A Critical Analysis Of The Development Of The “Inventive Step” Criteria For Grant Of Patent

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Introduction:

A patent is a form of industrial property which may be broadly described as a monopoly right conferred by the state to an inventor to industrially and commercially exploit his invention at the cost of making a complete disclosure of the details of his invention. A patent is thus a statutory privilege granted by the Government to an inventor, and to other persons deriving their rights from the inventor, for a fixed period of years, to exclude other persons from manufacturing, using or selling a patented product, or from utilising a patented method or process. At the expiration of the period of the patent, the patented invention is available to the general public or as it is sometimes put, falls into the public domain.

The object of patent law is to encourage scientific research, new technology and industrial progress. Grant of exclusive privilege to own, use or sell the method or the product patented for a limited period stimulates new inventions of commercial utility. The price of the grant of monopoly is the disclosure of the invention at the Patent Office, which after expiry of the fixed period of monopoly, passes into the public domain.

A patent confers a statutory privilege on an inventor i.e. that there is no common law of patents. As seen above, India became a signatory to the TRIPS Agreement in 1995 and as such was bound to embody the principles contained therein into its domestic intellectual property legislation.

Keeping in mind its obligations under TRIPS, the Patents Act, 1970 came to substantially amended in 2002 and again in 2005. In light of the TRIPS Agreement, the Patent Act, 1970 prescribes that an invention must satisfy the trinity requirements of novelty, innovativeness and usefulness in order to receive a patent under the Act.

Requirements for Grant of Patent:

The Patents Act, 1970 of India specifies the provisions that are used by the Indian Patent Office and the courts to determine whether a product or a process is worthy of a patent in India. The Act, vide Section 2(1)(m), provides that a patent may be granted for an “invention”. Further, the definition of “invention” is provided under Section 2(1)(j) of the Act as a new product or process involving an inventive step and capable of industrial application.

India as a signatory to TRIPS, has adopted the trinity requirements as specified therein in order to ascertain the patentability of an invention. Therefore, the criteria for an invention to be patentable are,

(1) it has to be novel;
(2) it has to involve an inventive step;
(3) it has to be industrially applicable.

Apart from satisfying these criteria, the invention should also not fall under the category of non patentable subject matter, as per Section 3 of the Indian Patent Act.¹

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¹ http://ipkitten.blogspot.in/2014/03/inventive-step-in-india-getting-better.html
1. Novelty:

The first ingredient for an invention is that it must be a new product or a new process. Novelty means what is new and original, never seen or done before. An invention is taken to be new if it does not form a part of the state-of-the-art. In order to be patentable, the new subject must involve invention over what is old.

2. Inventive Step:

An ‘inventive step’ is one which makes the invention ‘non-obvious to a person skilled in the art’. In other words, if the invention is obvious to the person skilled in the art, it cannot be said to involve an inventive step.

3. Industrial Applicability:

Industrial applicability means the invention is capable of being made or used in the industry. A patent can only be granted for an invention which is susceptible of industrial application, i.e. for an invention which can be made or used in some kind of industry.

Evolution of the Definition of Inventive Step in India:

The invention was defined under Section 2(1) (j) the Indian Patents Act, 1970 as;

(j) “invention” means any new and useful-art, process, method or manner of manufacture; machine, apparatus and other article; substance produced by manufacture, and includes any new and useful improvement of any of them, and an alleged invention.

As inventive step was not defined in an invention, there was no such provision during examination. Therefore under the 1970 Act onus that the invention does not involve any inventive step was on the person interested.

There was no change in the definition of ‘invention’ till 2003. Definition of invention changed under the Patent Amendment Act in 2003 (that came into effect on 20.05.2003) as,

Section 2(1)(j) “invention” means a new product and process involving an inventive step and capable of industrial application.

After which the inventive step was also considered during the examination and the Inventive step was defined under Section 2 (1)(ja) of the Patents Act as,

“inventive step” means a feature that makes the invention not obvious to a person skilled in the art”.

Further under the Patent Amendment Act, 2005 (which came into effect retrospectively 01.01.2005) the Definition of Inventive step was further revised.

Now under Section 2(1)(ja) the “inventive step” means a feature of an invention that involve 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.

Even the official manual of the Indian Patent practice acknowledges that “definition of inventive step has been enlarged to include economic significance of the invention apart from already existing criteria for determining inventive step”. Further it is apparent from the intention of the legislature that either the economic significance or technical advancement has to be present for qualifying the invention under the inventive step².

