

NON OBVIOUSNESS: THE US PERSPECTIVE AND ITS INFLUENCE ON THE INDIAN PATENT ACT

Written by *Bilal A. Nazeer*

Research Scholar, Inter University Centre For IPR Studies, Cochin University Of Science And Technology

ABSTRACT

For an invention to be patentable in the United States it must not be obvious to a person skilled in the art, along with novelty and utility¹. The “non obviousness” test has always been a critical test and the debate surrounding it was that whether only breakthrough inventions can pass through this hurdle or even minor developments can qualify the test. Tracking down the history of the development of the patentability standards shows that non obviousness was not recognized as a separate requirement is of recent origin². The Patent Act, 1790 is recognized as the first patent legislation in US³. But it did not contribute anything towards the development of non obviousness standard. The job of developing the standard was executed by the judiciary over a period of time⁴ but in India the job was mostly done by the legislature itself. The Indian Patent law as it stands today has developed through three stages, The colonial period, post independence period, and the globalization period. The colonial period saw the enactment of the Patent and Designs Act of 1911 which can be called as the first step towards a system of Patent administration in India which was based on the British law. The Patent Act, 1970 was the most important development in the post independent period which marked the era of strengthened Patent regime leading to the development of domestic industries and the amendments to the Act through the 1999, 2002 and 2005 Amendment Acts are the landmark developments post the globalization period.. The objective of this paper is to analyze the development of “non obviousness” as a separate standard of patentability in USA. The paper

¹ Patents Act 1977, c 37, art. 3.

² It found place in the statute in 1952 where non obviousness became a requirement of novelty under section 103(a).

³ John F. Duffy, *Inventing Invention: A Case Study of Legal Innovation*, 86 Tex. L. Rev. 1 (2007).

⁴ *Earl v. Sawyer*, 8 F. Cass. 254 (C.C.D. Mass. 1825) (No. 4,247).

also aims to make a study on the application of the non obviousness standard towards biotechnology inventions by the US judiciary. Finally the paper makes a comparative analysis of the non obviousness with its Indian version and tries to find out where the Indian law stands.

Development within novelty

The American patent law developed the concept of novelty into a “substantial novelty” requirement⁵. The substantial novelty requirement demanded that the claimed invention must possess substantial novelty when compared to what already existed. The substantial novelty requirement was an important stepping stone towards the development of the “non obviousness” requirement. The Act of 1790 required that the patent application must be submitted to a Board consisting of The Secretary of State, The Secretary for the Department of War, and the Attorney General⁶. The Board would grant a patent only if the invention was “sufficiently useful and important”⁷. Clarification as to what would become sufficiently useful and important was given by the Board in the form of certain rules. Thomas Jefferson has described the rules which were applied by the board apart from novelty and utility.

“As a member of the patent board for several years, when the law authorized a board to grant or refuse patents, I saw with what slow progress a system of general rules could be matured. Some, however, were established by the board. One of these was, that a machine of which we were possessed, might be applied by every man to any use of which it is susceptible, and that this right ought not to be taken from him and given to a monopolist, because the first perhaps had occasion to apply it. Thus a screw for crushing plaster might be employed for crushing corn-cobs. And a chain-in pump for raising water might be used for raising wheat; this being materially a change of application. Another rule was that a change of material should not give title to a patent. As the making of a plowshare of cast rather than of wrought iron; a comb of iron instead of horn or ivory, or the connecting buckets by a band of leather rather than of hemp or iron. A third was that a mere change of form should give no right to a patent, as a high-quartered shoe instead of a low one; a round hat instead of three-square; or

⁵ G. Curtis, *A Treatise on the Law of Patents for Useful Inventions in the United States of America* § 2 (1st ed. 1849).

⁶ 1 Stat.109, Act of April 10 1790, S.1.

⁷ *Id.* However the statute was silent regarding the meaning of the terms “sufficiently useful and important”

a square bucket instead of a round one. But for this rule, all the changes of fashion in dress would have been under the tax of patentees”.⁸

The rules can be summarized as

- Whatever was existing and which was in public knowledge cannot be patented.
- A change of material will not make an article patentable.
- A mere change of form also won't make an article patentable.

