanisms and control systems. Even the video games also fall within the domain of Patentability. Other than that, business techniques and methods are also being registered as patents. Although their acknowledgment in the patent world is new but they are now, prolifically getting patented.

Initially, the patent holder who gives the license used to draw royalty for indefinite period of time but afterwards, the Supreme Court of America in its verdict abrogated this unjustified tradition that the right was conferred on the licensee that he may lodge a case in

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40. 'The Economics of Patents: from natural rights to policy instruments' by David Encaova Dominique Guellee and Catalina Martinez, 2008, chap. 3, p-74.

41. How do patent laws influence innovation? Evidence from 19th century world fairs, by Petra Moser, American Economic Review, vol. 95, no. 4 Sep. 2005, pp. 1214-1236.

the court of law and get himself relieved of this protracted licensee ship. [42] Even the licensee could preclude the patent holder from filing a case for the breach of license agreement.

The patent holder, though, can move to the court for the recovery of his outstanding royalties up till the time when the license is challenged. Even if the license is subsequently cancelled, he can claim the remaining amount. Instead of challenging the license agreement, the licensee can go to the court for the re-examination of the license. This option is cost wise less expensive and the remedy is available within shorter period of time. Nonetheless, today, the license holder has many remedies available if he decides to end the license agreement. [43]

Mechanics of patents also include, as expounded by Robert C. Faber [44], Patent Claim Drafting practices and tools that have strongly established by patent authorities and Patent norms. Mechanics of patents articulate time conserving tactics from the beginning to the end, guidelines on how to craft assertions for various types of patents; factual word precedents of effectual claim drafting. It also tells in minute details the acceptable words, phrases that we have to use in drafting for various occasions. You get directions about what to do to narrate the structures in the sketches and multiple other proposals on how to prevent usual mistakes. Mechanics teaches us to use appropriate terms, phrases and the drawing in drafting the patents. [12]

The video games mechanics can also be patented even the board games or the card games mechanics can also be patented but the condition is that they should be innovative and exclusive. The reason is that in the game mechanics there can hardly be any innovation because the game mechanics follow almost the same pattern but a uniquely innovative game mechanics can be patented.

3.4: Innovation Policy Formation:

Innovation is a wider term covering social, political, economic and technological aspects but here, we mean innovation in economic and technological fields, but innovation in

[42]. Monopoly theory Prior to Adam Smith: a revision, Raymond de Roover, quarterly journal of economics, vol. 65, Nov. 1951, pp 492-524.

[43]. "Innovation Policy" a guide for Developing Countries" by the World Bank Washington D.C. Feb. 17, 2004.

[44] . Robert C. Faber, Faber on Mechanics of Patents claim, 6th edition published by Amazon, Aug. 6, 2007, pp-345-357.

these fields hinges upon innovation in political field as well because after all, it is the government who devices all the policies and implements it. Whatever the policy may be, it's main emphasis should be towards life sciences and business techniques and on new products and services that are provided to the people. In this regard, private sector and public sector nexus can be very potent. [45]

With respect to innovation policy making, it is always the decisions made by governments that transpire into policies eventually in the form of different laws. But governments, in general need to consider following points while making the innovation policies.

1. Technological innovation should be at the apex when it comes to innovation policy because it's technology which is the hallmark of progress in the age of cutting edge technology.

2. Policies should be properly articulated and implemented backed by appropriate financial allocation and other relevant support. It is the unified effort which produces worthwhile results otherwise; individual efforts hardly make any difference.

3. Government ought to minimise the hitches in innovation, competition and regulatory legal frame work. Monopolies are then the natural sequel if the governments do not pay heed in the regularisation of innovation policies. Prime objective is the dissemination of knowledge and to discourage monopolies.

4. Significant attention needs to be given on science and technology, Research and Development (R&D). Research is the basic thing without which everything else is meaningless. Countries which are promoting research in science and technology are harbouring the fruits of development and prosperity. States which are exporting high tech gadgets are far more affluent than those who are exporting agro based products.

5. Requirements and requisites of the market economy and different communities should be equitably handled. Innovation policy should be focussed and in harmony with the needs and demands of the community or else time and money will go wasted.

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[45]. Are Patent Problems Stifling U.S Innovation? Bloomberg Business Week. April 9, 2009, 1:20a.m. PKT.

6. Local market competition, its intensity and entrepreneurship play vital rôle in overall progress of the economy which should be given prime importance by the policy making authority. It's the healthy competition which prompts the innovation and the price control that is the reason the developed states are continuously harping on the tune of free market economy and open competition. [46]

7. Last but surly not the least, is a firm and robust education system which furnishes the strong grounds for all time impeccable policy making because you have trained and educated man power working in all segments of the society. Otherwise, man power will have to be imported from other countries resulting in the flow of capital out of the country in the form of remittance. [14]

3.5: Current Issues and Concerns in Patent System:

The usage and relevancy of patent system has increased many folds in this rapid technological advancement. Many examples of the patents can be cited where they have revolutionised and modernized the technology. Number of filed patent applications has swelled many times, particularly in this recent one and half decade. It is indeed a happy prologue because it depicts the trend toward research and development. Despite all the good omens, it is not a win-win situation and smooth sailing for the stakeholders and the other beneficiaries. The patent systems in the world over are haunted by some tangible problems and issues which are sort of hampering the growth and dissemination of knowledge. Broadly, these problems can be categorised in two compartments, firstly, issues from within i.e. issues pertaining to patent filing procedure and secondly, issues from without i.e. sloppy performance of the patent policies and lackadaisical commitment of the government machinery to settle the patent cases speedily and on merit. [14] The external problems also include the current state of economy, booming or receding. Let's see these issues in some detail. [47]

3.5.1: Litigation Expenses: Contesting cases of gigantic corporations are enormously costly. Over lapping of patents is not a big deal when patent applications just

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46 . Current and emerging issues Relating to Patents-1/P updates. William F. Heinze, Sep.27, 2005.

47. Current and Emerging Issues Relating to Patents: world intellectual property organisation(WIPO), 2004, http://www.wipo.int/patent-law/en/developments/.

throng every year in millions causing spree of litigations to start in the courts. Exorbitant amount of money is spent on these cases. This money should have been spent on the research and innovation which is the hallmark of patent system. Big corporations spend lavishly to win cases in competition and rivalry. [48]

3.5.2: Patent Infringement and Remedies:

Patent infringement is a crime in any patent system of the world. Stealing someone's work and try to register it in your own name, amounts to infringement. We know that law protects the rights of all and sundry by offering different remedies. Then there is lot of turmoil in infringement matters. Patentee can sue the culprit and seek immediate injunctions orders. Courts can also slap the infringers with huge damages to discourage theft.

3.5.3: First to File Then First to Invent:

This is one major issue which is hurting the contemporary patent world to a great deal. Big corporations and companies manage to access the patent office before the original inventors do by dint of their money and connections. Moreover, for the authorities also, it is not that easy to determine the first inventor. Since the inception of this rule, litigation has been increased many times.

3.5.4: Race for the favourable Judges:

It is funny but true that parties to the Infringement cases look for the forum and the judges who they think would be biased in their favour. This is an utterly wrong practice because this hampers innovation. When the people will not have trust in the judiciary, the rights of the patent holders will be at stake. People work day and night with the trust that the fruits of their hard work is well protected first by law and then safeguarded by the courts. This situation is very upsetting for the authorities.

3.5.5: Money Shortage for the Patent offices:

Patent office mostly runs on the money received with the application fee. Examiners scrutiny the application and conduct all the inquiry about the originality of the patent and as to who the real inventor is and all that within these meagre resources. Due to economic

[48]. Harmonisation through Condemnation: is new London the key to world patent harmony? By Max Stul Oppenheimer. University of Baltimore School of Law, 2007. Pp-447-457.

recession, that money is also reduced. Patent office is in dire need of enhanced budgetary allocation for them. Only a robust patent system can guarantee strong and quality patents. With insufficient resources in their hands, the patent office holders will hardly weigh the patents on defined lines.

3.5.6: Dwindling Quality of Patents:

Mark A. Lamely, the author of the book, "Patent Crisis and How Courts can solve it", opines that the patent offices are overburdened by the patent applications e.g. U.S patent office receives about half a million applications per annum and around 710000 are still lying unheeded. The examiners have to wade through them pretty fast to expedite the process. This might be good but the dark side is that the quality of the patents has diminished to a considerable extent. He further adds that majority of the patents ought not to have been awarded at the first place. [49]

3.5.7: Re-application of the Rejected Application:

Another surging problem is that one time or many times rejected patent often gets approved because the filer keeps on filing the same patent again and again. What exactly happens is that if one examiner rejects it, the other one approves. This loophole in the system has augmented the quality issues of the patents. [50]

3.5.8: Healthy Competition is at Stake:

Companies and firms spend colossal amount and consume time for the lawsuits arising from the infringement matters. Healthy competition in the market suffers a lot due to animosity among the giant firms and corporations. Particularly, the information technology industry is getting affected to a great deal. Resources are drifting away from research and development and are being divested in worthless litigation. It also creates monopolies and monopolies choke the economic betterment. Government should act as a balancing player and should enact such laws which, on the one hand, ought to provide level playing field for all to promote innovation and on the other hand, shun such policies which hold back

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49. 'Patents crisis and how the courts solve it'? By Dan L. Burk and Mark A. Lamely, University of Chicago press books, ISBN, published 2009. Chap.3, pp-51-77.

50. Patent law harmonization in the age of globalisation: the necessity and strategy for a pragmatic outcome, by Dongwook Chun, Cornell law school, visiting scholar. Chap. 5, pp-138-222, 2014.

progress. Healthy competition symbolises all dimensional growth in the economy which is ultimately the responsibility of the governments, to maintain.

3.5.9: Interferences Proceedings:

When two or more patent applications are lodged simultaneously or within one year before the awarding of patent to the first application, the administration conducts the inquiry as to who is the actual inventor. Parties furnish the facts and the proofs to win the patent. These proceedings are called interference proceedings. In that, the one who applies first and is diligent enough to jot it down and gets it published, moreover, puts it into tangible operational form is likely to win the patent. This process continues unless only one applicant is left. Onus is on the subsequent filers that they have to bring forth irrefutable evidence that they are the first inventor.

3.5.10: Stringent Patents, a Menace for Public Health:

Patents which allow companies to monopolise on some of the important products, like life saving drugs or vaccines for lethal diseases e.g. HIV or Hepatitis cause severe damage to the public health. Companies keep the prices unreasonably high to bag R&D costs but due to the strictness of the patent laws other companies are halted to manufacture the same drug at cheaper cost. Particularly, in most of the African states and some other downtrodden states where such diseases are rampant but medicines are rare, curtsy their hefty costs and lesser production.

3.5.11: Exploitation of the Principle of Public Good and Dissemination of knowledge:

Patent holders get greedy and they demand unreasonably high royalties or fee for granting licenses. Whereas, patent laws vie for judicious spread of knowledge and any innovation should have spill over effect and should reach to the common people for the common good and welfare. This is a dichotomy in patent laws and the difference in theory and practice.

3.5.12: Patents and Nanotechnology:

Nanotechnology for a lay man is making the products smaller, stronger, smarter and more efficient. Scientists break down the matter into nanometre sized particles and then select the best ones amongst them to make better substance which is smaller in size as compared to the previous one but far better in quality. Now, patents block the development in nanotechnology in a way that for example, suppose, there is a product in the market with the inventor having its patent rights. If someone invents a new but smaller and smarter product but like the one already in the market, patent holder will sue on the charges of infringement. That's how patents are inpeding growth in nanotechnology.

3.6: Lack of Harmony in Patents Systems of Different States:

World Intellectual Property organization (WIPO), a wing of United Nations is venturing to harmonize the dichotomies in the patent systems of different states. There are so many irritants, given the rapid globalization of economies and emerging international trade, which are blocking the smooth spread of knowledge and innovation.

1. America is the only country where patent is granted to the first inventor whereas; almost the whole world particularly the industrialised world is awarding patents to the first applicant discarding the fact that who invented it first. Principle of one patent per invention is applied to decide the originality of the patent i.e. the one who applies for the patent gets it irrespective of the fact that whether he invented it first or not.

The major problem in bringing the two opposite systems in line is that the first to invent rule derives its legal authority from the American constitution mentioned in Article 1, Sec. 8 and Sub clause 8. So, the constitution has to be amended which of course is not that easy in American political system. Opponents say that it is unconstitutional and the debate ends then and there.

2. America grants patent to the invention which is absolutely new and innovative. But the rule is not that strict in other states where patents are awarded for new versions or improved articles as well.

3. In America, the patent holder's rights are secured even against the government but in many other states including China, Russia, India and Pakistan, the Patent holders rights are not protected against the governments. In Pakistan, the original Ordinance of 2000 in Sec. 3 a provision was provided which bound the government too but was latter on repealed by another ordinance. [51] They can cease it in the name of Nationalisation by any process decided by them, unilaterally. [52]

4. In case of granting licence too, a patentee in America is free to sell off license to anyone he chooses to but in other states the patent holder is subjected to many restrictions, like, he has to sell it to the potential competitors and as per the market price. The top most agenda in the WIPO's hunch for the harmonization of patent laws is the first to file rule rather than first to invent rule.

5. In America, the patent filer has grace period of one year but the same is not available in most of the world. After the lapse of this grace period, the patent is to be made public but the inventor wrongly thinks that in other countries the grace period is also available but that is just the misconception and he loses the right to file application in any other state.