² http://www.hg.org/article.asp?id=5513
Interpretation of Inventive Step in Foreign Countries:

The expression “inventive step” is predominantly used for instance in European Union while the expression “non-obviousness” is predominantly used in United States of America. The assessment of the inventive step and non-obviousness varies from one country to another while the underlying basic principal remains the same. Therefore the practice of the different patent office differs from each other.

European Patent Office:

Under Article 52(1) in conjunction with Article 56 of the European Patent Convention, European patents shall be granted for inventions which inter alia involve an inventive step, that is, the invention, having regard to the state of the art, must not be obvious to a person skilled in the art. For assessment of the inventive step the European Patents Office follows the “Problem solution approach”. The various steps included in this approach are:

- Identifying the closest prior art, i.e., the most relevant prior art;
- Determining the objective technical problem, i.e., determining, in view of the closest prior art, the technical problem which the claimed invention addresses and successfully solves; and
- Examining whether or not the claimed solution to the objective technical problem is obvious for the skilled person in view of the state of the art in general.

If the skilled person would have been prompted to modify the closest prior art in such a way as to arrive at something falling within the terms of the claims, then the invention does not involve an inventive step.

United States of America:

"Non-obviousness" is the term for “inventive step” used in US patent law and codified under 35 U.S.C. §103. Thereby implying that a "person having ordinary skill in the art" would not know how to solve the problem at which the invention is directed by using exactly the same mechanism.

The factors a court will look at when determining obviousness and non-obviousness in the United States are:

- the scope and content of the prior art;
- the level of ordinary skill in the art;
- the differences between the claimed invention and the prior art; and
- objective evidence of non obviousness.

Japan:

Apart from the universal general approach followed all over the world, in Japan there is also a specific approach for formulating reasoning that includes steps of:

- Grasping the claimed invention and the cited invention (one or more cited inventions). In this case, the technical matter, which can be derived by taking the common technical knowledge into consideration, can be used for grasping the cited invention.
- Selecting one cited invention (primary cited invention) which is most suitable for formulating and comparing the claimed invention with such cited invention and then clarifying the identicalness and the difference in technical elements.
- Evaluating whether any reasoning for negating the inventive step of claimed invention can be formulated based on the content of the primary cited invention and other secondary cited invention(s) (including the well-known technique and conventional technique).

3 http://www.hg.org/article.asp?id=5513
4 ‘Patents: Interpretation of Obviousness’ by Sudhir Kumar
“Inventive Step” as laid by the Indian Patent Act:

The term “inventive step” plays a vital role in deciding whether a patent should be granted to a proposed invention.

As per sec 2 (l) of the Patents Act, a new invention means any invention or technology which has not been anticipated by publication in any document or used in the country or elsewhere in the world before the date of filing of patent application with complete specification, i.e., the subject matter has not fallen in public domain or that it does not form part of the state of the art.

In 2005, India, for the first time, defined as to what constitutes an "inventive step" by incorporating a new provision in the definition section of the Patents Act. Section 2(1)(ja) of the Act defines "inventive step" to mean "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".²

If an invention lacks the presence of an inventive step, then, this deficiency can be considered as valid grounds for opposition for the grant of a patent, under section 25 (1)(e) and 25 (2)(e) and for revocation under section 64 (1)(f) of the Act.

Case Law Interpretation on Inventive Step:

Bishwanath Prasad Radhey Shyam v. Hindustan Metal Industries⁶

This case can be considered to be the most important case in interpretation of inventive step in the Indian jurisdiction. Though the case was decided in 1978, the principles laid down in the case are followed even today and have been codified in the Indian Patent Act.

The plaintiff (Hindustan Metal Industries, a registered partnership firm carrying on the business of manufacturing brass and German silver utensils at Mirzapur) in this case claimed to have invented a device and method for manufacturing utensils, introducing improvement, convenience, speed, safety and better finish, in the old prevalent method which was fraught with risk to the workers, in as much as the utensils used to fly off from the headstock, during the manufacturing process. The plaintiff got the invention patented, as an assignee, under the Indian Patent and Designs Act, 1911 on May 6, 1951 with effect from December 13, 1951. In September 1952, the plaintiff learnt that the defendant (Bishwanath Prasad Radhey Shyam, a concern carrying on the business of manufacturing dishes and utensils in Mirzapur) was using and employing the method under the former’s patent. The plaintiff served a notice upon the defendant asking him to desist from infringing the plaintiff’s patent and further claim damages for Rs. 3000. The validity of the patent was challenged by defendants on the ground of lack of novelty and inventive step and also filed a counter claim praying for the revocation of the plaintiff’s patent on the same ground. A division bench of a district court of Allahabad started its analysis of inventive step and after considering the prior art in the case, stated that the patented invention was merely an application of an old invention, known for several decades before the plaintiff’s patent, which was no more than a workshop improvement. The court as a result had issued the petition for revocation on the patent. The plaintiff made appeals to a division bench of the High Court, where the appellate bench concluded that the method of manufacture did not involve any inventive step or novelty. Furthermore, as the invention was publicly used by the patent holder before the date of filing of the patent application, the Court observed that the novelty of the invention was negated. In the light of its analysis, the court concluded that the invention lacked novelty and inventive step.