While the first rule was evidently on simple novelty the second and third rule was developed keeping in mind the substantial novelty concept and was a major step towards non obviousness⁹.

The Patent Act, 1793 brought two changes, it eliminated the Board and the requirement that invention must be sufficiently useful and important was also deleted¹⁰. Even when the Board was eliminated the rules framed by them influenced the new Act. This is evident from the fact that one of the rules found a place in the new Act as “simply changing the form or the proportions of any machine, or composition of matter, in any degree, shall not be deemed a discovery.”¹¹This section can be considered as the predecessor of modern provisions, were a new form of a known substance or mere admixture of existing substance are not patentable. However this requirement was not seen as an additional requirement but was within the concept of substantial novelty¹². But the fact is that substantial novelty requirement was establishing an additional patentability requirement silently.

The term obvious was used for the first time by Thomas Jefferson in his proposed bill for the amendment of the Act of 1790¹³. The term was not included as a standard but as a defence in case of patent infringement. However Jefferson's bill could not make out as the final legislation¹⁴. But it is widely misunderstood that it was the Jefferson's bill which formed the

⁸ Letter from Jefferson to Isaac McPherson (Aug. 13, 1813), in 13 *The Writings of Thomas Jefferson* at 335.

⁹ EC Walterscheid, *Novelty and Hotchkiss standard*, 20 Fed. Cir. B.J. 219 (2010) .

¹⁰ 1 Stat. 318, Act of February 21, 1793.

¹¹ 1 Stat. 318, Act of February 21, 1793, S. 2.

¹² Kenneth J. Burchfiel, *Revising the “Original” Patent Clause: Pseudo history in Constitution Construction*, 2 Harv. J. L. & Tech. 155, 192 (1989).

¹³ The Papers of Thomas Jefferson at 359-61 (C. T. Cullen ed. 1986); see also 6 *The Works of Thomas Jefferson* at 189-93 (P.L. Ford. Ed. 1904).

¹⁴ Edward C. Walterscheid, *Patents and the Jefferson Mythology*, 29 John Marshall L. Rev. 269, 289-97 (1995).

basis of the Act of 1793, even by the US Supreme Court¹⁵. As stated earlier, Judiciary was responsible for the creation of a new standard. The second part of the development saw the creation of a new doctrine from substantial novelty, called as equivalents. *Odiorne v. Winkley*¹⁶ is said to be the decision which initiated the new development. The doctrine was particularly applied to mechanical inventions. In case of patent over a later machine it is difficult to assert “whether one machine operates on the same principle as another” because “the same elements of motion, and the same powers, must be employed in almost all machines.”¹⁷ Justice Story held that in such cases the facts to be analyzed is “not whether the same elements of motion, or the same component parts are used, but whether the given effect is produced substantially by the same mode of operation, and the same combination of powers, in both machines”.¹⁸ This principle was later clarified in *Gray v. James*¹⁹ where Justice Washington held that “where the machines are substantially the same, and operate in the same manner, to produce the same result, they must be in principle the same.” The development reached a new level when it was decided in *Evans v Eaton*²⁰ that mere change in form or proportion is not enough to support patentability but change in principle of the machine is what is needed. These changes ultimately resulted in the new standard.

Earle v Sawyer was the next big thing as it can be called as the first case where a patent was challenged on the ground of obviousness²¹. Claimed invention was a circular saw in a shingle making machine. Prior art constituted a reciprocal saw in shingle making machine. Arguments challenging the patent are the interesting portions here. Something more than novelty and utility was argued to be necessary for patentability which is “mental labor and intellectual creation.”²² The mental labour needed was argued necessary to be more than what would “occur to all persons skilled in the art, who wished to produce the same result.”²³ A combination of two old things would not be patentable unless it is not obvious to the person skilled in the art. But Justice Story’s decision pushed back this positive change. He held that

¹⁵ *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980); *Graham v. John Deere Co.*, 383 U.S. 1, 7 (1966); and *General Talking Pictures Corp. v. Western Electric Co.*, 305 U.S. 124, 128 (1938).