6. Because of the existence of the two systems, an inventor has to seek two patents for the same invention, one from America and the other from some other country. American law further perturbs the inventor when he seeks the foreign patent in a way that he has to get the license or the permission to apply in some other state that requires at least six months time. This time lapse can be potentially suicidal for the inventor because during this time some other claimant can challenge his invention.

7. Till date, the patent laws differ from state to state and many technical issues need to be harmonised. To name some, technical aspect of the invention, description of the preceding art and barring from patentability are some of the burning issues concerning the lack of harmony.

8. Rule of territoriality of the patent laws is yet another bottleneck in harmonization of the patent laws. This stumbling block was first time brought to lime light by Dutch scholar Ulrich

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51 . Pakistan Patent Ordinance 2000, Sec. 2 (deleted)

52. Harmonization through condemnation: is new London the key to world patent harmony? By Max Stul Oppenheimer. 2007. Pp- 447-457.

Hubber and seconded by Prof. Harold Maier that the state laws are effective only within the territorial boundaries of that granting state. This principle was also corroborated in Dowagiae Manufacturing Co. vs. Minnesota Moline Plow Co. case [53] in America where the court held that the patent laws granted in America have efficiency only within the American territory. [54], [17]

9. Use of patent laws as a tactic for the uplift of economy. This, of course is the hallmark of patent laws that they are devised with the objective that they will boost the economy by increase production, job opportunities and hike in export. The administration first judges that whether this patent is in accordance with the policies and the developmental paradigm or not hushing aside the universal norms and international expediency.

10. Some jurists like, Luigi Zingales, Paolo, Adam Smith, John Stuart Mill and John Locke were of the view that culture does have an effect on the Patent systems, e.g. in Chinese economic culture there is no concept of Private property so, any inventor in such cultures does not know about his rights and the like rights of others in case of infringement. [55], [21]

11. Expenses that an inventor has to incur to get the patents are also different from state to state. To avoid infringement any multinational corporation has to obtain patent in more than one country e.g. any renowned company has to get patent from at least 15 states which costs it about $13000 for one patent. Ultimately consumers have to bear the cost in the form of exaggerated commodity price.

3.6.1: Effects of Lack of Harmony in the Patent System:

1. Rights of the patentees are not safe in other states. If one registers ones patent in one state, he loses his right to protect his invention any other state. It is very easy for the copier to have the same product registered in any other state hence, inflicting an endless damage to the inventor. For example Samsung or Apple launches any new technology in smart phones

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53. Dawagiac Mfg. Co. vs. Minnota Moline Plow Co., 235 U.S 641 (1915)
54. Frame with a secured against loosing locking block screw connection DE 19614761CL, Ultrich Dipl. Ing Hubber, export citation, July, 2014, OP8, Para 44, Patent law
55. Luigi Zingales on 'Incentive and potential capture of economist by special interest' economic talk, episode with Luigi Zingales, hosted by Russ Robert, Oct. 20, 2014.

industry and before they reap the benefit of their new technology, we see markets dumped with the identical and cheaper Chinese technology and nobody can do anything about it.

2. Competitors go to other states and make the production of the product operational. There is no system of coordination amongst the two or more patent houses of different states. So, the one who gets the patent registered in other states goes scot free and inflicts monetary loss to the one who actually deserves.

3. The grace period in American law diminishes the chances of obtaining patent in any other country because during that period if someone else applies for the patent he gets it on the principle of first to file. The original inventor might lose the chance to reap benefit from its own invention.

4. An inventor in America is constrained not to file application to any other country without prior permission or waiting for at six months. Meanwhile, he comes to know that his invention has been patented in some other country and finds himself completely helpless.

5. So far, the patent laws are restricted to a state but owing to globalization and rampant multinational trade, the rights of the inventors are at stake because there is clash of interests among the competing corporations. Hence, an assimilative patent system is indispensible to get the best wished results i.e. dissemination of knowledge and protection of the inventor's rights.

6. Import of the copied artefacts to the other countries where the same product is not patentable. This not only stifles innovation but also blocks the way of free trade under the WTO regime. This is because of the diversity and lack of harmony in patent systems of different states. The inventors are unable to reap some extra benefits in international trade. [56]

Harmony of the Patent Laws and coordination amongst the patent houses of different states are the exigency of the time. This way, not only the interests of the inventors will be better protected but the states will also not have to face the frustration when their laws are blatantly violated right under their noses. Petra Moser, however, is of the opinion that the

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56. Korean Intellectual Property office (KIPO), the survey on intellectual property activities in Korea 84-85, (KIPO, 2009)

introduction of uniform patent laws across the world may reduce rather than increase variation in the direction of innovation between the developing and developed world[57].

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17. Are Patent Problems Stifling U.S Innovation? Bloomberg business Week

18. Current and Emerging Issues Relating to Patents-I/P Updates

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21. Harmonization through Condemnation: Is New London the Key to World Patent Harmony? By Max Stul Oppenheimer

22. "The Patent Crisis and How the Courts can solve it", by Dan L. Burk and Mark A. Lemley, published 2009.

23. Patent Law Harmonization in the Age of Globalization: The Necessity and Strategy for a Pragmatic Outcome. By Dongwook Chun, Cornell Law School, Visiting Scholar.

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25. Luigi Zingales on "Incentive and the Potential Capture of Economist by special interest", Economic talk, episode with Luigi Zingales, hosted by Russ Robert.

26. "The Global Innovation Policy Index" by Robert D. Atkinson, Stephen J. Ezell, Luke A. Stewart.

27. Korea Intellectual Property office (KIPO), The Survey on Intellectual Property-Related Activities in Korea 84-85 (KIPO, 2009)

28. Frame with a Secured against loosening locking block screw connection DE 19614761Cl, Ultrich Dipl. Ing Hubber, export citation, July 2014. 1994, OP8, para 44, Patent Law.

29. Sir William Thompson referred by B. Zorina khan in her article, "The Democratization of Inventions: Patent and Copyright in American Economy Development from 1790-1921".

30. Edward Belly, Swiss Commissioner was cited by Carlos M. Correa in his article "Patent Examination and Legal Fiction: how rights are created on fact of clay", research paper 58, Dec. 2014. South Centre.

31. Korehiyo Takahasi assist. Secretary of State, quoted by David kline in his article, "Do Patents truly promote Innovation".

Chapter: 4

First Filing then First Inventing Rule in America and its Implications:

First filing or first inventing has long been a hot topic in the international arena of Patent related laws. Before getting a complete knack of it, it is necessary that three important dates in patents which are of extreme importance in applying and winning a patent should be properly understood. First, when the inventor thinks of the idea in its complete form i.e. the idea about the invention. Second, the date of his transpiring the invention into practice, by preparing its prototype and putting it into test trial. Third, the date on which he applies for the patent. So, the whole patent process makes these three dates very important. First to file a patent is a legal rule which entitles the One to be granted a Patent who applies first to get one. Almost all the countries, America and Philippines were the only exception to have this rule when it comes to awarding Patents. Now America has also transformed itself to First to File, from the time tested, First to Invent rule, in the back drop of Promulgation of American Invents Act on March 16, 2013. American law also deviated from the old law in terms of awarding grace period. American law gives away time called Grace Period during which the inventor can file request for granting Patent but under the European law no such Grace period is granted. In this regard it can be deduced that America switched to first to file system but in smarter way. [58]

58. 'First to invent, first to file, or first to disclose patent reforms incentives', by Mark Bledsoe and Jake Neo. Monadiq, Dec. 9, 2011. Dredley Arant Boult Cummings LLP.

4.1: Relevant Concepts:

4.1.1 First Fling:

In first to file system, the right to name a patent with ones name rests with one who applies first irrespective of the fact that who invented first. Means first come first take is the rule for registering a Patent.

4.1.2: First Inventing:

This concept is very simple i.e. the one who invents anything useful for the first time, is the first inventor and has exclusive right to claim Patent viz-a-viz others for the protection and safety of his invention. In normal course of events, the one who files first is deemed to have invented it first but in case, someone else also files for the identical invention subsequently can resort to interference proceedings which is, anyway, costly and time consuming. But in case of conflict ushering from filing of application by two different inventors but for the same invention, there is a process in America to determine the genuine first inventor called "Interference Proceedings". This is little protracted and a bit costly procedure but nevertheless, very effective one and has worked effectively in American Patent regime so far. [59]

4.1.3: Concept of Grace Period:

If some inventor makes some invention and he discloses it likewise in some seminar or any public gathering related to it after putting it into practice, he incurs the right of grace period of one year. Meaning thereby, public disclosure is more important than actually reducing it into practice that's the reason this system is famously known as "first to disclose" system. Grace period ensures that your Patent can not be stolen provided you have disclosed your invention by publication or at seminar.

Many countries have been pushing the **U.S.** to switch to First Inventor to File (FITF) for decades and have intimated that they would be willing to provide valuable consideration in exchange by adopting a six-month or one-year grace period. [60] A "grace period" is a length of time in which a patent application can be filed after public exposure of an invention

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[59] . Essential of intellectual property', by Alexander I. Poltorak and Paul J. Lerner, Amazon, 2nd Edition, chap. 3, pp- 34-47. John Wiley and sons, 2004.

[60]. Barkeley Technology Law Journal by Margo A. Bagley, vol. 23, issue 3, Summer 2008, Article 3, pp 1055-57.

without impairing its novelty for patentability purposes. [61] Inventors must file patent applications in the Unites States Patent and Trade Office (USPTO) within one year of disclosing the invention to the public: otherwise they forfeit the right to patent the invention. [62] In the **U.S.**, prior art that defeats patentability includes printed publications from anywhere in the world, public knowledge or use of the invention in the **U.S.** before the applicant's date of invention, or public use or sale in the U.S more than one year before the patent application filing date. In particular, an academic researcher can lose the right to obtain a potentially lucrative patent on an invention by publicly not disclosing his invention (through public presentation, publication, etc.) more than one year before filing a patent application. [63]

The definition of "printed publication" is very broad; courts have interpreted the term to include microfilm, microfiche, internet postings, videotapes, and most recently slides affixed to poster boards, as long as they are publicly accessible. [64] Thus, if researchers who engage in early public data-sharing do not track and control the timing, nature, and circumstances of disclosure, they may jeopardize their ability to later patent findings. In countries without a meaningful grace period, an inventor is precluded from patenting his invention if he discloses the invention to the public before filing a patent application. Thus, inventors whose discoveries will require patent protection abroad to fulfil their commercial potential do not enjoy the benefit of the U.S. grace period in other countries.

The grace period is an important policy tool that recognizes an inventor's need to assess the commercial potential of an invention or to engage in public academic discourse before deciding to seek patent protection. Access to a meaningful grace period also can be important to independent inventors who often need to disclose their inventions to the public in order to assess the invention's commercial potential and need time to finance the patent procurement process. Moreover, the one-year grace period provides important flexibility to university researchers, many of whom become entrepreneurs through commercializing research initiated in an academic setting.

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61 . See IPR helpdesk, supra note 22, at 23

62 . 35 U.S.C. 102 (b) 2000.

64 . In re Klopfenstein, 380 F.3d at 1352; In re Hall, 781 F.2d at 226, Howmedica, 530 F. Supp. at 860, 250 F. supp at 743.

4.1.4: Concept of Interference Proceedings:

As elaborated above, first inventor takes it all but in case of clash the fact that who actually invented it first goes to Board of Appeals at US Patent Office who decides the factual position about the first Inventor. The question before the Board of Appeals is whether the inventor was proactive in transforming and transpiring it into practical reality or not? Moreover, the board of appeals determines who amongst the contesting parties conceived of the idea first. Hefty amount is also required for this procedure but since this happens rarely but effectively in favour of the first inventor, that's the reason it was hailed as good in US Patent system. This procedure is so rare that most of the patent lawyers go through their entire career without even a single case of interference proceedings. [65]

4.1.5: Prior Art Concept:

According to the draft SPLT [66], 'the prior art with respect to a claimed invention shall consist of all information which has been made available to the public anywhere in the world in any form [as prescribed in the Regulations] before the priority date of the claimed invention' (article I.8). This concept is broader than the corresponding concept in Rule 64 (1) (a) of the PCT [67], which only considers 'means of written disclosure (including drawings and other illustrations)' as prior art.

The eventual harmonization of the concept of 'prior art' would require agreement on a number of issues on which national laws differ.

4.1.6: Concept of Novelty:

The definition of 'novelty' is extremely important. Since, the TRIPS Agreement allows Members to adopt their own concept, United States, for instance, has been able to maintain its relative novelty standard with respect to the place where disclosures have taken place.

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65. Dennis Crouch, Patent reforms: Patent Act of 2005, blog entry, patently-O, June 9, 2005.
66. Substantive Patent Law Treaty.
67. Patent Cooperation Treaty, rule 64 (1) (a).

An invention is considered to be new if it does not form part of the state of the art. [68] Novelty ushers by comparing the existing prior art at the date of filing or the date of priority and the claimed invention. The issues mentioned before with regard to the prior art have, hence, a bearing on the concept of novelty.

In a decided case of Earth factor (Private) Limited vs. Patent Office, IPO-Pakistan, The honourable Judge decided that the acceptance of patent for duel Sim card seems to be neither an invention nor a novelty. [69]

In practice, the concept of novelty is narrowly construed by patent offices, requiring in some cases an almost the exact disclosure of the invention in a single prior document in order to consider that novelty does not exist. Critical issues are raised, amongst others, in cases where an invention is not found *Expressis Verbis* in a document but may be derived there from, and where an invention is chosen from a family of products already disclosed (the so called 'selection inventions'. [70]

4.2: A Growing Problem, Particularly in America and its Implications:

The previous patent system was fairer where the real inventor would secure the patent to his name but under the current system, the real inventor might find himself in relatively more precarious position and the thought that his invention might be stolen always lurks in the back of his mind.