Assessment of Inventive Step:

The test to ascertain whether an invention involves an inventive step is expressed in Halsbury Laws of England as: ‘was it for practical purposes obvious to the skilled worker, in the field concerned, in

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² http://ipkitten.blogspot.in/2014/03/inventive-step-in-india-getting-better.html
⁶ AIR 1982 SC1444

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the state of knowledge existing at the date of the patent to be found in the literature then available to him, that he should or would make the invention the subject of the claim concerned.\textsuperscript{7}

If, a product or a process is novel, the next question that arises is "Is the approach obvious and if it not then what is the depth of the inventive measures taken by the inventor". To determine obviousness is to find out whether the person, with ordinary skill in the art, would have come up with similar innovation for the technical problem under similar circumstances without being provided with the solution.

Since the Patents Act (1970) was brought into force, there have been a few cases in India that have dealt with the obviousness issue extensively. The Supreme Court held that obviousness has to be strictly and objectively judged. The Supreme Court further recognized that obviousness is something that is a natural suggestion of what was previously known.

A structured approach to determine obviousness consisting of four steps was expounded in Windsurfing International v Tabur Marine\textsuperscript{8}:

\begin{enumerate}
\item Identify the inventive concept in the suit
\item Keep in mind a normally skilled, but unimaginative person having common general knowledge of the concerned art as at the priority date will be the date from which the objector to the patent would allege inventive step was obvious
\item Through the spectacles of the aforesaid skilled person identify differences, if any, between the matter cited as being known or used and the alleged invention;
\item Finally, without considering the alleged invention, consider whether the differences would see to the aforesaid skilled person such as leading obviously to the alleged invention or that a degree of invention would be necessary to obtain the invention.
\end{enumerate}

Novartis v. Union of India\textsuperscript{9}:

Novartis filed an application for grant of patent for chemical compound called Imatinib Mesylate which is a therapeutic drug for chronic myeloid leukemia and certain kinds of tumours and is marketed under the names “Glivec” or “Gleevec” at the Chennai Patent Office on July 17, 1998. In the application it claimed that the invented product, the beta crystal form of Imatinib Mesylate, has more beneficial flow properties better thermodynamic stability and lower hygroscopicity than the alpha crystal form of Imatinib Mesylate and further claimed that the aforesaid properties makes the invented product novel. The patent application had attracted five (5) pre-grant oppositions in terms of section 25(1) of the Act. The Assistant Controller of Patents and Designs heard all the parties, on December 15, 2005, as provided under rule 55 of the Patent Rules, 2003, and rejected the appellant’s (Novartis) application for grant of patent to the subject by 5 (five) separate, though similar, orders passed on January 25, 2006 on the opposition petitions. The Assistant Controller held that the invention claimed by the appellant was anticipated by prior publication, i.e., the Zimmermann patent; that the invention claimed by the appellant was obvious to a person skilled in the art in view of the disclosure provided in the Zimmermann patent specifications. The Supreme Court of India rejected Novartis patent plea on April 1, 2013

In order to ascertain whether an invention subscribes to the requirements of an ‘inventive step’, a two pronged approach may be adopted. Firstly, ascertaining what was the state of the art before the relevant date of the complete specification filed pursuant to an application for a patent, and secondly

\textsuperscript{7} Enercon (India) Limited v. Alloys Wobben, http://www.ipab.tn.nic.in/orders/240-2010.htm
\textsuperscript{8} Windsurfing International v Tabur Marine 1985 RPC 59
\textsuperscript{9} Civil Appeal No. 2706-2716 of 2013
having regard to the state of the art, ascertaining whether the alleged inventive step would have been obvious to a person skilled in the art.\textsuperscript{10}

**State of Prior Art:**

For an invention to be judged as novel, the disclosed information should not be available in the ‘prior art’. This means that there should not be any prior disclosure of any information contained in the application for patent (anywhere in the public domain, either written or in any other form, or in any language) before the date on which the application is first filed i.e. the ‘priority date’. Although the term ‘prior art’ has not been defined under the Indian Patents Act, it shall be determined by the provisions of section 13 read with the provisions of sections 29 to 34 of the Act.