¹⁶ 18 F. Cas. 581 (C.C.D.Mass. 1814) (No.10432).

¹⁷ *Id.*, at 582.

¹⁸ *Id.*

¹⁹ 10 F. Cas.1015, 1016 (C.C.D.Pa. 1817) (No. 5,718).

²⁰ 20 U.S. 356, 431 (1822).

²¹ 8 F. Cas. 254 (C.C.D.Mass. 1825) (No. 4,247).

²² *Id.*, at 255.

²³ *Id.*

the Act only requires that an invention be new and useful and nothing more was needed. A useful combination would be patentable if it has not been produced before²⁴. This decision was a setback as it tends to reduce the patentability barrier. The patent law before it, even when non obviousness was not recognized, had higher standard because the concept of non obviousness could be seen within novelty itself. An invention to be patentable had to be substantially different from anything which existed before.²⁵This “substantial difference” or the “something more” was the amount of invention necessary for patentability. Scholars have quoted that even when law does not look into the mental process by which the invention is made, it still demands that the result should show that there was some skill or ingenuity have been used.²⁶

The Hotchkiss Development

When the law was developing towards a new standard two major setbacks occurred. First was the decision in *Earl v Swayer*²⁷ and second was the Patent Act, 1936 which removed the provision that mere changes in form or proportions is not patentable.²⁸But these setbacks only helped in more push towards the development of non obviousness. A Treatise on American Patent law by William Philips referred back to the 1793 Act and called the “form or proportions” as a form of non obviousness²⁹. Philips contention that “change in form or proportions should not be obvious to person skilled in the art” is the general rule started getting recognition when a Circuit Court in *Hovey v Stevens*³⁰ applied that rule even when the current statute (1836 Act) had deleted it. Court held that the change in principle should not be an obvious change to the mechanic³¹. These developments can be called as the inspiration for the Supreme Court’s decision in *Hotchkiss v Greenwood*³².

²⁴ *Id.*, at 256.

²⁵ G. T. Curtis, *The Law of Patents for Useful Inventions in the United States of America* at 2 (1st ed. 1849)

²⁶ *Id.*, at 6.

²⁷ G. T. Curtis, *The Law of Patents for Useful Inventions in the United States of America* at 2 (1st ed. 1849).

²⁸ John F Duffy, *Inventing Invention: A Case Study of Legal Innovation*, 86 Tex. L. Rev. 1 (2007).

²⁹ “It is indeed but a branch of the more general rule in giving a construction to the law, namely, that any change or modification of a machine or other patentable subject, which would be obvious to every person acquainted with the use of it, and which makes no material alteration in the mode and principles of its operation, and which no material addition is made, is not a ground for claiming a patent”

See Willard Phillips, *The Law of Patents for Inventions*, 125-26 (Boston 1837).

³⁰ 12 F. Cas. 609, 612 (C.C.D. Mass. 1846).

³¹ *Id.*

³² 52 U.S. (11 How.) 248 (1850).

Hotchkiss was the landmark decision which clarified and replaced all the earlier decisions by holding that sufficient degree of skill and ingenuity is a condition for patentability³³. The claimed invention here was a door knob made from clay while the prior art constituted door knobs made from wood as well as metal. The significance of the invention was claimed to be that the new door knob was heat and fire resistant. Here the Court went a step ahead and set forth a general rule. While holding that the change at issue was only a formal change the court added that “every invention must show more ingenuity and skill than possessed by an ordinary mechanic.”³⁴ Thus the Court held that “improvement is the work of a mechanic and not of an inventor.”³⁵ Thus *Hotchkiss* set the standard of patentability at a higher degree and the ratio in *Hotchkiss* was later called as inventive novelty and can be considered as the predecessor of modern non obviousness requirement in USA. *Hotchkiss* was just the beginning and the standard started to move from more than a mechanic to inventive genius³⁶.