There was a system of Interference Proceedings by which even if someone steals your invention and files a petition and gets the patent, you still had definite relief by just tabling proof of your first inventing it and the authorities would annul the previous patent and would grant you the patent.

Some critics say that interference proceedings were very protracted and exorbitantly costly but the counter argument is that whatever the case may be; it was fairer in a way that at

[68] . Pakistan Patent Ordinance 2000, sec. 8.
[69] . 2014 CLD 897.
[70] Selection inventions are deemed patentable in some countries but found un-patentable where a strict novelty requirement is applied i.e. in Germany also see e.g. Grubb, Phillips, (1999), Patents for chemicals pharmaceuticals and biotechnology. Clarendon Press Oxford, pp. 196-199.

least the researchers and inventors were at ease that their hard work will eventually pay off and will not go wasted. In this vein, small inventors would drop the idea of challenging it because as is said that it is costly and time taking and that they have neither time nor resources to follow the proceedings. [71]

Opponents of this system also rely on the point that interference proceedings were very few e.g. since 2007 of all the patent applications filed, only 1.1% were put to interference proceedings. But be it very little in number, still it was a big sigh of relief on the part of the inventors that their life's work would give them dividends.

The giant companies and corporations are more to benefit from first to file system as they have the resources and money to reach up to the patent office before others do. These corporations utilise their connections and resources and exert undue influence to outsmart their rival companies to get their inventions registered. They can and they do manoeuvre the system in their favour while putting the interests of small inventors at stake. Big companies have well set invention disclosure procedure, patent syndicate and a militia of advocates at their disposal that would invariably surpass a lone inventor. It is not a big deal as the big companies and corporations not only have more funds but they also have greater and better labs and researchers to carry on the inventions but the smaller companies don't have to worry as with the help of Patent Lawyers by their side, they can also safeguard their interests. [72,73]

Moreover, first to file system has led to the mad race for filing the patent as early as possible because they know that even a slight delay will result in losing the patent. This frenzy of filing the patents causes three major problems. First, the quality of the products has decreased to a large extent. Means, markets are thronged with substandard commodities, products and gadgets with almost no benefit for the society. Secondly, they also infringe the right of the inventor to bag the fruit of its invention for two decades. Slight modification and improvement make them eligible to file application for another and the spree of filing patent for petty improvements is on the increase with every passing day. Thirdly, half cooked patents are filed with hardly anything new in it. The beauty of the previous system was that

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71. Patent reforms: innovation issues, by Wendy H. Schacht, John R. Thomas. CRS Report for Congress, July 15, 2005. Pp-7.

72. Federal trade Commission (FCT), to promote innovation: the proper balance of competition and patent law policy, a report by FCT. Oct. 2003.

73. National Research Council (U.S) committee on intellectual property rights in the knowledge-based economy. A patent system for 21st century, Stephen A. Merrill Richard C. Levin and Mark B. Myers, editors 2004

the patent was awarded to the one who invented it first and was denied to the one who just defeated the others in the crazy race of first filing. [6]

Another grave problem with FTF system is that "Silence" can be more lethal than anything else. Meaning thereby, if you have invented something and you are taking time in its improvement or getting it more functional or operational and somebody else files the patent, you shall end up losing your invention as somebody else would steal the show. But this precarious situation can be hushed away if the US Patent Department makes easy the way to "provisional applications" which, if not done properly; many legitimate inventors will lose their right on holding Patent. The potential drawback to this provision is that a spree of provisional applications will flood the US Patent Department. This onslaught of innumerable applications will leave the authorities with no choice but to switch back to first to invent system tinged with Grace Period. It's the tag of grace period that makes this system fairly workable. [74]

The biggest challenge to America, with respect to switching to first to file system is from the constitutionalists who allude to Article 1 clause 8 of US Constitution that unequivocally binds the Congress to promote science and technology thus, securing the rights of the inventors and authors, though, for limited time. Now the point is how come Congress will protect their rights when it itself has clogged it by granting it to the first filer rather than first inventor, be the first filer a thief of somebody else's invention? America has to either switch back to the previous law or shall have to amend the constitution and about US constitution we all know that it's not that easy. [75]

With the outgoing law, America could bag more inventions and more inventors were disclosing their inventions harnessing on the grace period. The reason is that researchers after having making their inventions public i.e. by public disclosure have ample time to work on their project without any fear of stealth. Observations show that until America was stick to first to invent rule, the numbers of patent application were greater and ever since America turned FTF nation, number of inventions decreased significantly.

Quality of the inventions has also decreased to a great deal. First to invent rule would give sufficient time to the inventors after disclosure, as is said earlier, in the grace period.

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74. A brave new patent world-first to file becomes law, by Gene Quinn, IP Watchdog, March 16, 2013.
75. Anticipating first to file: what to do to prepare for the United States Patent System's challenge to first to file, by Morrison & Foerster LLP- Otis Littlefield. Lexology. Jan. 23, 2013.

Extra leverage in that rule was that inventor was not to disclose the full prototype of the invention just theoretical idea was considered sufficient to make the prior application. So, researchers would work hard for full one year to reduce it into practice free from any scary thoughts. This facility is of course not available in FTF law. [76]

Inventors would discuss their unique and newly conceived ideas with other colleagues or friends scientists and would get fruitful ideas to improve upon it, once they had disclosed it. This is quite normal and natural as the collaboration, cooperation and alliance is the essence of technological development and progress. We all know that positive criticism and clash of ideas are so important for the improvement of anything. They knew that their idea, even if it is there in their diary is conclusive proof of their ownership after they had disclosed it. Under the new system, the one who thinks of any innovative idea does not share it even with friends lest it should be stolen. It has transpired into reducing the quality of the patents. [77]

Proponents of FTF system rely on the argument that this is more akin to the rest of the world i.e. the rationale is to harmonize the patent system with almost the rest of the world. This comes with heavy price as America is undoubtedly the leader in introducing the innovative products in the world. American business will get a severe blow by FTF system as those who copy their products will flood their markets with their own goods at considerably low price. So, thieves will get benefit more than America itself will.

It can be conclusively said that Americas first to invent system was much better in all respects. The framers of the constitution were worthy enough to foresee the precarious position of the small inventors and had the wisdom to procure their rights by setting basic parameters in the constitution for the patent laws. This system had served America for well over two hundred years and we all bear witness to it that it had done superbly good. I reckon that big Corporations and the lobby of business tycoons are behind this move deliberately to lend favour to the big business men. [78]

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76. First to file vs. first to invent: a bone of contention in the International harmonisation of U.S Patent laws, by Sheldon Mak Rose and Anderson. Chap. 3.2, pp- 12-13. Jan. 2008.

77. Competition , innovation and racing for priority at the US Patent and Trademark Office, by Linda R. Cohen and Jun Ishii, Sep.2, 2005. USC research paper no. CO5-13 and 05-22, pp-35-36.

78. Global patent protection: the international patent system and the new Administration, by Bruce L. Lehman, 2003.

4.3: An Overview of Patent Laws of America:

American patent laws regime finds its legitimacy from the Constitution. The founders of the constitution were wise enough to procure the rights of the inventors and gave away constitutional cover to all the future innovators in the garb of the idea of promotion of science and technology. *Article 1 section 8* made it mandatory on the Congress to support technology by giving shelter to the inventors. Constitution says, ***"Congress shall have power to promote the progress of science and useful arts by securing on limited times to authors and inventors the exclusive right to their respective writing and discoveries".***

The authors of the constitution have left strong reason to believe that the constitution is rather distinct as to whoever the actual inventor may be; the American administration is duty bound to secure his right by dint of true letter and spirit of the constitution. In fact, it binds the Congress primarily; that it is its obligation to procure the rights of inventor for the sake of promotion of science and technology.

The first ever patent law of America was incorporated in their system back in 1790 by which basic things such as rules for applying and other preconditions, rights of the inventors and United States Patents and Trade office was established. This law kept on serving the nation for well over 150 years only when it was revised to cater the needs of the modern age. Then American Inventors Act of 1999 (AIPA) was integrated in the system.

These patent laws elaborate the subject matter for which a patent can be acquired and the prerequisites for patentability. These laws also set up the United States Patent and Trademark Office to govern the laws pertaining to the Patents and make rules for the smooth functioning. It goes without saying that both patents and competition play indispensible roles in the promotion of innovation. Competition gives driving force to innovation. It is normally believed amongst the community of inventors that if we do not invent, someone else will do it, so why not before them. [79]

Patent Reforms Acts of 2005 and 2009 were next in the line of making the US patent system go in tandem with patent systems of top trading partners of America. Moreover, it shall also introduce highly required conviction and firmness in the whole patent procedure.

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79. Patent trolls erode the foundation of the U.S patent system, by Daniel P. McCurdy. Recommendations for Reforms. Centre for American Progress. Jan. 12. 2009.

In the U.S. FTI system, there is a default preference for inventors to seek patents and disclose inventions rather than to keep inventions as trade secrets. The only prior user right currently in U.S. patent law covers business method patents and was introduced in the American Inventor's Protection Act of 1999 due to concerns about this new patent-eligible subject matter. However, in advocating a move to FITF in the Patent Reform Act of 2005, Professor Mark Lamely noted: "The section only works if the bill continues to include the provisions requiring publication of all patent applications and expansion of prior user rights. *If these provisions are not included, Congress should oppose the move to first inventor to file."* The House patent reform bill, H.R. 1908 provides neither of these features and neither Senate bill, S. 1145 or S. 3600, meaningfully expands prior user rights. Another commentator, litigator, and interference practice expert Charles Gholz, is in favour of U.S. adoption of FITF in exchange for Europe and Japan improving their handling of FITF related interference issues. Again, neither the House nor Senate bill contains a provision tying FITF to Europe and Japan's accommodation of these concerns. Consequently, a U.S. move to FITF without prior user rights and without addressing FITF interference issues will not bring true harmonization with other patent systems on these important issues. Moreover, moving to FITF without fully analyzing the pros and cons of whether the U.S. should adopt prior user rights seems premature and ill-advised. These are just two of several reasons for using caution when moving forward with FITF at this time. [81]

4.3.3: Publishing Patent Application:

Before 2000, US patent applications were not liable to be published but after the passage of The Act of 2005 pre grant publication of the application 18 months after filing, is made permissible provided that the applicant certifies that he has not applied for the same Patent anywhere in the world.

4.3.4: Pre Issuance Protest:

Almost all the countries acknowledge objections only after the grant of a Patent, some countries like, Australia and New Zeeland have opted for otherwise i.e. they permit it prior to the Issuance of Patent. But in America, that is the only available option for the third party to

81. Barkley Technology Law Journal, by Margo A. Bagley, vol.23, Issue 3, article 3, Pp, 1048-50. Summer, 2008.

raise their hue and cry if they think that there is anything wrong with the application. Since, they can have remedy only through the courts; they can resort to protest to buy time for competitors. American law now recognizes this right of the third parties that they can lodge protest. [82]

4.3.5: Damages for Culpable Infringement or Transgression of Patents:

In the latest revision and modification of the wilful incursion of the Patent laws, America has made its law more robust where absolute damages are available to the grieved party. Parties outsmart these or one can say, bypass these laws by avoiding knowing about the latest patents, so that, they may claim that the violation was not deliberate.

4.3.6: Law of Discriminatory Treatment:

Parties are permitted to raise the objection under the pretext that proper rules and regulations were not followed while granting the patent and that they have not been treated fairly. American laws are on the move to make these laws more cogent to make the parties respective positions clear.

4.3.7: Designattee is also permitted to Apply for the Patent:

In America, any person who has the authority can get the patent of inventor as a proxy, as is already followed by most countries in world that person designated can also apply for the patent. All he needs is an authority letter by the inventor or a company on whose behalf he acts and his legal position will be like an agent and is responsible for his acts in that capacity. Principle of indemnity also applies if he incurs some loss to the inventor.

4.3.8: Rules for Granting Injunctions:

Injunctions are awarded but not so frequently as the plaintiff has to fulfil certain conditions for that i.e. they have incurred genuine loss due to a specific patent and that they have no other remedy available in any patent law and that considerable hardship is there if they choose any other option and most importantly, the public interest will not be at stake in case they are awarded injunctions. Information technology inventors tend to avoid injunctions as one injunction halts their multi thronged production.

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[82]. Compulsory Purchase? It is more like legalized theft, by Colette Douglas Home (Columnist), heraldscotland 23 April, 2013. Para 3, 4.

4.3.9: Trade Secrets can be patented:

Trade secrets were not permissible to be patented earlier than 2013 but after the passage of new law, applications are entertained where patent offices have given this leverage to the inventors that they may hide some of the strategic information or methodologies with the purpose of avoiding theft. Meaning thereby, they do not have to disclose all the information regarding their invention rather, they can have this information patented in their name.

4.3.10: Re-patenting of Inventions:

Likewise, previous inventions can be re-patented provided some marked improvement has been incorporated in it. This allows improvements on the previous one and the inventor goes happy by having that patented too.

