Speaking of leaders and laggards of innovations

D.P.S Parmar, Special Counsel at LexOrbis, discusses the technicalities of improvement patents and modification patents with reference to blanket patenting and picket-fencing.

Leaders in innovation achieve full value from their inventions by obtaining a pioneer patent. Obtaining an early breakthrough in any field of technology is a primary objective of all inventors and it is a priority for R&D based companies of all types and sizes. Laggards, on the other hand, compete with leaders through the development of minor improvements on major inventions. The Patent Law presents an attractive patent protection for both traditional pioneer inventions and improvement inventions. The incremental innovations to pioneer patents does provide a springboard to the new entrant in the field to achieve the initial patent protection necessary to create a market space for laggards. However, obtaining patents on improvements by laggards in general is subject to difficulties arising from the statutory provisions and practicalities of disclosure under the patent law.

Differentiating basic patents from Improvement patents

It is known that most patented inventions carry the burden of the prior art to prove that they are distinct from the prior art or they are technical improvement over the prior art. The term 'basic patent' or mother patent or parent application is frequently ascribed to acknowledge the existence of pioneer patents in the field. The improvement patent on the other hand is one that adds or improves the technology of the basic patent. It is easy to obtain a patent that relates to basic invention, as it is comparatively easy to meet standards of patentability such as Novelty and inventive step. In practise, the improvement patent applications are minutely examined to prove whether the improvement technology is patentable over the basic patent. If the basic patent is owned by a third partly, one must determine whether the improvement patent can be practiced without infringing the basic patent. The term 'improvement' should not be confused with the term 'modification'. "Modification" refers to an alteration, which does not involve a radical transformation, and improvement means a variation whether by addition, omission, or alteration to secure a better performance whilst retaining some characteristic parts of the invention. Technically speaking, in context of a patent the word "improvement" generally means invention that was built directly upon a basic patent. An improvement is considered something that modifies certain elements of the technology of the basic patent. It is distinguished from merely providing an alternate approach to achieving the same result.

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Patentability of improvements

Different examinations approaches are taken to determine patentability of improvement and modifications. In considering the patentability of an improvement over a prior patent, first compare the complete disclosure of the prior patent to determine what it would teach one skilled in the art and then compare that teaching with the improved technology. It is sufficiently understood that mere presence of a number of elements common to both inventions, if also common in the known prior art, is not sufficient to make one invention an improvement or modification or addition to the basic. Tests to determine whether an improvement or a modification will qualify for an independent patent are the same as in the case of basic patent. Simplicity of invention or improvement is not a bar on patentability. It is true that most inventions, for which patents are applied, are improvements upon other known products, devices, or processes. Inventors who focus on improvements are also quite successful.

Blanket patenting

If the pioneer patent owner seeks to protect new technology and improvements thereon by patenting every new improvement, he is adopting a patenting strategy known as "blanket patenting". Most R&D based companies first obtain a patent for a pioneer invention, and then keep on filing

patents on minor improvements made to the original invention. This traditional and simple approach to patenting is most common in protecting against competing laggards.

Picket–fencing

Picket-fencing refers to a situation where a third party takes patents on every possible incremental modification or improvement to the basic patent before the original patentee applies for patents for such improvements. For example, in 1982, IBM was granted a United States patent [US 4343993] on the Scanning Tunneling Microscope ("STM"). Since IBM dominated the field with its pioneer, STM did not file patents on other possible improvements. Seven years later competitors took the advantage of the patent law to picket-fenced STM patent by patenting small improvements like improved stage, improved tip, improved visual system, and improved electronics. This had resulted in IBM loosing full control of their pioneering STM technology. The laggards took advantage of picket fencing to capture the market space left open by IBM.

Viewing improvement for purpose patentability

The factual determination of patentability of improvements at examination stage is guided by the technical evaluation in comparing a basic patent with the improvement patent. The factual determinations and legal evaluations are different depending upon which type of evaluation is being made. Examiners also look for the identity of the inventors as well: if there is common ownership, granting of patent on improvement would not be as problematic as small improvement can qualify for independent patents. If a third party fills the improvement application, meticulous drafting and prosecution would be helpful in obtaining a patent.