The claimed invention in *Cuno* was a automatic cigarette for cars. Prior art consisted of cigarette lighters which the user had to hold. Problem with those lighters was that if it was not held properly then lighter would not get hot and if it is held for longer than the lighter would burn. The development which the alleged inventor made was that thermostatic controllable lighter which would automatically turn off when it was fully charged. The Court here held that there was ingenuity but it was that of a mechanic³⁷. An invention in order to be patentable should be the result of a flash of creative genius³⁸. *Cuno* set the skill required by an inventor as proposed by *Hotchkiss* at a very high level. This was further upheld in *Great Atlantic & Pacific Tea Co. v. Supermarket Equip Corp*³⁹. Such a stringent standard was not welcomed by most particularly patent practitioners⁴⁰. Wide criticism arose against the new development even from Judiciary⁴¹.

³³ *Id.*, at 267.

³⁴ *Id.*

³⁵ *Id.*

³⁶ *Cuno Engineering corp v Automatic Devices Corp*, 314 U.S. 84 (1941).

³⁷ *Id.*, at 91.

³⁸ *Id.*

³⁹ 340 U.S. 147 (1950).

⁴⁰ *Hovey v Stevens* 12 F. Cas. 609, 612 (C.C.D. Mass. 1846).

⁴¹ Justice Jackson in his judgment in *Jungersen v. Ostby & Barton Co.*, 335 U.S. 560, 572 (1949) criticized the flash of inventive genius doctrine.

Codification and the Graham effect

In response to the new developments the Congress stepped out to include the new requirement in the Patent Act. Thus the term “obvious” found a place in the statute for the first time through the Patent Act of 1952⁴². This new standard required that new and useful advancement would be unpatentable “if it is obvious at the time when the invention was made to a person having ordinary skill in the art to which said subject matter pertains.”⁴³ This section was intended to codify the earlier judicial pronouncements. The codification was also aimed to reject the flash of inventive genius concept by providing that “patentability should not be negated by the manner in which the invention was made.”⁴⁴

The next major development was the *Graham*⁴⁵ decision which came after 14 years from enactment. The Court laid down the guidelines to be followed when assessing the non obviousness standard. The claimed invention in *Graham* was a plough whose shaft was attached to hinge plate. The shaft was placed below this plate so that damage to the plate could be prevented when it cut through the soil.⁴⁶ Prior art consisted of a plough whose shaft was above the plate⁴⁷. The question at issue here was whether the change of the position shaft was an obvious change or not? Court held that a three step analysis is necessary for finding whether an invention is obvious.⁴⁸

- Scope and content of the prior art must be determined.
- Differences between the claimed invention and the prior art must be ascertained.
- determine whether those differences would have been obvious to a person having ordinary skill in the art.

On making these analysis the Court held that the claimed invention was an obvious change and hence not patentable⁴⁹. *Graham* thus laid down a frame work for the analysis of the non obviousness standard. But the problem with the decision was that it just laid down the general

⁴² 35 U.S.C. s103 (a).

⁴³ *Id.*

⁴⁴ 35 U.S.C.A. 103.

⁴⁵ *Graham v John Deere and co.* 383 U.S. 1 (1966).

⁴⁶ *Id.*, 19 – 21.

⁴⁷ *Id.*

⁴⁸ *Id.*, at 17.

⁴⁹ *Id.*, at 27.

guidelines to be followed but it did not assert the degree of difference needed from the prior art nor did it make clear what amount of creativity would be not obvious to a person having ordinary skill in the art. The result of this is that the *Graham* ratio was a flexible one where the line of non obviousness could be drawn at higher standard or at a lower standard. This flexibility was used by the later Courts to lower the non obviousness standard. The secondary considerations pronounced by the *Graham* Court added fuel to fire. Degree of commercial success and long felt but unresolved needs were the two economic factors which were included as secondary considerations.⁵⁰ Later Federal Courts recognized these secondary considerations as important factors by calling it not an icing on a cake but objective evidence⁵¹ and as the fourth step in the identification of non obviousness⁵².