4.3.11: Prior Art Provision:

To have your patent registered, one has to prove that what has been mentioned in the application is the prior art. If some innovation is not established as a prior art, patent shall not be granted on that. [83]

American Switched to First to File From First to Invent in 2011:

In 2011, the Leahy-Smith America Invents Act (AIA) enacted the most significant change to the U.S. patent system since 1952. After decades of debate in the U.S. comparing and contrasting the pros and cons of "first-to-invent" versus "first-to-file" systems, the AIA switched the U.S. patent system from "first to invent" to "first inventor to file". The U.S. had been the last remaining country still using a first-to-invent system. The AIA reforms eliminate interference proceedings and develop post-grant opposition. Its central provisions went into effect March 16, 2013 for patent applications filed that day or afterwards.

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83. The IP Commission Report, on the theft of American Intellectual Property 2013, by National Bureau of Asian Research.

4.4: First to File than First to Invent is Hampering Innovation:

To get away with First to invent law is really not needed. First to file (FTF) system is not going to give America any benefit whatsoever. David L. Simon writes that FTF law will grant patent rights to more clever and perceptive filer and not to the rather astute inventor which is certainly not permissible. [15] FTF system is not a magic potion that will relieve America of all its Patent related problems. A system which is clearly inferior to America's First to Invent law does not qualify to be adopted just because it is being followed by majority of the world. [[84]]. First to Invent system has so far triggered extraordinary development. The major incentive under first to invent system was the good amount of profit without involving others in the share. Professor Conley remarks that American Patent system has always been remarkably different with respect to its working environment.[16] This system has always been unique in the developed states be they capitalists, democratic or communists.' [[85]]

Even supporters of FTF system admit the fact that American law is tremendously useful. Association of American bar reiterated, 'it looks very much possible that those features which make our system different from others are the reason of outstanding growth rate of our country'. Professor Gore claims that as compared to FTF nations, the number of patent applications filed in America is way too much because the prime object of first to invent system is the protection of rights of inventors and to grant them exclusive right for their innovation. [18], [[86]]

After the industrial revolution, the world modernized itself, courtesy, all pronged inventions. Patent laws were always there to protect the rights of inventors and to facilitate the process. Those who are up for cheating always manage to find the lacunas in the legal provisions. Such a legal provision is "First to File" system which is now part of American Patent laws and is the part of all round efforts to bring American laws in line with the rest of the world. Irrespective of some of the positive changes, this law has, to a great deal, clogged

[84]. David L. Simon, the first to file provisions of Patent reforms Act 2005 violates Constitution's Intellectual Property clause (2005) i.e. Article 1, section 8.

[85]. Prof. Conley, supra note 11, at 782.

[86] . Brad Pederson and Vadim Braginsky, 'the rush to first to file patent system; is a Globally standardized patent reward system really beneficial to patent quality and Administrative efficiency. Vol. 7, Issue 2, Article 12, 2006, pp- 757-775.

the development of patent laws regime. [20][87] The excerpt of the law by witch America switched to first to file from first to invent is as under for consideration.

United States Patent and Trade Office (USPTO) gave the précis of the modification incorporated in the patent system,

(1) Convert the U.S. patent system from a "first to invent" system to a "first inventor to file" system; (2) treat U.S. patents and U.S. patent application publications as prior art as of their earliest effective filing date, regardless of whether the earliest effective filing date is based upon an application filed in the United States or in another country; (3) eliminate the requirement that a prior public use or sale be "in this country" to be a prior art activity; and (4) treat commonly owned or joint research agreement patents and patent application publications as being by the same inventive entity for purposes of 35 U.S.C. 102, as well as 35 U.S.C. 103. These changes in section 3 of the American Invents Act (AIA) are effective on March 16, 2013, but apply only to certain applications filed on or after March16, 2013. [88]

American patent law network is shattered and the prime reason is that in today's world every single item is tendered for registration as a patent. Hefty amount of fee is being charged and prolific patent filing spree is submerging the patent houses. These patent holders are capitalizing on the laws and are challenging the genuine inventors in the federal courts of law. This is so discouraging and demoralizing for the real inventors thus, hampering the way to innovation. Numerous new companies shun putting up reasonable contest in the market. The natural sequel of all this rubbish is that most of the extremely useful innovations are stuck in meaningless litigation process and the consumers end up having meagre useful items in their hands.

The hallmark of the patent laws is to promote innovation and the disbursement of knowledge for the benefit of the public at large but the reality is direr where instead of the uplift of the inventors and innovators, it is the lawyers and the law firms who are being promoted. Some firms keep on sniffing the law suits regarding patents to fish in the troubled waters because it is their major source of income. Economists wary about the emerging

[87]. David L. Simon, the first to file provisions of the Patent Reforms Act of 2005 violates constitution's intellectual property clause (Nov. 2005) available at SSRN.
[88]. American invents Act, March 16, 2013, clause ii.

situation as lots of handy invention having value are entangled in malicious cobweb of lawsuits. [89]

4.4.1: FTF is Ruthless on Small and Solo Inventors:

Big chunk of American economy hinges upon the small companies and independent inventors. If they file first, they cannot complete their work within prescribed time thus, lose their right. Big companies have the resources to file at the earliest and then complete their work on inventions well in time. They can invariably file first and then complete the project in minimum possible time. FTF is distinctly biased in favour of the multinationals at the cost of those having limited resources. FTF blesses the paper work only and does not bother to know the actual invention. [90]

Midget inventors do not have the resources to keep inventing and keep filing first and carry on research in developing and improving on these inventions. Undoubtedly, they are out of the loop. Pygmy inventors cannot endure such an inimical environment. Under FTF system, the danger always lurks that the gigantic companies would steal their ideas by dint of their prowess, file first and duly get the patent. Creativity suffers and an inventor is disheartened by having to deal with a system that does not welcome innovation but confers business mindedness and the wit of exploiting the ingenuity of lone inventors. On the other hand, first to invent system offers level playing fields for all and sundry. [91]

4.4.2: FTF will lead to Litigation Spree:

No matter how diligently and carefully you prepare the patent application, it most likely, will subject to misleading interpretations and for every new interpretation, there is a new case filed in the court of law. That's the reason FTF is prone to litigation. [92]

The Association of Manufacturing Chemist observed during the Congressional hearing that FTF system will obligate the filed applications with narrow scope, premature and prophetic filing, unscientific and unsound disclosures by less competent inventors which is detrimental for the high profile scientists. Europe is the epitome of this drastic situation due

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89 . "Patent Reforms: Innovation Issues" by Wendy H. Schacht, John R. Thomas. CRS Report for Congress froCRS Web. The Library of Congress, July 15, 2005. Pp-10.

90 . Pederson and Braginsky, supra note 123 at 768.

91. Doug Harvey, 'reinventing the U.S patent system: a disclosure of Patent reform through an Analysis of the proposed Act of 2005.

92 . Autogiro Co. of Am vs. United States 384, 397(Ct. CL.1967)

to FTF system in vogue there. American experts have declared many European patents as inefficient and less informative.

FTF literally provokes inventors to go and file first lest they should be by passed by some more agile copycat. This naturally builds up pressure and the result is half baked patent applications. Patent applications ought to be very skilfully drafted compact piece of informative writing. Hence, quality degradation is but obvious. [93]

This bunch of patent laws may be as per the needs of the day and might be laudable but their unwanted fungal threads have ensnared the whole system. There are uncountable examples where so many people and firms have been granted patents for petty inventions. So much so that, some of them have been awarded with the inventions yet to be brought into tangible form. What happens next is that such patent holders sue the actual inventors and the originating companies. Such a large number of worthy inventions are jumbled in the quagmire of litigations. Solo inventors and infant companies find themselves unable to compete in such state of affairs. [5, 12]

Innovation also gets hampered by the fact that the patent houses are organised and funded by different sources. This also has a marked impact on the working and decision making of the patents. Laws are no doubt, made by the Congress but the way courts of law interpret them also play a great deal of role. It is not just that, the execution procedure also has its own implications, like paying the fees and other modalities. Many companies deem it appropriate to drop the patent altogether instead of wasting time and money to no avail. [94]

Now that the organizational paradigm and the modalities have been modified, the Congress has changed the basic nature of the substantive law. Companies are more than happy to have non-genuine ideas winning the patents and the patent houses are over-crowded with doubtful applications. The companies with best available lawyers can afford the litigation and can win the battle for innovation too. Smaller companies and firms cannot endure the pressure resulting thereby, many genuine innovative ideas stay back in the minds of scientists. [95]

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93. Jack Zemilicka, Patent Changes Pending, Wls. L.J., quoting remarks of attorney Joseph T. Leone.
94. Innovation and its discontents: how our broken patent system is endangering progress and innovation and what to do about it? By Adam Jaffe and Josh Lerner. 2004, Preston University Press, Chap. 2, pp- 56-77.
95. A brave new patent world-first to file becomes law, by Gene Quinn, IP Watchdog March 16, 2013.

It is also important to understand that the new law carries lots of snares and loopholes. Those who do not understand its seriousness will be flabbergasted to know the laxities and leverages provided in these laws for exploiters and cheaters and this system has tightened the noose on the original inventors. Law also allows re-patenting of the inventions which are already granted patents. This will open up new Pandora's Box. Congress has overhauled what was called prior art concept. Now applicants can win the patent for unripe ideas and inventions. Discreet selling of any devise can never be called a prior art even if it took place long ago. But present law permits it and accepts it as the prior art.

If some other person or some legal entity working on its own, separately and Independently, arrives at the same invention and then have it published in the form of an article or research journal before the first invention filed, the first inventor who applies and files an application will be unable to obtain a patent.

In First to Invent System, the trade secrets which were kept secret by the companies for discreet research and development and to be put to the fore when time will be ripe were not entertained for the grant of the patent. After 2013, with the first to file system is in vogue, these trade secrets are very much patentable. [96]

First to File also makes the whole procedure pretty much knotty that it is at the same time easy and difficult to get a patent. FTF enlarges the array of choices of disclosures which might be the prior art. They hamper you from getting the patent for your invention. To quote an example, FTF system has a moral catch over all prior art category of anything otherwise, openly disclosed. Other than that FTF sufficiently constricted the Grace Period which can shelter an invention from prior art. FTF system just protects an innovator from disclosure from or through the inventor. Another noteworthy flaw in FTF is that there is tremendous amount of insecurity whether somebody can obtain a patent or not and somebody does at all, whether he can defend it under the latest FTF regime? American courts are always found interpreting the patent laws. One that causes the greatest degree of uncertainty is the law of disclosure. The point before the court is that whether the disclosure is the prior art or it is not the prior art? The patent lawyers determine with their professional knowledge and expertise that to what extent that innovation is patentable. Mostly, the lawyers do not know if some disclosure is the prior art or not. Courts jump into the scene and expound exactly what law says. This whole scenario has not only augmented the level of uncertainty amongst the

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innovators but has slowed the progress. This is so discouraging for the scientists who devote their whole lives to invent something and someone else reaps the fruit of their invention. Collateral damage of this is that the evaluation of the patents has become a hard nut to crack for the patent offices. [97]

This does not end here, even after the interpretation of the court with respect to the prior art, next comes the defence of the American patents. Concerned examiners who examine the patent applications are in deep trouble when they are unable to evaluate the extent and level of Public Disclosure.

Innovative art is normally disclosed during some engineering and scientific workshops or Conferences. Examiner does not or to be more precise, cannot have the complete information about what and how much has been disclosed at such public gatherings. Examiner normally award patent for innovations despite the fact that before filing of the patent application, the invention has been made public. As compared to the examiners, companies are more resourceful and they successfully defend the patents or the patent claims because they can find the prior art.

With the new FTF system in operation, there is bigger danger that the patents awarded might be declared invalid. Moreover, they are liable to be challenged within first nine months of its issuance in the After Award Revision Proceedings (AARP) incorporated by Leahy Smith American Invents Act of 2011. Anyone can challenge the validation of the patent on any ground that is made available in litigation in the Federal Court. More so, the litigation fee is dripped considerably low which everyone can easily afford. The After Award Review is made an effective means of challenging the patents granted. The reason is, the judges who shall administer the Post Award Revision (PAR) cases have no expertise on technical side of the patents.

Big firms and corporations backed by funding and resources would apply prolifically for patents under FTF system and will submerge the patent houses. They will try to cater and encompass all the possible improvements and alterations to make sure the priority on the innovative patents. This will lead to the protracted prosecution and this will be awfully restrictive for the transfer of technology. Yet again, the interests of the individual inventors and the small business corporations will badly damage. Just to quote an example, the pending

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[97]. A Brave New Patent World-First to file becomes law, by Gene Quinn, IP watchdog, March 16, 2013.

applications were 1million in 2006 and they are piling up with 7 per cent increase per annum. [98,99]

Filing a lot many applications for petty novelties in the original patent will result in genuine patent besieged by intricate web of subsidiary innovations. The real inventor is left with no choice but to unwillingly sign the technology dole out contracts. Other filers will also make it difficult for the first inventor to use and improve on his own technology.

Sec. 35 of United States Constitution (U.S.C) says that if the inventor brings his invention on public use or sells it to public more than one year before filing the application for patent; he is deemed to have lost his right to get the patent. He also loses his right when he tries to survey the market i.e. how potentially profitable his invention is from market point of view or even if he puts it to public test more than one year earlier than filing application for patent.

Inventor's right to get patent is also considered to have forfeited if he falls short in transpiring his invention into practice within the prescribed time. Likewise, an inventor who shows laxity in applying for the patent is also denied from granting the patent because it demands vigilance and agility from the public. The logic behind this is that the inventors are supposed to benefit the public at large and if they are not brought to the public use at the earliest, the person claiming invention should not be rewarded.

