This paper deals with examples, the nature of enquiry, followed by British and US courts in settling validity/infringement issues. Since the rights of the patents are embodied in the claims, the importance of the claim construction and interpretation have been highlighted. Types of infringement such as literal and by equivalency have been discussed. An appreciation of these issues are important for a prospective patentee and for one who wishes to export 'state-of-the-art', product to the British and US markets.

A patent granted by the state on product, process, novel composition of matter or novel methods of application, wherever applicable, gives the absolute and monopoly right to the patentee or its licensee for a limited period within the territory of the state. Any act of trespassing this property i.e. infringement of the patent, direct, contributory or inducement is a tort in the sense of direct invasion of the right of the patentee.

Since the issues involved in establishing the validity of a patent/application and infringement enquiry are similar, it is imperative that we develop an appreciation of these. Validity comes in question when an application or granted patent is challenged for its novelty with respect to prior art and existing body of knowledge during the prosecution of the application by the patent office or by any interested party after the grant, generally the accused in an infringement suit. Many a time a patentee approaches the court for obtaining a ruling on the validity of the patent (Zenith Laboratories Inc. v/s Bristol Meyer Squibb Co, US court of Appeals, Fed circuit 1994, 30 USPQ 1285). In an infringement suit the patent holder approaches the court for legal redressal as per law for invasion of his property rights which are embodied in the claims of his/her patent.

It is to be reiterated that similar type of enquiry, data presentation, interpretation/analysis etc. are followed in arriving at the truth in the case of validity as well as infringement disputes. Moreover, in an infringement suit the first exercise carried out
is to ascertain the validity of the patent of the plaintiff.

This obviously implies that a prospective patentee has to ensure that his claimed invention on reduction into patent claims remains valid during prosecution in the patent office and most importantly not struck down in any future validity/infringement proceedings. Also, it is equally important that products for exports made through processes either novel or “working around existing patents” (a common feature) are not trapped in injunction and/or infringement suits thereby ruining the export prospect and even great loss to the organization.

The objective of this article is to highlight the salient features of various aspects of infringing acts of US and British Patent Acts. But, one should note that concepts, arguments, and proceedings followed all over the world are similar in nature, of course within the bounds of the law of the land.

The rights of a patent stem from the claims. The 1949 British Act says all patents “shall end with a claim or claims defining the scope of invention claimed”, and as per USC 112 of 1952 Patents Act:

“The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention”.

Needless to say one has to scrutinize the claims diligently for its meaning, scope and limitations i.e. what it can do and when and, importantly what it or its equivalents can not, and only on acquiring this skill would enable one to “design around the patent”, an activity which could be highly profitable for the organization, universally practised and encouraged by the state for advancement of technology.

Properly constructed claims give the coordinates of the invention as enunciated by British Judiciary (EMI v/s Lissen, 56 RPC 23 at 39, 1938)

“The function of the claim is to define clearly with precision the monopoly claimed, so that others may know the exact boundaries of the area within which they will be trespassers. Their primary object is to limit and not to extend the monopoly. What is not claimed is disclaimed”.

Claims can be independent in nature, also dependent, one which follows from the independent ones, and in a single specification there might be a number of independent claims, also multiple of dependent ones.

A patent is infringed if any one or more of the claims is infringed. If one infringes an independent claim he/she might not infringe the dependent ones, on the other hand if dependent claim(s) are infringed, then the independent one from which the dependent claims originate, is also infringed.

One must acquire certain amount of expertise in analyzing the scope of claims e.g. different elements in claim construction, use of different transitions in the construction etc. For example, an independent claim for a composition of matter might be stated in any one of the following three ways.

“A composition of water-in-oil emulsion explosive which comprises or consists of/or essentially consists of ammonium nitrate, water, fuel oil and a surfactant with a HLB in the range of 5 to 12.......”. When the claim states “comprises” and another additional substance besides the four is incorporated in the composition, still one is in the claim. But, in the case of closed transition i.e. consisting of one adds another additional substance he/she at least is out-
side the scope of literal infringement but whether infringement would be found under equivalency or other reasons is a different matter.

In the case of "consisting essentially of", incorporation of an additional ingredient (X) in the above emulsion explosive composition would be an infringement if X does not affect the properties, stability etc. i.e. does not contribute any improvement/significant change in the composition i.e. "mere admixture". However, once a significant change is observed, the claim is not infringed.

3. Section 60(1) of the British Patent Act of 1977 defines infringing acts. One infringes a subsisting British Patent, if he/she does any of the following:

(a) where the invention is a product, he makes, disposes of, offers to dispose of, uses or imports the product or keeps it whether for disposal or otherwise;

(b) where the invention is a process, he uses the process or he offers it for use in the United Kingdom when he knows, or it is obvious to a reasonable person in the circumstances, that its use there without the consent of the proprietor would be an infringement of the patent;

(c) where the invention is a process, he disposes of, offers to dispose of, uses or imports any product obtained directly by means of that process or keeps any such product whether for disposal or otherwise".