Non obviousness and Biotechnology inventions.

The 1980s witnessed the rapid jump of science and technology and emergence of biotechnology as a major area for patents. Even when the patent law demands that patentability requirements should be applied equally for all technologies the Federal circuit has lowered the non obviousness standard for biotechnology inventions⁵³. *In re Bell*⁵⁴ is considered as the first case relating to biotechnology which had a substantial question of non obviousness. The claimed invention was DNA and RNA sequences encoding human insulin like growth factors⁵⁵. There were two pieces of prior art which disclosed the amino acid sequence corresponding to the claimed sequences and the method for isolating a gene when a part of the sequence is known⁵⁶. The federal circuit held the patent to be valid on the ground that there was no teaching or suggestion in the prior art towards the claimed DNA and RNA sequences⁵⁷. The Court's reasoning was that the genetic code in prior art would allow only to hypothesis possible structures. Since there is repetition in the genetic code, the sequence in prior art could be

⁵⁰ *Id.*, at 18.

⁵¹ *Hybritech, Inc. v. Monoclonal Antibodies, Inc.* 802 F.2d 1367 (1986).

⁵² *Vandenberg v. Dairy Equip. Co.*, 740 F.2d 1560, 1566-68 (Fed. Cir. 1984).

⁵³ Kate M. Lesciotto, *KSR: Have Gene Patents Been KO'd? The NonObviousness Determination of Patents Claiming Nucleotide Sequences When the Prior Art Has Already Disclosed the Amino Acid Sequence*, 86 WASH.U.L. REV.209 (2008).

⁵⁴ 991 F.2d 781 (Fed. Cir. 1993).

⁵⁵ *Id.*, 782.

⁵⁶ *Id.*, at 783.

⁵⁷ *Id.*, at 785.

encoded in 10^{36} possible ways⁵⁸. The prior art did not teach or suggest anything particularly towards the claimed sequences when such a large number of possibilities were present. Thus the federal circuit used the teaching and suggestion test to set the non obviousness standard for patenting a biotechnology invention. The trend had just begun and the decision inspired the cases which followed.

*In re Deuel*⁵⁹ followed *In re Bell*. Claimed invention here was isolated and purified DNA and cDNA sequences that encode heparin binding growth factor⁶⁰. The difference with *In re Bell* was that prior art in *Bell* disclosed full amino acid sequence of the protein while here prior art disclosed only first 19 amino acids.⁶¹ The prior art here also consisted of a method for isolating gene (similar to *Bell*).⁶² The federal circuit found the claims to be non obvious on the ground of lack of structural similarity. Court held that the prior art did not teach or suggest anything similar in structure to the claimed invention. The court also held that knowledge of a general technique and partial amino acid sequence would not make a person skilled in the art to create the claimed structures⁶³. Even when it was obvious to try the court held that sequences were themselves were not obvious⁶⁴. The Court denounced an "obvious to try" test as a valid basis for obviousness. The Court reasoned that an obvious method of isolating or preparing a particular DNA molecule does not render obvious the DNA molecule itself. Even if one knows how to isolate a particular DNA, for the DNA itself to be obvious, "there must be prior art that suggests" that particular DNA⁶⁵.

Thus it is evident that Federal Circuit tend to bend the non obviousness standard to a a lower extend in order to protect biotechnology inventions. But the decision in *KSR International V Teleflex, Inc*⁶⁶ was a major blow for these decisions. The *KSR* Court rejected the federal Circuits application of TSM test too strictly⁶⁷. Court held that the examination must not be limited to the precise problem which the patentee was addressing⁶⁸. The reason which

⁵⁸ *Id.*

⁵⁹ 51 F.3d 1552 (Fed. Cir. 1995).

⁶⁰ *Id.*, at 1553.

⁶¹ *Id.*, at 1556.

⁶² *Id.*

⁶³ *Id.*, at 1558.

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ 127 S. Ct. 1727 (2007).

⁶⁷ *Id.*, at 1739.