Drafting claims relating to improvements

Over time, various drafting skills were adopted in US and Europe to facilitate obtaining patents relating to improvements over the pioneer patents. In Indian applications the European type characterization was preferred by way of choice as Patent Office Manual guided the examiner in para 05.03.16 on Structure of Claims for improvement patents as under:

"n) If the invention is an improvement on a product or a process existing in the prior art, the invention should be distinguished very clearly by characterizing the claim with respect to the prior art. In such cases, the claim will have two parts separated by the word 'characterized by' or 'wherein'. (The part coming before 'characterized by' is the prior art while that comes after will be the features of the invention.)"

> **"Adopting a patenting strategy known as "blanket patenting".**

Test of patentability of improvement

The test for patentability of improvement in Indian patent office is guided by the Supreme Court ruling in *Biswanath Prasad Radhey Shyam v. Hindustan Metal Industries* where it was asserted that:

"In order to be patentable, an improvement on something known before or a combination of different matters already known, should be something more than a mere workshop `improvement', and must independently satisfy the test of invention or an inventive step. It must produce a new result, or a new article or a better or cheaper article than before. The new subject matter must involve "invention" over what is old. Mere collocation of more than one, integers or things, not involving the exercise of any inventive faculty does not qualify for the grant of a patent. [763 H, 764 A- B]."

Viewing improvements for infringement analysis

The infringement analysis between a basic patent and an improvement patent involves an initial inquiry as to whether improvement is patentable over whether the basic patent is being infringed. The former issue requires the assessment of improvement involving inventive step by Indian court based on existing precedents. Again, the *Biswanath Prasad Radhey Shyam v. Hindustan Metal Industries* case is considered as most the important case law for the interpretation of the inventive step, particularly in relation to

Résumé

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D.P.S Parmar heads the Intellectual Property Appellate Board (IPAB) at LexOrbis. Since joining as Technical Member (Patents) in 2011, he has been instrumental in writing path breaking, insightful decisions on Indian patent law. These include establishing legal positions on excluded subject matter under Section 3(d), 3(i) and 3(k), divisional applications, disclosure requirements under Section 8, working statements, and compulsory license. Before joining IPAB, Mr. Parmar worked with the Indian Patent Office (IPO) for over 27 years and played a vital role on an administrative and policy level. He represented India at various discussions organized by WIPO, and attended follow-on programs at the European and Japanese Patent Offices. He was instrumental in the recognition of IPO as the 15th ISA and IPEA under the Patent Cooperation Treaty (PCT). He also served as the head of the Intellectual Property Training Institute (IPTI) in Nagpur, responsible for providing training to new examiners at the IPO.

> **Improvement patents provide a window to capture the market space.**

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improvements in known invention. The principles laid in this case are:

"3. To decide whether an alleged invention involves novelty and an inventive step, certain broad criteria can be indicated. Firstly, if the "manner of manufacture" patented was publicly known, used, or practiced in the country before or at the date of the patent, it will be negative novelty or `subject matter'. Prior public knowledge of the alleged invention can be by word of mouth or by publication through books or other media. Secondly, the alleged discovery must not be the obvious or natural suggestion of what was previously known."

For determining inventive step relating to improvement, the court laid the following test:

1. "Had the document been placed in the hands of a competent craftsman (or engineered as distinguished from a mere artisan), endowed with the common general knowledge at the 'priority date', who was faced with the problem solved by the patentee but without knowledge of the patented invention, would he have said, "this gives me what I want?" (Encyclopaedia Britannica; ibid). To put it in another form:
2. "Was it for practical purposes obvious to a skilled worker, in the field concerned, in the state of knowledge existing at the date of the patent to be found in the literature then available to him, that he would or should make the invention the subject of the claim concerned?"

The way forward

Whether it is for a leader or laggard, improvement patents provide a window to capture the market space for their inventions. The pioneer patent leaders can dominate the market by blanket patenting. The laggards can equality look at picket-fencing the pioneer patents to seek patents for improvement over them. However, it is advisable to seek help of an expert to guide you to obtain patents on improvements, which the patent office is more than willing to allow, except for clear cases of workshop modifications.