4.4.3: Delay in Issuing a Patent:

Antagonists of FTF system also say that it causes immense delay in issuing the patent because the number of applications under FTF has increased many folds and the patent offices are sort of submerged with applications that it is not easy and possible to process and scrutiny all the applications within any given time. Here again the big companies are at advantage who flood the patent houses with applications even for inventions not yet in existence just to win the priority claim. When need be, they drop their applications at some later time, for example, American patent and Trade office takes about two years to issue a patent and at the same time Japan takes normally seven years to grant a patent. Before 2013, America used to take just two years and would issue the patent and the reason was obvious

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[98]. First to file vs. first to invent: bone of contention in international harmonization of U.S Patent Laws by Sheldon Mak Rose and Anderson. Jan. 2008, Chap. 3.2, pp -12.

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i.e. American patent house was not blitz with applications. Now that FTF is in vogue, it is now taking painfully long time for an inventor to get the patent. [100]

4.4.4 Low Quality Patent under First to File System:

Discussing the patent quality, Pederson and Braginsky have said that patent quality is a broad, multi-faceted concept most often discussed in abstract without any specific context that would permit quantifiable measurement. [101] Different facets of patent quality encompass validity, being noticeable, its teaching value and efficiency. FTF is perilous for all of these aspects of patents.

The basis of FTF is to bless the first one to file and to penalize the late comer. It's a sort of frantic race to the patent office. [102] Inventors have to hurry because within a brief time they have to submit the application. This leaves them with less time work diligently and completely. In a nutshell, FTF supports approximate filing of application on unauthentic inventions by utopian inventors rather than to real development of useable commercial innovations. This shall hamper innovation instead of promoting it.

FTF law fails to provide inbuilt discouragement mechanism that is there in first to invent system for example those inventors who at some later stage realize that the filed patent application is no more worthy of pursuing have already spent huge amount of money on it. They are left with no choice but to keep following their half baked ideas. It is FTF system that is the breading ground of the sketchy disclosures.

Applications for patent are supposed to be complete and comprehensible in all respects for everyone. Giving someone monopoly for 20 years implies that he has to share and reveal all the information for public use. Meaning thereby, absolutely complete disclosure of the invention is the primary requisite for the patent filing. FTF system will promote hasty, incomplete and half baked applications in the backdrop of winning the crazy race of first filing. Japan is already facing the problem where people rush to the patent office to become the first filer without completely disclosing the invention. All this will lead to the diminishing quality of the applications. In fact, most of the applications are taken back at the end of the day. [10]

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[100]. Competition, innovation and racing for priority as the US Patent and Trademark Office, by Linda R. Cohen and Jun Ishii, USC CLEO Research paper no. CO5-13, 2005, pp-29.

[101]. The Government vs. General Alexander: who owns in inventions, by Peter J. Torn. Aug. 17, 2014, IP Watchdog, PLi.

[102]. A.B.A section of Patent, Trademark and copyright law1987, committee report 62.

American new law of FTF has also phased out the Interference Proceedings. Critics are unable to hammer out the rationale behind its abrogation. It was a potent weapon to protect the rights of the original invention. It was though, expensive and lengthy procedure but nevertheless, very cogent tool to ensure that nobody is going to steal your invention. But with FTF and outage of Interference proceedings, inventions are more likely to be stolen and the inventors will have no choice but to be silent spectators.

Mark Lamely alluded to a very important issue and that is the hefty amount of tax payers is being trashed on examination and evaluation of the patent applications by PTO. [103] As already is discussed in detail that patent applications have increased tremendously and that the quality has plummeted significantly, it is not justified to waste that much resources on the examination of the applications. When any application is lodged in PTO, it becomes the liability of the office to take it up and take the necessary action. Bruce A. Lehman has rightly said in this regard that there is a disproportionate effect of duplicative filing on USPTO. [104]

Patent trolls accumulate lot of money by using sold out patents to garner profits from the marketed innovation. For consumers, prices are raised and it hinders innovation additionally. These practices barely prop up public policy which is the hallmark of patent system. Governments grant patent with the only one agenda and that is to make use of it and put it in the form of a commodity and offer it for sale. Promoting commercialization that impels economic uplift ought to be as important as motivating innovation. Patent trolls hurt ingenuity and market competition by undue use of their undue edge in the markets. They erect hurdles in the way of new companies that otherwise would have lowered the prices of the commodities in the open markets. They in fact, inflate the prices of goods for the customers for the use of the patents which they buy primarily to generate maximum profit.

It's a happy prologue that courts have already jumped in to tackle this precarious state of affairs. The Federal Trade Commission, universities and scholars have conducted studies, collected the data to prompt the courts to take action in this vain.

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[103]. Mark Lamely, 'my suggestions on patent laws, posted on August 7, 2011. Blog Maverick, Aug. 27, 2011.
[104]. Competition, innovation and racing for priority at U.S patent and trademark office, by Linda R. Cohen and Jun Ishii, USC CLEO research paper no. CO5-13, 2005, pp-37.

4.4.5: FTF Challenges the Constitution:

Careful and minute study of the Constitution of America and the relevant enactments particularly, Patents Act of 1790 reveals that the framers of the constitution clearly intended that only the first and original inventor should be granted patent. Any law, be it first to file, shall directly challenge the Constitution which will definitely transpire unrest in the whole country. [105]

Since, this problem is yet not fully neutralised, Federal Trade Commission (FTC), American Congress, PTO and those who tender patent applications and patent holders should venture for more reforms to deal with this growing threat. Wellbeing of the whole world hinges upon taking timely action. [106]

Proponents of FTF system argue that by switching American laws in tune with Japan and Europe will of course harmonize the system with the world over. In this vain, some great authors the likes of Dana Rohrabacher and Paul Crilly opine that if harmonization is the only objective than it is better to make it compatible to Ulysses' Trojan horse. [29, 27] [107]

They say that the previous First Inventor to File was harmless and any change in them can make the American system collapse. They go on to say that the unanimity amongst the laws is no doubt good but Americans will have to pay in terms of diminishing quality of the patents. Bringing the American law in tune with others without any tangible benefit is a wild goose chase. If uniformity is the only purpose than the rest of the world should follow the robust American Model of patent laws. [108]

4.5: Encouraging Innovation or Legalising Theft? :

The scale of stealing the inventions is rampant in the world over. The dire repercussions of this theft are manifolds. Top loss is for those whose hard work is being stolen i.e. the inventors and those who have bought the licenses to sell that product and the services attached to them and last but not the least, the number of jobs that spur from these inventions are also curtailed. Another bad effect is that the motivation and the dividend that derive from it does not reach the inventors, thus demoralize them. Innovation clogs and

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105. Thomas M. Marshal, new interference rules-boon or bust, March 8, 197, 5 PAT. L. ANN. 79, 106-07

106. Compulsory Purchase? it is more like Legalized Theft by Colette Douglas Home (columnist), heraldscotland, 23 April, 2013.

107. 'The case for a strong patent system' by Dana Rohrabacker and Paul Crilly, vol. 8, no. 2, spring 1995.

108. The case for a strong patent system, by Dana Rohrabacker and Paul Crilly, vol. 8 no. 2 spring 1995.

industrial production diminishes which otherwise, would have swelled the world economy. Unless the tap is closed there is unprecedented risk of choking innovation. According to the Intellectual Property Commission Report (IPC), the loss to the American economy incurred is more than $310 billion per year. Commander of the United States Cyber Command and Director of National Security Agency (NSA), General Keith Alexander said about the perennial theft of innovation, "the greatest transfer of wealth in the history". [31][109] It also has drastic effects on research, development and investment and curtails economic growth. The motivation to invent new things propels growth and causes development as a by product and better the life style of people at large. Stealing of intellectual property relating articles has discouraging effect on innovation.

For intellectual property that is being unlawfully taken away, is like subsidy to the foreign infringers without any developmental charges or license fees. India, Russia and China are the main players where industries are thriving on the stolen technologies. Pending cases in the courts of these states bear witness to this allegation. Industrial policies, legal structures and prejudiced patent laws, with so many lacunas in them, also instigate theft on intellectual properties.

Intellectual property theft is a grave matter that needs prompt action. Secrets of invention can discreetly be taken away e.g. an unauthorized person accesses the company's computer or any worker negligently shares the invention secrets. American Inventions Act's (AIA) provision of first inventor to file requires the PTO to encourage the inventors to take proper care of their inventions lest they should be stolen. In first to file system sans Interference Proceedings, no other optimum remedy is available to the actual first inventor in case someone else steals the invention and he applies first for patent. Proper protection of the invention can diminish the chances of two independent inventors inventing something at the same time and rule out the thieves to manufacture the stolen invention and apply for the patent.

Apparently, it is quite possible that a cheater applies for the stolen invention and being the first filer, also gets successful in winning the patent but under American Invents Act (AIA) and first inventor to file system, a new mechanism is provided called Derivative Proceedings by which the authorities set their mistake right and determine the actual owner of

[109]. The Government vs. General Alexander; who owns his Invention by Peter J. Torn. Aug. 17, 2014, IP Watchdog, PLi.

the invention. The derivative procedure entertains the real inventor to file petition in USPTO but the onus is on him to come up with proof that his invention was malevolently taken away from him or stolen under this or that circumstances.

In reality, it is very difficult for the real inventor to lodge an appeal and put forth irrefutable evidence to determine that his invention was stolen. The catch is, and that is in fact hampering innovation too, that USPTO has set such a difficult process and criteria to meet for the inventors that can hardly be met. The string attached to it is that USPTO gives very little time within which the application has to be filed. That time period is one year during which an inventor has to launch a petition after the application is filed for patent by an alleged thief. The second tier of remedy is the Federal Court who sets even higher criteria to meet and to determine or rule out the theft case of an inventor. [110]

The patent lawyers are also asking their clients, in the back drop of AIA, to have a close check on their inventions and protect them from being stolen away, particularly from the potential competitors. These lawyers are also helping the inventors to device a fool proof procedure for the submissions and tabling the prior art.

What more the patent practitioners can do is that they can further motivate their client companies to make robust policies and reliable command and control system to minimise the risk factor. This also includes the scrutiny of the employees, keeping the system and mechanism of the company updated, checking for more avenues and keeping an eye on the deserting workers.

Under FTF rule, stealing inventions is a growing menace. Drastic steps are needed to take to curb and discourage this immoral act of heisting someone else's hard work. According to the data collected by US International Trade Commission (USITC), America is losing $23.8 billion per year due to the theft in intellectual property and that too within America and the loss worldwide is anybody's imaginations. Since, America has theft issues both from within and from without that's why demand to introduce reforms in the patent laws is escalating. [111]

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[110] . The IP commission report on the theft of American Intellectual Property 2013, by National Bureau of Asian Research. Chap. 5, pp- 39-46.

[111] . IP Commission report by National Bureau of Asian Research, 2013, chapter. 5, pp-39-46.

4.6: Patent Laws Reforms Needed to Shelve this Problem:

Reforms in the patent system worldwide are the exigency of the time where rights are being curbed, innovations are being hampered products are stolen and copied; monopolies are created and are tightening the noose on small manufacturers and what not? Following are a few areas where dearth of remedies is badly pinching.

4.6.1: Available Remedies does not Fulfil the Need:

a. The present day remedies are very slow viz-a-viz the prolific production and the huge amount of profits that these companies are deriving out of intellectual property theft.

b. There is scarcity of institutions, infrastructure and professional judges who could cater the needs of a spree of such cases

c. Amongst the leaders in intellectual property theft, China being at the top of the list, is not taking satisfactory measures to discourage these elements.

d. Bilateral, multilateral, regional and international agreements, even under the auspices of World Trade Organisation (WTO)[112] is also not proving fruitful. States with thumping economies manoeuvre the laws as either to bypass it or hoodwink it.

e. US has taken steps in the right direction where a bill is pending in Congress based on enhanced cooperation and coordination between the government and the private sector to tighten the noose on the Intellectual Property (IP) theft. Moreover, America is also up for making it a top priority in policy making but still a lot more room is vacant to take more drastic steps.

4.6.2: The Reforms that are Needed:

Despite the fact that American Patent System has been a success story and America thus far, is leading the world in inventions, the reforms have always been on the cards. Key areas on which the reforms are vehemently asked for are: after grant challenge, continuation

[112]. World Trade Organization, a wing of UNO to regulate the world trade relating activities.

of the application, re-fixing and determining the prior art, requirement of the best mode and above all first to file system. [113]

There are certain more areas where reforms are badly needed i.e.

i. Since, it is the matter of national security and the wellbeing of the American people; the direct involvement of President through his principal advisor is needed, leading to full participation of the government.

ii. Secretary of commerce is the right person equipped with resource if he is empowered to make regulations and recommend laws, things can rapidly be controlled.

iii. International Trade Commission's (ITC) process to confiscate the commodities manufactured out of stolen technology is to be overhauled because as of now, it cannot control the goods entering inside the American markets. Markets in America, India and Pakistan and in majority of the countries who offer lucrative markets are flooded with non genuine commodities. China is leading the world in dumping the markets with copied goods.

iv. Quality, transparency and dependability of the American patents is to be increased. It is the responsibility of USPTO that it takes such measures which make the patents more reliable and of enhanced quality.

v. PTO should accelerate and speed up the process for pending applications. It takes painfully long time to get the patent after filing. It is understandable that PTO is overwhelmed with applications and due to lack of work force and meagre resources, it takes long but still there are ways by which this process can be made fast-tracked.

vi. Make fast track public disclosures with respect to the innovative advances, is the need of the hour. It is, but the requirement of the time as companies and people are working day and night on research and development and in inventing new things and they are also having a close vigil on what is happening in the market. Any delay in public disclosure can lead to forfeiture of the invention.

vii. Litigation expenses are exorbitantly high which should be dropped down. This is more important for small inventors who cannot match with big corporations in terms of resources and waging legal battles. Most of the time, they have to bite the dust when they see their

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[113] . David L. Simon, first to file provisions of Patent Reforms Act 2005 violates the Constitution's Intellectual Property Clause. Nov. 2005, Social Science Research Network.

invention being stolen right in front of their eyes and they are helpless, curtsy the immensely costly litigation process.[114]

viii. The patent laws of America should be drawn in line with the rest of the world i.e. they should be made compatible with the rest of the world and with the leading trade partners, in particular. But it did not imply that the main provision of first to invent was to be changed. All is suggested here is that other disparities ought to be removed to promote rapid economic growth which by far, has clogged the American economy. [115]

ix. To make the laws updated to withstand onslaught of cutting edge technology. It is observed that good legislation promotes science and technology. Laws make the ground and offer level playing field to the inventors by ensuring their rights and provide them better competitive environment to work and enjoy the fruit of their hard work.