The Infringing Acts as per US law are described under 35 USC 271 (a)—direct infringement; 35 USC 271(b)—Active inducement; 35 USC 271(c)—contributory infringement and, importantly 35 USC 271(g)—Process Patent Infringement.

The 271(a) states:

"except or otherwise provided in this title, whoever without authority makes, uses or sells any patent invention within the US territory during term of the patent therefore, infringes the patent”.

USC 271(g) stated below takes care of process patent infringement.

"Whoever without authority imports into the USA, or sells or uses within the USA a product which is made by a process patented in USA shall be liable as an infringer, if the importation, sale or use of the product occurs during the term of such process patent. In an action for infringement of a process patent, no remedy may be granted for infringement on account of the use or retail sale of a product unless there is no adequate remedy under this title for infringement on account of the importation or other sale of that product. A product which is made by patented process will, for purpose of this title, not be considered to be so made after-

(i) it is materially changed by subsequent processes; or

(ii) it becomes a minor or nonessential component of another product."

4. Direct infringement can be categorized into literal infringement and infringement due to equivalency. In the USA equivalency has two aspects i.e. equivalency as per statute (35 USC 112) which states:

"An element in a claim for a combination may be expressed as a means or step for performing a specified function without recital of structure, material or acts in support thereof, and such claim shall be construed to cover the corresponding structure, materials or acts described in the specification and equivalents thereof".
The other is "Doctrine of equivalents" which is a judicial equivalency and nonstatutory. It is a doctrine enumerated by US Courts. The doctrine says that if an alleged device/process/product performs substantially the same function in substantially the same way to obtain the same results, it is an infringement. For chemical processes it is substantially the same materials, substantially the same process to give same results i.e. product as described in the patent in question.

In any infringement action it is first decided, after ascertaining the validity of the patent i.e. indeed the right exists, whether there is a literal infringement, if not, is there any infringement due to principles of equivalency. The court interprets the patent claims to define their meaning and scope, on going through other claims, text, prior art and in the case of the USA also through prosecution history (prosecution history estoppel), and by examining exports, if necessary i.e. establishes what indeed is the invention and what are its limitations. Once the claim is precisely formulated with its scope and limitations by the court, then it is decided (by jury in the USA) whether the alleged product/process/device fall within the purview of the court constructed claims. To find literal infringement every limitation in the claim must be found in the accused product/process etc. (US District Court, N J, Colgate Palmolive v/s W L Gore, 1996).

Stating otherwise all "elements" present in the claim must be present in the accused product/process for literal infringement. However, presence of any additional element might not escape infringement e.g. the additional element is a non-essential one.

"A patent specification should be given a purposive construction rather than a purely literal one derived from applying to it the kind of meticulous verbal analysis in which lawyers are too often tempted by their training to indulge. The question in each case is: Whether persons with practical knowledge and experience of the kind of work in which the invention was intended to be used, would understand that strict compliance with a particular descriptive word or phrase appearing in a claim was intended by the patentee to be an essential requirement of the invention so that any variant would fall outside the monopoly claimed, even though it could have no material effect upon the way the invention worked.

The question, of course, does not arise where the variant would in fact have material effect upon the way the invention worked. Nor does it arise unless at the date of publication of the specification it would be obvious to the informed reader that this was so. Where it is not obvious, in the light of then-existing knowledge, the reader is entitled to assume that the patentee thought at the time of the specification that he had good reason for limiting his monopoly so strictly and had intended to do so even though subsequent work by him or others in the field of the invention might show the limitation to have been unnecessary. It is to be answered in the negative only when it would be apparent to any reader skilled in the art that a particular descriptive word or phrase used in a claim cannot have been intended by a patentee, who was also skilled in the art, to exclude minor variants which to the knowledge of both him and the readers to whom the patent was addressed, could have no material effect
upon the way in which the invention worked".

This guideline has been further refined in Improver Corporation v/s Remington Consumers Product Ltd, (RPC 69, 1989) as:

1. Does the variant have a material effect on the way the invention works?
   If yes, the variant is outside the claim, if no—
2. Would this (i.e. the fact that the variant had no material effect) have been obvious at the date of publication of the patent to a reader skilled in the art.
   If no, the variant is outside the claim, if yes—
3. Would the reader skilled in the art nevertheless have understood from the language of the claim that the patentee intended that strict compliance with the primary meaning was an essential requirement of the invention.
   If yes, the variant is outside the claim.

"On the other hand", "a negative answer to the last question would lead to the conclusion that the patentee was intending the word or phrase to have not a literal but a figurative meaning (the figure being a form of synecdoche or metonymy) denoting a class of things which included the variant and the literal meaning the latter being perhaps the most perfect, best known or striking example of the class."

In any infringement enquiry the essential and non-essential features of the invention/claim are identified (pith and marrow). The alleged product/process under question must have each and every feature of the essential features of the invention. The non-essential features are neglected.

An accused product/process in the USA may escape literal infringement but might be found to be infringing because of equivalency i.e. "means plus function" which states an equivalent that performed the same function in substantially the way to yield the same results.