The following has been indicated as ‘prior art’ vide the Act\textsuperscript{11}:

(a) anticipation by publication before the date of the filing of the application in any of the specification filed in pursuance of application for patent in India on or after the 1st day of January 1912;

(b) anticipation by publication made before the date of filing of the application in any of the documents in any country;

(c) claim in any claim of any other complete specification filed in India which is filed before the application but published after said application;

(d) anticipation having regard to the knowledge, oral or otherwise, available within any local or indigenous community in India or elsewhere.

From the above it is clear that in order for an invention to be anticipated by virtue of a patent, the patent must have been granted in India alone.\textsuperscript{12} Thus, a patent granted in any other country would not constitute ‘prior art’ for the purposes of the Act.\textsuperscript{13} However, if the patent is anticipated by publication, it is irrelevant whether the publication occurred in India or elsewhere.

An invention is not considered ‘new’ if the claimed invention is publicly known or publicly used in India before the priority date.\textsuperscript{14} As observed by the Supreme Court in Monsanto:

‘Publicly known does not mean that it must be published in a document, although not found in a book, it may form a part of the common knowledge among the public concerned. It also does not mean that it should be widely used to the knowledge of the consumer. It is sufficient if it is known to persons who are engaged in the pursuit of knowledge of the patented product or process, either as men of science or men of commerce or as consumers.’\textsuperscript{15}

The Supreme Court in Bishwanath Prasad’s case observed that prior public knowledge of the alleged invention would disqualify the grant of a patent. Publications concerning the invention whether through word of mouth or through books or media would, therefore nullify any subsequent attempt to secure a patent.

**Person skilled in the art:**

A skilled person would be a person who ‘has experience of the field in question and he may be one who have available assistants who would carry out tests’.\textsuperscript{16} In order to pass the test of obviousness,

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\textsuperscript{10} Molnycke A.B. v Procter and Gamble 1994 RPC 49; Hoechst Celanese Corp. v B.P Chemicals 1997 FSR 547, 562.

\textsuperscript{11} These provisions may be found in Chapter IV of the Act containing provisions for publication and examination of applications for patent and Chapter V of the Act dealing with opposition to grant of a patent.

\textsuperscript{12} S. 13(1); s. 25(1)(b);s.25(1)(c);s.27(a);s.64(1)(a) of the Act

\textsuperscript{13} A patent granted in US would not be a bar to a patent in India for the same invention.

\textsuperscript{14} S. 64(1)(e)

\textsuperscript{15} Monsanto v Corommandal AIR 1986 SC 712, 717

\textsuperscript{16} PLG Research v Ardon 1993 FSR 197, 207
the prior art referred above must be of such nature as to inform the skilled person as to how the invention derived from the prior art is to be performed. In other words, the person skilled in the art must have the necessary information (through the prior art) to take the inventive step in question.\(^\text{17}\)

Obviousness is judged based on the hypothetical construct of a "person of ordinary skill in the art". The person of ordinary skill in the art must:

- belong to the relevant field.
- look at the prior art from a position of his personality, considering his/her interest in risk taking.
- be well aware of the fact that even a small structural change in a product or in a procedure can produce dramatic functional changes.\(^\text{18}\)

The person of ordinary skills in the art must be given the problem and asked whether he can solve it. This is what is referred to as the 'Hindsight Element'. Obviousness is not established by drawing a line from the solution to the problem, or by finding the explanation for how the inventor did it. It is not permissible to look at the invention and try and figure out the logic behind it and then look for prior art documents which support disclosures throwing light on such logic. Therefore, the person of ordinary skill in the art would constantly be conditioned by the prior art and, before taking action, would carefully ponder any possible modification, change or adjustment against the background of the existing knowledge.

Conclusion:

Object of grant of patent is to encourage scientific research, new technology and industrial progress and for that object exclusive privilege is granted. At the same time before awarding patent for any invention it has to be considered that the invention must be novel, must involve an inventive step and must have industrial application. These requirements are to be strictly followed before a patent could be granted for any invention.

In India lack of any judgment by the Supreme Court of India on the subject matter leaves the interpretation of obviousness to practice of Indian patent office. In absence of authorities the interpretation varies from Examiner to Examiner and involves use of discretionary power. India has been witnessing an increase in patent enforcement activities. Going forward, one can anticipate much more refined tests for determining the presence of inventive step in inventions.

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\(^{17}\) Hallen v Barbantia 1991 RPC 195, 212