⁶⁸ *Id.*

the court gave was that a person skilled in the art would be aware of other problems existing in the same area which would motivate the notional person to combine the elements in prior art⁶⁹. This meant that the prior art need not be directly teaching the claimed invention to be obvious. *KSR* Court set the knowledge of the notional person at a higher degree when compared to *In re Bell* and *In re Deuel*. Court called the notional person as a person with common sense who is capable of understanding that familiar things may have uses other than what is known. Court found the claimed invention on the ground that obvious to try coupled with reasonable expectation of success would make an invention obvious⁷⁰.

KSR was not a biotechnology issue but a mechanical one but the Supreme Court laid a General principle which is applicable for all fields of technology. The *KSR* ratio was adopted to biotechnology issue *In re Kubin*⁷¹ where the Federal circuit held that a PHOSITA would reasonably try all available methods to clone with a "reasonable expectation that at least one method would be successful." The claimed invention was a DNA encoding natural killer cell activation ligand. Prior art constituted a publication describing the nucleotide sequence of the mouse homologue of the human NAIL protein⁷² and a method for cloning DNA⁷³. The Court's analysis did not focus on the DNA molecule itself as a chemical structure or sequence. Instead, the analysis focused on the problem to be solved, the availability of methods to solve it, and a reasonable expectation of success⁷⁴. The Court found that obvious to try coupled with reasonable expectation of succession will make an invention obvious.

The non obviousness standard developed by the Courts had been diluted by themselves. The development of this standard from substantial novelty to more than improvement was a positive change which further was tightened by the flash of inventive genius. But the addition of secondary considerations in *Graham* diluted the standard. The standard was diluted further when applied to biotech inventions. This was evident by the decision in *Bell* and *Duel*. *KSR* ruling tried to set the non obvious standard high by setting PHOSITA at a higher position. By

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ 561 F.3d 1351 (Fed. Cir. 2009).

⁷² European Patent Application No. 0326075 (published Aug. 2, 1989).

⁷³ Maniatis, Tom, *Molecular Cloning : A Laboratory Manual* / T. Maniatis, E.F. Fritsch, J. Sambrook. T. Maniatis, Cold Spring Harbor, N.Y. Cold Spring Harbor Laboratory (1982).

⁷⁴ 561 F.3d 1351 (Fed. Cir. 2009).

applying the *KSR* proposition to biotechnology *In re Kubin* raised the non obvious standard in biotech inventions also. But the MPEP 2014 of USA provides that an invention will be obvious only if the invention as a whole was obvious earlier. This tends to dilute the ruling in *KSR* that obvious to try coupled with reasonable expectation of success makes an invention obvious.

The shift from the obvious to try doctrine by the MPEP may be due to the apprehension that higher standard of non obviousness would make patenting of biotech inventions almost impossible This is because most of the patenting in biotech field is occurring in the areas of second generation proteins and cDNA. If the standard is such that an amino acid sequence and a method for isolating and purification in the prior art makes a second generation protein obvious then no second generation proteins can ever be patented. similar is the case of cDNA whose difference from the original DNA is that of the absence of an intron. Even the nature of the nuclues of cDNA remains the same as that of the parent DNA.

If obvious to try coupled with reasonable expectation of success is the degree of obviousness then practically no cDNAs can ever be patented. The cDNAs were held to be patentable in *Myriad genetics* were no discussion on the non obviousness of cDNA was made.

India's Move Into The Modern World

India became the best example of how patent law can be used for the establishment and development of domestic industries. Domestic pharmaceutical industries developed rapidly after the enactment of the 1970 Act as the generic firms overtook the MNCs in the Indian market.⁷⁵ Even when there was great leap of Indian industries the number of genuine innovations and patents by the Indian firms remained negligible.⁷⁶ But things change rapidly towards the end of the 1980s. India's move from an under developed country to a global power demanded its entry into the WTO. International pressure and fear of restriction of her exports compelled India to accept TRIPS.⁷⁷ Thus India became a member of WTO on January 1, 1995.