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Chapter: 5

First to File Rule in India and Pakistan and its Implications:

5.1: Brief Introduction of Indian Patent Laws:

India set off its journey to patent laws with its first ever patent law when Indian Patent Act, 1911 was first time introduced by the then Rulers of India i.e. Great Brittan. This law was revisited, overhauled and was re-enacted in 1960 as Indian Patent Act, 1960 by Indian Government making it first Indigenous Indian Patent Act. Then the Act of 1970 was promulgated with some changes covering all the aspects of modern day requirements. It is a comprehensive document having XXIII Chapters and 163 Sections. This too was amended in 2005, because when you are up against an age of incredible innovation in technology and every other field, nothing remains sufficient. It contains wide range of amendments making it a well over 78 Sections document. This law, other than other amendments, expanded the product patent to every field of technology that includes eatables, pharmaceuticals, chemicals and microscopic organisms. The provisions regarding pre and post grant challenge have been added to the new law. Any invention pertaining to a product or for that matter, a process which is innovative and can be applied on industry can also be applied for a patent in India now. But inventions mentioned in Section 3 & 4 of the Patent Act of 1970 are not patentable. [116]

[116]. Vijay Pal Dalmia, 'patent laws in India-everything you must know' article, Vaish Associates Advocate, Rainmaker, March 11, 2011.

5.2: Firs to File Law in India and how it is working:

It is taken for granted about the Indian Patent law that whosoever files an application to obtain a patent first is lawfully eligible for the patent. Interesting thing is, in Indian patent system there is no explicit provision for first to file system neither the law lays down unequivocally first to invent system. It is section 6 of the Indian Patent Act of 1970 from which deductions can be have for interpretation in favour of both FTF and first inventor. [[117]]

The law requires the patent to be awarded first to the original inventor, but it is obvious that the one who shall apply first will be entitled to the patent. Law does not favour those who are oblivious of their rights or are slothful in getting under the protection of law. Despite the fact that you are the first and genuine inventor but you are keeping it secret, even as a trade secret, in the mean time if someone else files application for the identical patent, law will favour the first filer and the lazy sloth will have to bite the dust. The famous case of Tereson Dupuy's Fuzibunz cloth diapers [[118]] can be the best example to quote here where Tereson invented washable diapers and started selling them in the market without having it patented. Subsequently, a Chinese company also prepared the diaper but with some improvement on it and applied for the patent which was duly granted as they were the first filer. Later on, when Tereson challenged it in the court of law; she was refused on the grounds that why she had not applied for the patent at the earliest before making it public. So, despite the fact that there is no distinct provision in Indian patent Law about FTF but virtually and practically it is FTF system that is in vogue in India.

Patent attorneys like Jai Sai Deepak and Vijay Pal Dalmia are of the view that the Acts of 1960 and (1970) clearly state that only the 'true' and 'first' inventor has the right of patent. Section 6(1) (a) distinctly clarifies that any person who claims to be the first and true inventor has the exclusive right to patent. They go on to explain as is stated in Section 25(1) (2) (a) that what amounts to wrongful obtaining of the patent and if somebody else attains by mischievous means, can be revoked by the power given to the courts under Section 64 (1) (c) of Indian patent Act 1970. [1][[119]]

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[117]. Patlit: the patent litigation weblog, 'does India follow first to file rule or first to invent rule?' March 19, 2014, at http://patlit.blogspot.com/2014/03/does-india-follow-first-to-file-or.html.

[118] . Indian Patent Act of 1970, Sec. 6.

[119]. J. Sai Deepak, 'patent filing: does India really follow a first to file rule? Rainmaker. March 9, 2014.

So, one group of experts do not admit that there is first to file system operating in India. But it goes without saying that Indian patent is structured on the foundation of first to file system. [120]

5.3: Introduction of Pakistan's Patent Laws:

All the countries have developed their own Patent system founded on first to use and first to file principles depending upon the way their system developed as per the needs of the prevailing economic norms. We see that there is increasing tendency in most of the states to complement the flames of one system by replacing them with the laudable laws of the other system. Korea, for example is switching to 'first to use rule' from first to file one. Pakistan is also amongst those countries where this debate is gaining momentum that wherever problem erupts, the patent houses can resort to first to use rule to determine the first and genuine innovator. [121]

The nature of Pakistan patent laws is territorial i.e. they cannot be enforced in any other country. In the same vein, the patents obtained outside Pakistan do not get legal protection here in Pakistan. Pakistan is yet to render its consent to the Patent Cooperation Treaty (PCT) that being the reason that patents filed under the auspices of PCT remain outside the loop of Pakistan Patents. [122]

Pakistan relied on the Patent and Design Act of 1911 which was from the British government for the united India. Immediately after appearing on the map of the world, Pakistan set up its Patent House in 1948 which is presently part of Intellectual Property Office (IPO), under the supervision of Cabinet Division. As far as, its own Patent Law System, Pakistan promulgated its full version of Patent laws in the form of Patent Ordinance 2000 with XXII chapters and 108 Sections. This was the first indigenous law which supplanted 1911 Act. It was a substantive law defining the rights of the inventors and responsibilities of the Controller. Later on, it was amended as per the requirements of the time in 2002. Thereafter, Patent Rules 2003 comprising of 64 Rules, as the procedural law, were incorporated to regulate the laws dealing with patent filing, design of patent, and the

120. Indian Patent Act 1960, sec. 6, 25 & 64

121. Seema S. Mansoor, farzana Rustom and Yawar Irfan Khan, 'first to file and first to use' elements in each recognised groups of APAA. 2013, APAA Trademark Committee Special Topic Report- Pakistan

122. IPR Toolkit-Pakistan Patents, Introduction to Patents, pp-6.

registration of innovative Patents in Pakistan. [123] The Pakistan patent law regime is currently governed by Pakistan Patent Ordinance of 2000 (Amended) and Patent Rules 2003.

Patents in Pakistan are granted when any innovative product is made, imported, offered for sale or is already being sold and the product is under use. Patent is also granted for a process which is under meaningful and reasonable legal use. [124]

5.4: Working of First to File Law of Pakistan:

5.4.1: Who can Apply for the Patents, Sec.11 Pakistan Patent Ordinance 2000:

Words used in section 11 are 'first and true inventor' which signify that only that inventor can apply and win the patent who has invented it for the first time ever and the invention falls within the parameters of Novelty as explained under section 8 of the ordinance. His assignee or successor or any interested person can also apply the patent. Other then these, the legal representatives can also apply if appointed by the inventor.

'True and First Inventor': This leaves us with no doubt that the law distinctly alludes to the First to Invent principle of patent laws in Pakistan. Only that inventor in legally eligible; who has actually invented it first time. What is happening in reality is far from what law says. Controllers oblige those who reach out to the patent office first. Meaning thereby, practically it is first to file rule in vogue in Pakistan too.

When these patents are challenged in the court of law, the controller looks biased in favour of the first filer just to avoid the painful inquiry to determine the true and first inventor. Controllers ask the parties to bring forth evidences of their early conception of the idea. This is true that the one who alleges something must subscribe with evidence but we see in normal cases that law enforcements agencies conduct impartial and independent inquires and collect evidences and help the courts to decide the cases accordingly. In the same vein,

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123. Registration of Patents in Pakistan', by Barrister Tehseen and Associates. July 2015. At 3.00p.m. http://www.tahseenbutt.com/about.html

124. –do-

the controller has more resources and expertise to make an inquiry to determine as to who the first and true inventor is? The point to make here is that when the controller leaves it onto parties to come up with irrefutable evidence, it becomes a touch difficult for the small inventor to produce conclusive proof against a strong party.

What should be done here is, as was happening in erstwhile system of FTI in America that the patent house would conduct inquiry called interference proceedings and would authentically determine the first and true inventor. In Pakistan too, controllers should hold the inquiry themselves, collect evidences from the parties and then decide independently.

'Assignee or Successor in Interest': Any person whom the inventor appoints as his agent can also apply for the patent. For that matter, they will have a contract of agency between them and the inventor (as principle) is responsible for all his deeds in the like manner. Legal status of the assignee for the purpose of this provision will be Special Agent and the Principal (inventor) shall be liable to indemnify any loss incurred by the assignee during the proceedings of patent filing.

His successors in interest can also apply for the patent. Legal heirs and the partners in business are included in this list. Heirs can apply without any legal hitch but for the partners prior agreement of succession is necessary to produce.

5.4.2: Opposition in granting Patents:

Section 23 of Pakistan Patent Ordinance, 2000 and Section 25 of Indian Act of 1970 deal with opposition in granting the patent. According to this section, within four months of filing of an application when it is published in the Official Gazette of Pakistan but before the granting of patent, any person can tender an application to the Controller and challenge that why this patent should not be granted? The grounds on which any effected person or be it any one can raise objection are as under;

A) That the contesting patent carries the material, whole or some part of it has been taken from the person challenging it.

B) That this particular invention is not worthy of granting patent as per the parameters set by this very Ordinance.

C) That the invention is unclear and fails to reveal the mechanism by which it can be operated but as far this invention is concerned, even an expert cannot operate this invention.

D) That the patent is limited in scope and claims to surpass way beyond the disclosures made in the specifications when it was filed.

E) That the full specifications encompass the claims which were not originally claimed in the provisional claims or this invention is similar to the one claimed by the opponent or if the patent is granted, it will have the date which lie in between the application and the granting of patent date of the opponent, the opponent can challenge the patent.

The Controller shall send notices to all the concerned parties and shall decide the case after listening to both the parties and granting them ample time and opportunity to defend their assertions.

5.4.3: Date of Priority in case the Invention is obtained by other Person:

In case an application is lodged to get the patent but subsequently, another applicant also files an application containing specifications as are asserted in the first one. If that's the situation then the Controller can refuse to grant the patent u/sec. 23(1) (a). After the lapse of one year of the issuance of the patent, any person who thinks that he has some stakes in it, within the period of one year subsequent to the grant of patent, can lodge an appeal to the Controller, imploring him to revoke the patent. The Controller shall convene a hearing and will give adequate opportunities to the parties to defend their case. Thereafter, he might decide to turn down the appeal, to amend the patent or to revoke the patent altogether. If the patent is already granted but challenged later on, High Court u/sec. 46, Controller under sec. 47, Federal Government under sec. 48 and if the patent is voluntarily surrendered by the holder then again Controller can revoke it under sec. 49 if it gives its verdict saying that the patent is either mischievous for the State or is biased against the general public. Federal Government can also revoke it on the grounds that facts have been concealed or misrepresentation is evident in attaining the patent. The specifications claimed in the second application can also be amended, if possible, excluding the overlapping specifications on the finding and recommendations by the Controller. The Controller can direct that the first

application being filed first has the priority date unless or until challenged and overridden by the subsequent application. [125]

5.4.4: Patent Granted to More than one Person:

It is within the scope of the powers of the Controller that in case, two or more applications are filed regarding the same inventions and after thorough investigation by the Controller; he decides that they are genuine and original inventors then according to the sec. 34 of Patent Ordinance 2000, he can grant patent to more than one applicant. In this situation, each of the patent holders shall have equal rights unless they conclude some other agreement. One of the patent holders cannot sell or issue license to a third party on his own, without the permission of the other co-holders of the patent. If anyone of them sells his proprietary rights to someone else then the buyer will put his feet in the first one or shall simply replace him.

5.4.5: Remedies for Infringement:

The patent holder can resort to civil litigation against the encroacher. The patent holder may commence a civil suit against the infringer who infringes upon the patent during the exclusive time period right of the holder by selling, making or using sans license or by counterfeiting or imitating. The first competent court is District Court but in case, the other party has also lodged counter claim to revoke the patent, the High Court will take over both the cases and will decide accordingly. The remedy could be an accounting or injunction or damages.