As mentioned earlier Doctrine of equivalents, a judicially constructed equivalence, have been enunciated by US Supreme Court:

"What constitutes equivalency must be determined against the contact of the patent the prior art, and the particular circumstances of the case. Equivalence, in the patent law, is not the prisoner of a formula and is not an absolute to be considered in a vacuum. It does not require complete identity for every purpose and in every respect. In determining equivalents, things equal to the same thing may not be equal to each other and, by the same token, things for most purposes different may sometimes be equivalents. Consideration must be given to the purpose for which an ingredient is used in a patent, the qualities it has when combined with the other ingredients, and the function which it is intended to perform. An important factor is whether persons reasonably skilled in the art would have known of the interchangeability of an ingredient not contained in the patent with one that was".


The following two examples would illustrate the concept of doctrine of equivalents.

In Ortho Pharmaceutical Corp v/s Smith (1992) sale of norgestimate by ortho for prevention of conception in a female was found to infringe claim No. 5 & 19 of US 3 959 322
of Smith's patent, which covers the product norgestrel and norgestrel-17-acetate which are contraceptives also. Norgestrel is 17α(±)13-ethyl-17-hydroxy-18, 19- dino­pregn-4-en-20-yn-3-one, norgestrel acetate is the 17-acetate ester of norgestrel and norg­estimate is 3-oxime of the 17- acetate. Claims 5 & 19 of US' 322 were found to be infringed by doctrine of equivalents since norgestimate breaks down in vivo to norges­trel and its 17-acetate which in turn are bio­logically active i.e. substantially similar material substantially similar process giving same results. Please note there is no literal infringement.

Same type of judgements based on equivalent (Pith & Marrow) have been awarded by British courts in bio-precursor/pro­drug cases (Beecham Group Ltd v/s Bristol Labs)

In another case [Zenith Laboratories Inc v/s Bristol - Meyer's Squibb Co (1994)] the question was whether cefadroxil hemihy­drate (a cephalosporin antibiotic) infringes Bristol Meyer's US 4 504 657 which covers cefadroxil monohydrate with distinct powder X-ray diffraction pattern. Issues were whether there is literal infringement of US' 657 and infringement due to doctrine of equivalents because hemihydrate as per Bristol Meyer's argument, first gets converted into monohydrate which only is biologically active. The US court of Appeals, Fed. cir. ruled that hemihydrate having a different X-ray diffraction pattern does not literally infringe US' 657 and since there is no unequivocal proof that hemihydrate gets converted into the monohydrate, and hence not infringing.

5. In the USA the prosecution history ("file wrapper") is used in infringement suits to ascertain the intentions and limits, the patentee wanted to put in the claims. One can get the prosecution history including interference proceedings of any granted patent from the US Patent Office to understand precisely what are the boundaries of the invention and consequently the claims. This gives clear insight about scope and limitation of the invention which the patentee wanted and what was granted by the Patent Office and reasons for these. The file wrapper generally contains a thorough analysis of the prior art. Anything which had been surrendered by the prospective patentee during prosecution of the application cannot be claimed by him/her for advantage during a litigation in future.

Before filing an application if it is not a pio­neering invention, it is often beneficial to obtain the file wrapper of similar inventions, more so for "designing around a patent".

6. A few words about improvement patents might be stated. Although one is entitled to a patent for an improvement, such improve­ment does not allow one to use/make or/sale a product/process using the original invention, nor does the parent patentee have the right to patented improvement i.e. daughter patent. Generally, what happens is a trade-off, the terms depending on the quality of the improvement in the business sense. This has been succinctly summarised by the Canadian court:

"...if the pith and marrow of the invention is taken it is no excuse to say you have added something, or omitted something even if the addition or omission be useful and valuable. The superadding of ingenuity to a robbery does not make the operation justifiable"

(Wenham Gas Co Ltd v/s Champion Gas Light 9 RPC 49)

7. The issues in an infringement enquiry are complex and a voluminous and impressive
body of literature exists particularly in countries where invention/innovation is essentially the motive force for growth, profitability and long term health of trade and industry. A number of seminal judgements have been pronounced by British and US courts, which throw light in understanding the matter.

The law and the practice are being constantly reviewed to keep pace with the advancement of technology e.g. amendment of US Patent Law on 1 Nov 1995 for allowing claims for Biotechnology processes where at least one of the starting materials or end product are novel and non-obvious, and on Doctrine of Equivalents re Hilton Davis Chem Co v/s Warner Jenkins [No.93-1088 Fed Cir, 8 Aug 1995 (en banc)].

Since contributory and inducement of infringement generally is not much of importance to a researcher these topics have been omitted. But suffice to say that if there is no direct infringement very likely there would be no other infringement.

Also, number of lesser important criteria for finding infringement in the US like Reverse Doctrine of equivalents etc. are not dealt upon.

It is reiterated that enquiry for infringement taking place in any country would have similar contour i.e. to establish what is the invention, who is the inventor and whether the accused product/process falls within the scope of the invention or not.

The issues involving process patent infringement, guidelines had been discussed elsewhere.

References