This period marked the high point of Biotechnology patents in USA. The non obviousness requirement in USA was dropped to a very low standard in order to protect biotechnology

⁷⁵ Yusuf K. Hamied, *Indian Pharma Industry-Decades of Struggle and Achievements*,(NOV 29, 2017 at 11.30 am) available at <http://www.arvindguptatoys.com/arvindgupta/avra-hamied.pdf>,

⁷⁶ Amiya Kumar Bagchi, *Indian Patents Act and Its Relation to Technological Development in India: A Preliminary Investigation*, *Econ. & Pol. Wkly* at 287 (Feb. 18, 1984).

⁷⁷ N.K. Chowdhry & J.C. Aggarwal, *Dunkel Proposals: The Final Act1994: Significance for India and the World Trade* 13 (1994).

inventions⁷⁸. This was aimed at protecting the American firms since 80% of the biotechnology patent applications filed in USA were American firms. But in the starting of the 21st century they tightened their non obviousness standard and was strictly interpreted even Biotechnology patent issues.⁷⁹ Acceptance of the TRIPS agreement demanded substantial change to the Indian Patent Act. It became mandatory to provide product and process patent for all fields of technology. Protecting the generic industries could no longer be done under the subject matter. A strict interpretation of the inventive step requirement was seen as the only step for protecting the health concerns of the country. Globalization extended its clutches to India in the form of “balance of payment crisis”.⁸⁰

Inventive Step As A Patentability Criterion

The amendments of the Patent Act in 1999, 2002 and 2005 were aimed to make the Indian law in conformity with TRIPS. Thus the term inventive step found a definition in the patent Act in 2002 which is “inventive step” means a feature that makes the invention not obvious to a person skilled in the art.”⁸¹ But the definition was amended again in 2005 to be “inventive step” means a feature of an invention that involves technical advance as compared to the existing knowledge or having economic significance or both and that makes the invention not obvious to a person skilled in the art.”⁸². Economic significance was added as a part of the definition. But a close analysis of the history of Indian Patent law suggests that economic significance was inbuilt in non obviousness in India. But the strong point was that economic significance alone did not make an invention patentable but the technical advancement should have resulted in the economic significance. Thus economic significance was interlinked and was only secondary to ingenuity. It is widely feared that the addition of economic significance has lowered the strength of inventive step. The first judicial decision on inventive step came after the term was inserted through the 2005 Amendment Act. Technical advancement did not mean that the product developed should be a totally new product. Even if a product is substantially improved by an inventive step, it would be termed to be an Invention⁸³. The above

⁷⁸ *In re Bell* 991 F.2d 781 (Fed. Cir. 1993), *In re Deuel* 51 F.3d 1552 (Fed. Cir. 1995).

⁷⁹ *KSR International V Teleflex, Inc*, 127 S. Ct. 1727 (2007) and *In re Kubin* 561 F.3d 1351 (Fed. Cir. 2009) where the KSR test was applied to Biotechnology invention.

⁸⁰ Stephen Philip Cohen, *India: Emerging Power*, Brookings Institute Press, 20 (2001), at 101.

⁸¹ No. 38 of 2002, Patent (Amendment) Act, S. 2(1)(ja).

⁸² No. 15 of 2005, Patent (Amendment) Act, 2(1)(ja).

⁸³ *Dhanpath Seth v Nilkamal Plastics*, AIR 2008 HP 23.

