There is an old Latin saying 'Do ut des', which means give and you will be given; the principle of reciprocity. The topic of this paper is something similar to this saying. The Patent Offices invite applicants/inventors to sufficiently disclose information pertinent to invention in a patent specification for grant of a patent. This paper highlights importance of providing sufficient information in a patent specification before filing with any Patent Office. It also analyses sections in Indian Patents Act, 1970, pertaining to 'sufficiency of disclosure' by citing case laws. In addition, a comparative analysis between Indian, US and European patent law towards this aspect is done. The implications of not providing information in patent specification are highlighted and certain aspects which need to be considered by applicants/inventors before filing the invention with Patent Office are recommended.

Keywords: Sufficiency, disclosure, patent specification, quid pro quo

An invention is patentable provided it meets three pre-requisites of patentability, namely, novelty, inventive step and capable of industrial applicability. In order to seek monopoly, applicants/inventors need to disclose technical information pertinent to these three pre-requisites in a patent specification. The patent application is then filed with Patent Office for necessary examination. The effect of the grant of a patent is 'quid pro quo'. 'Quid' is the knowledge disclosed to public and 'quo' is the monopoly granted for a term of patent. After twenty years of monopoly, the information provided in patent specification is opened to the public to make use of it.

The term 'sufficiency of disclosure' refers to adequacy of pertinent information to be provided in the specification to enable an average skilled person to perform the invention. It is stated in Halsbury's Law that insufficiency of description has two branches, (1) complete specification must describe an embodiment of the invention claimed in each of the claims and that the description must be sufficient to enable those in the industry concerned to carry it into effect; and (2) that the description must be fair i.e. it must not be unnecessarily difficult to follow.1

Many researchers or inventors are experts in their relevant field of technology and are very good in writing and publishing scientific articles. A scientific article includes four sections in the order Introduction, Methods, Results And Discussion - IMRAD. The next step is submission of the article followed by editorial review for comments. Based on the comments additional experimental data or information can be added by the authors of the research paper. After a series of communications, the article will be published. But this pathway is not applicable to a patent application, as patents are techno-legal documents, which involve protection for technical aspects through legal means. It involves meeting various legal requirements in drafting which is slightly different from one jurisdiction to another. After filing patent application (complete specification in India) with Patent Office, examiners at Patent Office examine and raise various formal and technical objections. One such formal objection is insufficient description of the invention. During examination stage, it is very difficult or impossible for the inventors or authors to add additional experimental data or information into the specification. That is how a scientific article differs from a techno-legal document.

Overview of Indian Patent Specification

Section 10 and Rule 13 of the Act particularly deal with contents of specification. Accordingly, every patent specification, whether provisional or complete starts its first page with Form 2 having title (Preamble of claim 1), name, nationality and address of the applicant. Another point to be provided in
Form 2 is preamble to the description, if it is provisional specification then the preamble is ‘The following specification describes the invention’ and if it is complete, the preamble is ‘The following specification particularly describes the invention and the manner in which it is to be performed’. Page 2 of the specification will start with ‘Field of the invention’ followed by background and prior art, objectives, brief description of the accompanying drawings if any, statement of invention, detailed description of invention, claims in a fresh page followed by an abstract in a fresh page and drawings if any at the end. The adequacy of information pertaining to invention is usually provided under detailed description of the invention, which can be explained in various embodiments or can even be provided as examples.

Sufficiency of Disclosure in Indian Provisional Specification

Based on the availability of information, a patent specification can be filed either as a provisional specification or as a complete specification (non-provisional in US). To decide whether the specification needs to be filed as provisional or complete, it is recommended to applicants/inventors with insufficient experience in patent law and prosecution to consult an experienced Patent Attorney/Patent Agent in the field of technology to which the invention belongs.

The Act is silent with respect to adequacy of disclosure to be provided in a provisional specification. Generally, a provisional specification is recommended in a scenario where invention lacks sufficient information or where time is required for inventors to generate more experimental data. As a general rule, a time-line of 12 months from filing date of provisional specification is provided by almost all patent offices across the world to file provisional as a complete specification, may be with an exception of Singapore.

The primary reason for silence of the Act might be that provisional applications are not subject to examination by Patent Office. Another reason could be that they are merely filed by applicants to block priority date. However, it is recommended that a provisional specification should disclose best mode of performance known to inventor at the time of filing. On the contrary, best mode known to the inventor may change over a period of time. It may happen that the best mode at the time of complete application may be different from the best mode known at the provisional filing date.

On the other hand, a provisional patent application does not require claims, but it is a good practice if claims are provided in a provisional application. Incorporating claims in a provisional specification reduces the risk of losing priority during litigation or infringement proceedings. Though the scope of claims varies from provisional to complete, still in India it is safe as prosecution history estoppels are not referred by Indian courts. Also, for all practical purposes, provisional document is said to be the actual priority document which will be referred along with complete by the courts under infringement proceedings or any litigation proceedings to establish the fact of invention at the time of provisional and at the time of complete.