In a cited case of Glaxo Group Ltd and Others V. Evron (Private) Ltd and Others. The High Court of Karachi (division bench) conceded to the appeal of Glaxo Group and ordered Interim Injunction against the Defendant Evron. The appellant claimed that the defendants are manufacturing the product outside Pakistan and importing it here. Evron was found importing a drug with the brand name 'Malfax' whereas the Galaxo's still had a valid patent to manufacture and sale the same drug with the brand name 'Rantidine' in Paksiatn. The Court held that 'If a person, in making a product overseas uses processes which would be infringing processes here, those processes being a principal part of the manufacture and then imports the article into this country, he is guilty of an infringement. The reason is because, by using those processes overseas and bringing the product here to sell, he deprives the Pakistani Patentee of the benefit of the invention.' This order of the high court is very important

[125]. Joff Wild, 'India must face up to patent challenges if it is to realize its potential, iam, Aug. 31, 2007.

considering the value and power of the patents granted in Pakistan. This decision also makes it clear that no one can outsmart the law by just changing the brand name and producing the same product outside Pakistani territory and selling it here. Such decisions enhance the confidence in the patentees which they repose in the judiciary. [126]

The case of Smith Kline Beecham Corporation and others Vs. Pharme Evo Private Ltd. and Others [127], is also relevant here to quote. The High Court of Karachi again gave relief to the Appellant against the Defendants and granted interim injunctions forbidding Pharma Evo from manufacturing the drug whose patent is awarded to Smith Kline since, Smith Kline had a proper registered patent in their name to manufacture the said drug. It is interesting to see that the Pharma Evo also had the drug registered in the office of the Director General Health which is an office of the Government of Pakistan. This order of the honourable court is based on the fact the patents granted inside Pakistan are territorial in nature and have efficacy throughout Pakistani Territory

5.5: Enforceability Made Possible:

Whenever innovation survey comes to the fore, India's ranking tumbles down. Public and private firms and institutions of India are not chipping in to elevate innovation ranking. India lags far behind when it comes to patent filing applications. India is not only falling behind from competitive developing economies with respect to filing for patents but, to a great deal, is also struggling with application backlogs and dearth of resources.

Total applications filed during the year 2012 and 2013 were 286,000 but the contribution of the local filers was very meagre i.e. just 20 percent of the total. Comparing India with the rival economies, like China, Brazil or Russia 2.35 million applications were filed out of which India's share was scanty 1.8 percent. This percentage is horribly low considering the work being done in India. First to file rule, with strings attached to it, is undoubtedly playing its role in this slow pace of patent filing e.g. backlogs, delay in issuing the patents, pre and post challenge and theft all are the stumbling blocks that are hampering the research work, hence, innovation. First to file is straight away the reason why the local companies are devoid of innovation and faltering to put up a steady pace in terms of applying for new patents. The multinationals with lavish cash in hands and deep rooted tentacles

126 . Glaxo Group Ltd. Vs. Evron Ltd. {1992 CLC 2382 Karachi}

127. Smith Kline Beecham corporation vs. Pharma Evo private Ltd. {2006 CLD 716 (Karachi)}

manage to win the race to the patent houses. Markets of India and Pakistan are bursting with copied or new Chinese products which are latest, still cheap, leaving bleak chances for the local inventors to cash in.

Rahul Dev, patent attorney of Tech Corp Capital opines that internationally patents are filed to cope with the growing demand of technology but Indian companies are necessarily service based and are not excelling in manufacturing. [128] Another factor of this that very insubstantial amount is spent on Research and Development i.e. just 0.5 percent, an alarmingly scanty amount. To enhance patent filing for technology based products, money allocation in R&D is indispensible.

Yogesh Pai, Assistant Professor of Law from National Law University said in this regard that private sector investment in research is extremely low. [129] It is but natural because there are some other priorities and apprehensions lurking in the minds of inventors.

India introduced Bayh-Dole Act 2009 to boost up patent filing from indigenous firms, companies, universities and local institutions. This bill raised lot of hue and cry within the country because this bill blindly emulated American regulations of patent laws without considering the genesis of the two systems. The objective was to promote public funding in Research and Development and early transpiration of these innovations into commercial usage. This endeavour proved futile as the statistics collected from the patent houses since 2009 hardly signify any inflation in patent filing by public or private institutions. Rather, out of those which were filed barely few were granted patents.

Other first filings being the major cause, insufficient and shabby infrastructure and meagre resources have caused tremendous backlog. Almost 56,171 applications were pending in Indian Patent House in 2005 when India was vying to align Indian Patent Act with the requirements of WTO regime. [13]

This figure of pending applications rose to about 194,000 by the year 2013. This piling up of the backlog is obvious, as the strength of patent examiners was not increased in accordance with the increase in number of applications gradually with time. India has four patent houses country wide and the total number of examiners is just 201 which entails that

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128 . Requirements (eligibility) to obtain patent in India-Laws in India, 'Patent Filing Requirements' by Rahul Dev, Tech Corp Capital, 2010, pp-9.

129. 'Diversity in intellectual Property: Identities, interests and Intersections' by Yogeshi Pai, edited by Irene Calboli, Srividhya Ragavan. Cambridge University Press, 2015, Part-VI, Chap. 21, pp 453-472.

every examiner will scrutiny 18 applications in one month. It's a mockery of the system as to inquire this much applications in one month is beyond the human capacity. [130] We have seen in America and Japan, for example, where there is sufficient strength of officers but still an application takes about 6 or 7 years to become a patent. What will be the future state of affairs in India is anybody's thought.

This issue leads us to another tense problem and that is low quality of the patents. The less number of patent examiners in India as compared to the other economies is much low. The passage of low quality patents results in more prolific applications filing, half baked applications, so to speak, further degrading the quality as a natural sequel.

All the succeeding governments have given assurances to ameliorate the situation by making expeditious legislation. The position is still hapless because the patent office is totally dependent on Ministry of Trade and Commerce, even for purely internal matters. The exodus of expert and qualified officers from the public sector to private sector is also making the situation from bad to worse. [131]

India, at least, has done well in making the whole process transparent. The reason is that the entire procedure was notorious for being biased and corrupt. This is not only the step in the right direction but also sets an example for others to follow.

Since, India is an emerging economy; patent problems are indeed there but are not that severe though, as we see in Europe and America. First to file rule is there but that too does not usher into a hot topic owing to less number of filing and lack of competition. India is also relying on importing technology and does not delve deep in research, development and innovation. It is a matter of time though, when first to file rule will start pinching India a great deal, as it has in America.

5.6: Comparative study:

India and Pakistan sought their Independence from the Colonial Brittan. Brittan introduced Patent and Design Act of 1911 for whole of the India to promote innovation in the predominantly agrarian society. The spill over effects of European industrial revolution also

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130. Diversity in Intellectual Property: identities, interests and intersections' by Yogeshi Pai, edited by Irene Calboli, Srividhya Ragavan. Cambridge University Press, 2010, Part I, chap. 4, pp 76-104.

131. Diversity in Intellectual Property; Interests and Intersections, by Yogeshi Pai, edited by Irene Calboli and Srividha Ragavan. 2010, Part I, chap. 4, pp-87.

started showing its signs here in India. India at that time was going through the transition period and was struggling for its political rights. So, this Patent Act remained dormant until India and Pakistan started separately vying for development. They capitalized on the same Act until they thought of having their own. Indian Patent Act 1970 and Pakistan Patent Ordinance 2000 were the signs of maturity of these States.

If we wade through the laws of India and Pakistan, we see lot of parallels between the laws of these two emerging economies. Their length and their content are lot more similar to each other. Both are novice in the field of patents being developing states. If we look at the American patent laws system, it is far wider in scope and its utilization is way ahead of India and Pakistan. As far as first to file system is concerned, India and Pakistan naturally inherited first to file system from Brittan but America had its unique first to invent system and she had done remarkably well under the umbrella of this system. The case of India and Pakistan is also different in a way that they are emerging economies and they still have to travel so long down the road. First to invent as is there in U.S, would also have worked for them as they needed to encourage the puny inventors to add maximum in the race for novelty. But first to file clogged their innovations and multinational stole the show. In America too, problems ushered when multinationals and big corporations found it an obstacle in the way of earning momentous profits. They exerted pressure on American government to switch it to first to file system under the pretext of harmonization with the rest of the world. Resultantly, America converted to First to File rule in 2013 but the elements of exploitation and other hindrances came to the fore and new heated debates started on how to tackle the problems attached to this system.

These issues need immediate alleviation. In Pakistan and India, trend of innovation is not so common and these states have failed so far in indulging their scientists in indigenous research and development ventures. That is the reason first to file system and the strings attached to it are not creating as much problems as it has done in America. I reckon that it is only matter of time when these states too will be mulling over the option of adapting first to file to first to use patent law system. There is already immense pressure on US administration to revert back to first to invent system. Let's see what is there in the offing in future. We can only hope and pray that whichever system these states opt for should be in the best interest of the inventors because at the end, it is the fruit of their hard work which should not go wasted. This not only usurps their legal rights but also discourages them to work industriously and assiduously.

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Chapter: 6

Recommendations and Conclusion:

6.1: Recommendations:

There is no dearth of proposals for patent system reforms. These probable and potential reforms are broader in scope and all encompassing in nature. But these changes should be tinged with caution to avoid disruption in the system.

6.1.1: First to Invent is not a bad System to Work with:

Well, it is costly to determine the first inventor, both for the parties and for PTO (Patents and Trade office) relying on interference proceedings, first to file still does not offer any pragmatic solution. It is always wiser to rectify the old system rather than aborting it altogether. Alternative channels can be adopted to hammer out priority issues and the one less expensive can be integrated with first to invent system. There are so many loopholes and different aspects of present patent system that will deliberately and steadily pinch the whole Patent infrastructure. Such reforms are needed which do not unsettle patent fraternity and help them acclimatize with new paradigm with minimal disruption and with reduced amount of frenzied pace.

What is happening now is, when the application is rebuffed due to any reason or when it is challenged and interference proceedings starts, PTO takes it for granted that the date of invention is the date on which application is filed. Therefore, all that Applicant is required to do is to put forth the early conception date. Instead of this 'let's see' approach to determine the priority, PTO can ask the applicant to independently establish the priority date of their invention. Meaning thereby, Trademark and Patent office (TPO) could ask the inventors to submit irrefutable corroborative proof which should speak of the conception date. PTO can, of course, unequivocally declare the filing date as invention date in case the applicant falls

flat in providing the conclusive corroborative evidence of an early invention. The party who comes up with conclusive proof keeps the right of early invention and hence, eligible for patent. No costly interference proceedings are required.

Likewise, PTO can also ask the applicant to keep more authentic and comprehensive record about their invention. A rule incorporated by PTO will uniformly send notices to all the inventors, businessmen and practitioners and will encourage the contemporary acquisition of proof for corroborating conception, diligence and reduction into practice. Even if these inventors are forcefully made to keep meticulously all the relevant records pertaining to invention to show at the time of filing, even any other supplementary burden is worth it rather than protracted and cost inefficient interference proceedings. It is lot more trouble free to spend little more time and keep the record intact during the developmental stages of the invention rather than to re-collect events, conceptions, bygone weeks and who knows, many years. There are certainly more viable options available then these but the point to make here is that other options are there instead of blindly going for first to file system.

6.1.2: More Concerned Role of the Judiciary:

Congressman Darrel Issa and Adam Schiff presented a House Report 5418 [[132]], the text proposed an experimental program in selective US District Courts to prompt enhancement of knowledge and skills in patent relating cases amongst District Judges. The prime objective of the report is to minimize the margin of error that foments the appeals. An identical Bill, by Senator Orin Hatch and Dianne Feinstein, was also introduced in the Senate. [[133]]

Initially, only a selected group of judges will get the funding for patent related training programs and they would start taking up the cases randomly. Patent cases will also go to other regular judges to compare the effectiveness of the program. This experiment will remain continue for ten years, after that a committee will evaluate performance of the program. [[134]]

The rationale behind training of the judges is that the patent cases are more intricate, difficult and time taking other than being expensive. Jury and judges both are laymen when it

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[132]. H.R. 5418, 109th Cong. (2006), available at, http:/Thomas.loc.gov/cgibin/bdquery/z?d109:h.r.05418

[133]. Press Release, Representative Darrell Issa and Schiff Introduce Legislation to Improve Patent litigation in District Courts (May 19. 2006)

[134134]. Bill no. S. 3923 , 1(c), (e); H.R. 5418 I(c) , (e)

comes to patent cases. This is evident from the figures cited by Congressman Issa that about 40% of the patent appeals are reversed by Federal Circuit Courts. This not only shatters the confidence in judiciary but also mars the integrity of the respective legal systems. [135]

The Representative Issa went on to say that he has observed that most of the judges cannot comprehend the relevant applicable law and the technology narrated in the patent application. That is why the technical know-how of the judges is extremely important hence, better judgements. [5].

In America, this experiment actually worked well, for example, a normal patent case finalised in about 3 to 5 years but the judges who were trained and educated under this program decided the case in less than 2 years. And the fact which further subscribes to this sort of experiment is that none of the case decided by these judges was reversed in appeal. [136]

6.1.3: Patent Office's Budget should be augmented:

It is generally observed that patent offices around the world are under-funded, particularly, in America, India and Pakistan. To add to their miseries, they cannot even utilize the fee that they collect. The proposal is that their budget should be swelled and the fee that patent houses incur should be spent only for patent houses and their employees.

In 2006, America substantially increased the budget of US PTO and very healthy signs for overall increased level of efficiency were quite visible. Allocation of sufficient budget not only enhances the quality of services provided by PTO but Patent Office can hire and train more Examiners and Controllers. [137] America gave complete access to its patent office on the fee that they collect and with increased budgetary allocations. Remarkable improvement was observed during the year 2006 to 2008, when ample funding was earmarked to PTO.

The increased number of examiners can make the patent procedure fast track and the trained examiners can uplift the quality of the patents. This alludes to the fact that it will

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135. Improving Federal Court Adjudication of Patents cases; hearing before the subcommittee on Courts, the internet, and Intellectual Property of H. comm. on the judiciary, 109th Cong. 3 (statement of Kimberly Moore, Prof. of Law, George Mason University) Hathi Trust, Digital Library Washington U.S. GPO, 2005.