ratio by the Himachal Pradesh High Court in *Dhanpath Seth v Nilkamal* gives an insight into the term technical advancement. Claimed invention is a kilta made up of polypropylene copolymer or plastic and has detachable nylon straps with buckles. A Kilta is made of bamboo and has been used for a long period for the purpose of carrying forest products and agricultural products in hilly terrains. The legal question was whether the change of material from bamboo to plastic and the development of adjustable nylon straps with buckles was inventiveness. Or does the replacement of a natural element of a subject matter with an artificial element to serve the same purpose contribute an invention? Even when the cost of production of plastic Kiltas are high it has a much higher longevity so definitely it is economically significant. Addition of detachable nylon strap has rendered it easy to carry heavy load, therefore proving its technical advancement⁸⁴. Therefore the change from bamboo to plastic has technical advancement as well as economic significance. But the fact is that the Act does not recognise economic significance or technical advancement alone, a non obviousness requirement is attached along with it. The technical advancement must not be a trivial one as the non obviousness rule follows it. The objective of granting patent for advancements is the advancement of science itself. If the technical advancement claimed is a minor one or something which is an obvious extension of the existing knowledge or something which a person skilled in the art would find out on addressing the problem, then it does not contribute towards advancement of science. The process of making synthetic items based on traditionally known items is not a new practice. Traditional such as chairs, tables, jars etc made out of woods or other natural materials have been replaced by synthetic materials. Therefore the application of polypropylene copolymer in the traditional kilta is only an obvious technical advancement from existing knowledge. The Court explained 'inventive step' as a technical advancement as compared to existing knowledge taking place in a known product or improvement of economic significance in the development of the already existing product which is not obvious to people skilled in the art⁸⁵. The Court but did not shed any light into the use of s.3(p) in analyzing whether kilta was an invention⁸⁶. Undoubtedly the claimed invention was developed from a traditional product but the Court failed to make an analysis of inventive concept when traditional knowledge was used. The invention was clearly a combination of elements from traditional knowledge and hence would

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ “an invention which In effect, is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known component or components.” See, No. 15 of 2005, Patent (Amendment) Act, s.3(p).

be excluded from patent eligibility under s.3(p) because everything of the artificial kilita was part of the traditional knowledge.

An interpretation of the non obviousness post 2005 amendment can be found in the Delhi High Court decision in *Hoffman la Rosche Ltd v. Cipla Ltd*.⁸⁷ Justice Bhat held that obviousness does not mean that a material or formula was already published but can a normal but unimaginative person skilled in the art discern the step in light of the common general knowledge already existing in the prior art.⁸⁸ The deciding factor in non obviousness according to the Court was that the difference between the prior art and the alleged invention should not have been obvious to the person skilled in the art, ie, the difference require high degree of ingenuity.⁸⁹The Court was relying on the English test of *Windsurfing International v. Taburmarine, Inc*⁹⁰ for the purpose of analyzing inventive step

- Determination of the scope and content of the prior art
- determining the level of the ordinary skill in the prior art
- identifying the difference between the prior art and alleged invention.
- Objective evidence for proving non obviousness.

Thus inventive step requirement in India has shades of both the USA and English counterparts. However the legislature has tried to keep the standard higher than the US and English standards even in this new scientific world.

Conclusion

The concept of economic significance is more of an “industrial application” concept rather than an inventive step concept as it concentrates on the use or final application of the invention. The concept of economic significance can be seen in the form of “cheaper article” in *Biswanath Prasad Radhey Syam v Hindusthan Metal Industries*⁹¹. No other aspects of economic significance have been discussed by Indian Judiciary and the “cheaper article” term is what is

⁸⁷ (2008) 37 PTC 71.

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ (1985) RPC 59.

⁹¹ AIR 1982, SC1444.

used in relation to economic significance time and time again⁹². The inclusion of economic significance as a “possible” ground for proving inventive step is widely seen as reducing the strength of the patentability standards⁹³. In practicality this fear is not entirely true as the economic significance; put forward in place of the technical advancement should also satisfy the non obvious criteria. So every economic significance will not make a claim inventive but only those claims whose economic significance which is not obvious to the person skilled in the art will be inventive. Still it would have been much stronger if the term economic significance would have been entirely removed from the definition as it is part of utility criteria. The inclusion of this ground may have been inspired form the secondary considerations of non obviousness requirement as laid down by the US Supreme Court in *Graham v John Deere*.⁹⁴

⁹² *Mariappan v A R Safiullah & Ors*, 2008 (38) PTC 341 Mad.

⁹³ K.M. Gopakumar & Tahir Amin, *Patents (Amendment) Bill 2005: A Critique*, 40(15) ECON. & POL. WKLY. 1503, 1504 (2005).

⁹⁴ 383. U.S.1(1966).