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137. Press release, U.S patent and trademark Office, Top News: Deputy under Secretary of Commerce announces FY 2008 Budget Proposal for USPTO Feb. 5, 2007.

provide impetus and encouragement for the inventors, the graph of which is on the down side since first to file system is in the loop. By injecting more money and all pronged patent reforms, the diminishing quality of the patent can be raised. Prof. Adam B. Jaffe expounds, "to put it straight, if the patent office allows bad patent to issue, this encourages people with bad applications to show up.....conversely, if PTO persistently rebuffs patent applications for poor patents, the people will understand that substandard applications are sheer waste of money and time". [138]

6.1.4: Examiners and Controllers Compensation is one more Area of Consideration:

Christine Siwik while recording evidence before the US Senate Committee opined that whatsoever, the reforms endeavours may be, they ought to be pertaining to PTO, before incorporating any significant changes to the current patent Act. [139] She went on to say that our system rewards those Examiners who allow maximum number of patents and reprimands those who flunk to meet the production goals. Siwik emphasised on the pressure that it exerts on the Controllers to only achieve the count quotas, ironically called as 'substantial and constant'. It is a precarious situation where controllers and examiners focus on the bonuses that they get for issuing patents, putting aside the quality and focussing just on counting the numbers. [140]

6.1.5: Setting Realistic Goals for the Team:

It is also indispensible to remember that patent systems are very large and wide in scope and they should be put under robust command and control system coupled with maintenance. Adam Jaffe says that patent examination has to be perfect because examiners are ordinary humans and more importantly, there is no conclusive evidence by which they can say that this is a new invention. Redemption is not in embracing the first to file system as it is, but in developing a reasonable system, be it, at the petty cost of issuing a few bad patents. Prof. Adam Jaffe quoted Albert Einstein's example sarcastically that even he had to face the challenges in Swiss Patent house. [141]

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138. –do-

139. Perspective on Patents: Harmonisation and other matter: hearing before the Subcomm. On Intellectual Property of the S. comm.. On the Judiciary, 109th (2005) statement of Cristine J. Siwik, outside of Barr Laboratories, Inc.

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141 .-do-

6.1.6: Patents should not Discourage Inventions from Universities:

It has been observed that academic publications are being deferred due to licensing or patent applications filing as they are not given priority. Governments should do some extra efforts to measure its extent and take measures to look after the Universities who are up for public missions which are the prime factor and major hub of inventions. Universities conduct research either in small groups or a single researcher works on his using the scanty resources available in the labs. They can't simply put up a good fight against the multinationals. Governments need to encourage them by making special adjustments in the patent laws to buck them up.

Governments need to make arrangements, after doing the homework in the,

a) Areas of grace period by which the inventor buys the time to file application after the publication of the invention.

b) Provision of provisional patents, which is one year, should be maintained. The reason is, latter continuous research and development make the invention improved and keep on improving. This ad hoc time span for the provisional patents not just secures the patents but also leaves the room for improvement.

c) Guidelines should be devised for the dissemination of the basic research for promoting innovation and further improvement.

6.1.7: Low Quality Patent should be Discouraged:

These patents provide cover either to limited novelty or to overly broader scope of innovation. On the one hand, limited inventions not only do not benefit the economy but also swell the quantity of the patents by thronging patent offices. Patents with broader horizon are not of too much use for the society but they clog the development as well. Holders use them as a blackmailing tool to extort the royalty from others. Government should take measures to grant patent of quality and low quality patent be discouraged. A robust opposition system can help increase the quality of patents. Weak patents are challenged and internal courts should examine them internally and block their passage. Europe has benefitted from this mechanism which other patent offices can easily emulate.

A system of centralized courts is expedient to make sure that the enforceability and validity of patent rights. USA was the first to establish CAFC [142] in the year 1982 and Japan followed suit with the creation of Intellectual Property High Courts. Now Europe is also convinced that the future of patents will be better secured this way.

6.1.8: Need of International Coordination and Co-operation for Protection and Promoting Quality of the Patents:

World Intellectual Property Organization (WIPO) is negotiating on Substantive Patent Law Treaty (SPLT) and establishing trilateral office in this respect. The purpose is to form joint data base to keep the record of the prior art. These steps are happy prologue which will ultimately lead to international patent system to help protect the patents anywhere in the world. This can also halt duplication of the identical patent work. Some patents (identical) are filed simultaneously in different countries. All patent offices have to go through the same drill. This joint venture can save the time and money both of the patent offices and of the holders. This centralization and uniformity in the patent laws will not only help in making the coordination better but the enhanced integration will make patents paradigm globally more robust.

6.1.9: Different Criteria for Different Fields:

The current patent system is running on the principle of uniformity for all types of patents in terms of fee structure, time for issuing patents, disclosure, grace period or provisional applications. The hunch of various experts is that how come the criteria for different fields be the same? For example, time period for pharmaceutical drug and the complicated industrial product, like air craft career, be the same. Likewise, time for provisional application for the piece of art and the supersonic jet models, be the same. So, patent houses should set up different criteria for different fields like Europe has two-tiered patent rules. They can be further bifurcated as per the need.

After thoroughly examining the inducements spurred by the present patent policies, Adam Jaffe and Lerner suggested a multipronged way out for the restoration of the patent paradigm i.e. to motivate the parties having innovative patent; furnish different levels to

[142] . Committee on the Affairs of Federal Courts.

review patents; and jury be replaced by judges and specially trained examiners to decide different sorts of infringements related cases. [143]

6.2: Conclusion:

In the search for making the patent laws rational and beneficial, the states have gone too far and have made it too robust that they are now pinching the society as a whole. First to file looks so simple and attractive but it has closed the tap on small inventors thus paved the way only for large companies to reap unjustified profits. Laws should offer level playing field for every citizen of the country and should not be biased in favour of small fragment of the society.

Patent policy should be soft and the proof is there in the statistics which shows that patent filing increases with the favourable Patent laws. Fair patent system promotes new inventions and is also supported by the research of Leveque and Yann Meneiere which shows that 89 percent of the progress in the economy is based upon the knowledge shared and disclosed in the patents. It has been observed that economies are flourishing where patent laws are more strong and sensible. Moreover, patent laws should focus on the science and technology and should support the market economy that prompts open competition.

Current issues in the patent laws need to be taken up one by one and should be resolved, like patent registration rules, coordination amongst the patent houses and the grace period should be the same in all countries. Inventors tend to lose their right due to difference in these rules in different states. Particularly, small inventor's rights are better protected if these rules are the same everywhere. Harmonisation in patent laws is indeed the need of the hour but it should be on the First to Invent principal which is more just and time tested.

Constitution of almost every state says and intends that only the first and true inventor should get the patent. But this basic principle is manoeuvred under the garb of First to file system. FTI rule ensures the genesis of the constitutions which should be retained; tinged with Interference Proceedings that determines the first and true inventor, otherwise, as is seen everywhere, patent filing and winning is a sheer frantic race to the patent houses. In interference proceeding, the administration inquires and decides but the Derivative Procedure offered by FTF system demands the parties to produce irrefutable evidence which the small

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inventors often fail to prove against the big and resourceful corporations. First to Invent will not only reduce the rampant undue litigation but will also make the quality of the patent much improved.

First to file system of patent laws would be the reason of irreparable impairment to American innovation spree. In spite of some of its flaws, the first to invent rule is the same which the framers of the Constitution always intended and passed by the first Congress. The amendments suggested by first to file system will undo the laws established and matured in more than 200 years. It will also oppose the mandate given by the Constitution for the promotion and progress of beneficial art and science by conferring patent to the person who invents first.

Only international harmonization is fomenting the change by quitting first to invent rule. In fact, the motivation should come from the fact that if it is in the best interest of the country or not? The in-depth studies show that it does not. It is completely nonsense to eradicate a well formulated structure of law for first to file system which is going to cost all of us very dearly and will produce bad patents only, because this system is bureaucratically beneficial and conceptually simple and is there to benefit only the industrial class.

America should not endanger its superior First to Invent System at bargaining table no matter how inevitable harmonization may be. Firs to invent rule of America powerfully protects the inventor's rights and satisfactorily safeguards the patents. Ruthless sense of protection is the hallmark of this system and inventor-ship and proprietorship are inextricably linked to this system. The American patent system concentrates on the protection of the patentee rights by making sure that he gets exclusive rights of his invention. First to file system does not wish to protect the patentee, for example in Japan, with first to file rule is in vogue, thrust is on the dissemination of technological knowledge with the intent of promotion of industrial development. Implementation of first to file rule will do away with the inventor ship out of the innovation and will make the American system even equal to the inferior and infamous patent system of Europe and Japan. [144]

Firs to file rule does nothing except for that it will nurture the diminution in patent quality and will enhance the volume and expense of litigation. It will also be the reason of utmost confusion in the minds of inventors, PTO, courts, business community and legal

144 . eBay, Inc. vs. Mercexchange, L.LC., 2006 U.S LEXIS 3872 (2006) (quoting New York Trust Co. Esiner, 256 U.S. 345, 349, 1921.

practitioners to benefit from and how to fit in the new prevailing system. One can only imagine the ensuing anarchy in the offing because America has embraced 'unmodified novelty' principle which comes in tandem with first to file patent system or the nightmarish prior user right. It's beyond doubt that the interference proceedings are costly, hectic and full of risk but no one can deny the fact that they were fairer and were not so common.

One thing that made America a great country is 'hope'. Conception is the hallmark of inventor-ship that first to invent patent system offers Americans. The proverbial phrase that is used for America is 'American Dream' and freedom', these feelings of being free helped America to capitalize on their inspiration, ingenuity and determination. First to invent rule ensures that dream for Americans. The most beautiful aspect of it is that it offers level playing field for those who have great dreams but inadequate budgets. If reforms are imminent then this rule of first to file should be the last option to opt for. Ever since, the maiden patent act was implemented, America has exhibited exemplary progress in development and science and technology. Chief Justice Roberts explained this in a nutshell, 'a page of history is worth a volume of logic' [145]. America achieved in 50 years for what Europe took 100 years to get.

FTF is more like a tradition, being followed by European States but American tradition was FTI and both systems were doing pretty good in their respective arenas. It's a fact that every state has its own unique set of traditions, nurtured and loved over a period of time. It is just like that as if somebody asks America to switch to Parliamentary form of government because it's been predominantly followed by most of the states. America has set its own systems, be it political or economic. It's the same America who fought extremely costly Cold war with USSR for more than 60 years just to save its superior capitalistic economy to defeat Soviet communism. It's not worthwhile to relinquish time tested patent system for cosmetic FTF. Moreover, blind emulation of FTF is not only emotionally hurting but it will also cause a deep dent on the American economy.

To be succinct, if America does not revert back to first to invent culture, (with the usage of over 200 years, it has become more a legal culture than just a law) it is not going in its interest or for that matter in the interest of common people.

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[145]. Illinois Tool Works, Inc. vs. independent Link, Inc. 547, U.S 28 (2006)

India and Pakistan both have First to File rule in their respective laws but first to file is being traditionally followed here too just because it's been pursued in Europe and America. It is more like a common practice. These states have to breach this tradition of FTF. Section 11 of Pakistan Patent Ordinance 2000 and Section 6 of Indian Patent Act 1960 are very vivid as to only the true and the first inventor should be granted patent. What is required is just the proper execution of the law in true letter and spirit. Condition of these two states is more precarious keeping in view the fact that Chinese companies are blatantly exploiting the FTF system here. Pakistan is even badly hurt as patent filing by Chinese companies is way surpassing the indigenous filing.

India and Pakistan two are resurging economies; they still have to travel a lot down the road of technological advancement and economic development: by following a law which evidently hampers the innovation and which is not even theirs, these states are not serving their people best, what they deserve. When they have a certified judicious law. then what is the need of adopting FTF. We have a case to follow in America where FTI has been the foundation stone of all the laudable development by leaps and bound.

FTI has never been an irritant in administering the patent laws. Harmonisation was one of the major pleas taken by the opponents of FTI for this mega paradigm shift but this can be easily managed by introducing minor changes and reforms in current patent system. Large business enterprises are behind this change to take home unlimited money otherwise. there looks no problem with FTI at all.

Protracted litigation under FTI was another problem severely criticised by the proponents of FTF rule. This problem can be neutralised by having special courts and by having trained judges, as recommended by Adam Jaffe. This experiment was successful in America and the identical arrangements can easily be brought in India and Pakistan.

By increasing the budget of PTOs and by producing more professional and trained controllers, the quality of the Patents can be enhanced. Christine Siwik opines that professional controllers can confidently quash the substandard patents that will automatically and gradually make their quality better. Few bad patents in the market do not imply that the whole system is brimful of flaws. Controllers are humans; little laxity is but natural and condonable. Modifying the system for handful of bad patents does not justify this big change. By inducting a system of internal courts in patent offices; not only the quality of the patents

can be increased but the time and national resources can also be saved. The mistakes by the controllers or the petty disputes can be internally resolved by these internal courts.

Uniformity in the procedures and establishing Joint Data Base under the auspices of WIPO are some of the commendable and pragmatic steps to bring about coordination and cooperation among patent offices of different states. Other than that, there is dire need of increasing the number of controllers. Increase in their number will help speed up the patent process and will also have healthy effects on the quality of patents.

Having said all this, it is recommended and concluded with these words that FTI system of Patent filing is more fair and democratic whereas, FTF is unjust and aristocratic in nature and is harmful for the society in general. FTI should be retained and should be acted upon in its true letter and spirit.

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