Sufficiency of Disclosure in Indian Complete Specification

Once an Indian complete patent specification is filed, it is impossible to add new or additional data into filed patent application. Therefore, it is recommended that one should provide all necessary information in the complete specification at the time of filing itself. Another aspect is that the information provided in the complete specification should enable Person Having Ordinary Skill in the Art [PHOSITA] or Person Skilled in the Art [PSA] or person with an average skill in the art to perform and make use of it. Failure in providing sufficient information in patent specification would attract objections from patent examiners during prosecution.

For all practical purposes, the patent examiner or controller of patents should view patent application as viewed by the PSA or average skilled person. In application number 00094/CAL/2002, applicant, Sanjiv Agarwal, Fairfest Media Private Limited, the Controller held, ‘... the contention of the agent of the applicant that the examiner or the Controller is not supposed to be a person skilled in the art is not well founded. On the contrary, the Act imposes on them that they should put themselves at the place of person skilled in the art not only to determine the inventiveness but also to determine the novelty and sufficiency of disclosure of the alleged invention.

Therefore, this particular decision of the Controller clearly conveys that the person involved in examining patent application should view patent specification as viewed by PSA. It is recommended to applicants/inventors to ensure that the invention described in the specification is essentially the best method of performing the invention. Additionally, it should enable PSA to perform it.
In yet another aspect, Section 10(4) of the Indian Patents Act, 1970, particularly deals with the contents of specification and lists out features to be covered in a complete specification. Drafting complete patent specification in compliance with this section helps in overcoming the objections/rejections raised by patent examiners during prosecution.

**Analysis of Section 10(4) of Indian Patents Act, 1970**

Section 10(4) Every complete specification should:

(a) fully and particularly describe the invention and its operation or use and the method by which it is to be performed;

(b) disclose the best method of performing the invention which is known to the applicant and for which he is entitled to claim protection; and

(c) end with a claim or claims defining the scope of the invention for which protection is claimed.

(d) be accompanied by an abstract to provide technical information on the invention.

It is evident from the aforementioned section that every complete specification should fully and particularly describe the invention. Also, disclosure must provide best method of performing the invention which is known to the applicant at the time of filing. The methods can be explained as embodiments or examples under detailed description of the invention.

To understand ‘fully and particularly describe the invention’, if an inventor has developed synergistic pharmaceutical composition and knows that he has to combine 3 different drugs in a ratio of 1:2.5:3.3, but discloses in specification the experimental data pertinent only to the final synergistic composition and not for the individual drugs alone and other combinations tried by him to draw a conclusion on proposed ratio, then it is not fully and particularly describing the invention. In this case, the inventor should disclose the data independently for all the three drugs, followed by various combinations of drugs at different ratios which have helped him to arrive at ratio specific or concentration specific synergistic composition. Slight variation in the concentration of composition may not work. Such a disclosure would enable person skilled in the art to prepare synergistic composition and also give him an idea about criticality of the ratios or concentration of each drug in the final synergistic composition.

To understand ‘best method of performing the invention’ if an inventor knows that a temperature of reactant mixture should be maintained at 50°C for obtaining pure and novel Active Pharmaceutical Ingredient [API], but discloses in the specification that the reactant mixture should be maintained at above 40°C then the applicant/inventor has failed to disclose the best mode for carrying out the invention. Therefore, it is the duty of the inventor to provide all such critical aspects in the invention to enable average skilled person to perform the invention.

The description of invention is addressed to a person skilled in the art who is doing his best to understand it and does not cast doubts on the scope of the invention. Therefore, it is recommended to disclose invention clearly, succinctly and without any ambiguity. For instance, in a case, Press Metal Corporation Limited vs Noshir Sorabji Pochkhanawalla, it was held that ‘It is the duty of a patentee to state clearly and distinctly the nature and limits of what he claims. If the language used by the patentee is obscure and ambiguous, no patent can be granted, and it is immaterial whether obscurity in the language is due to design or carelessness or want of skill. It is undoubtedly true that the language used in describing an invention would depend upon the class of person versed in the art and who intends to act upon the specifications. In the present case, the invention is described in an obscure and ambiguous language, and on this ground, the patent is liable to be refused. Therefore, it is evident from this case law that the patent specification should be described in a simple English language and should not contain any information which creates ambiguity to readers.

Given the importance of the UK case law in India, in one of the recent UK patent case Conor Medsystems Inc vs Angiotech Pharmaceuticals Inc, the House of Lords held that the therapeutic effect declared in the patent is the relevant degree of success, provided specification passes the threshold test of disclosing enough to make the invention plausible. It can be inferred from this case law that where it is difficult or impossible to predict the therapeutic effect, the specification should disclose enough information to make the invention plausible, wherein result of such invention should be under unexpected lines and the same needs to be declared in the specification even if it is not fully supported by experimental evidence.

Another recent UK case law between Generics [UK] Limited vs Lundbeck A/S was a case towards racemic mixtures of chemical compounds. More particularly it is in context with Citalopram racemic
mixtures wherein Lundbeck holds a patent for Escitalopram which is (+) enantiomer of racemic Citalopram. Lundbeck provided one working example on the method of obtaining Escitalopram. In view of this, Generics made an appeal stating that the patent is not disclosed sufficiently to enable PSA to perform the invention. Here, Generics solely relied on a case law between Biogen vs Medeva wherein it was established that more than one method of preparation is required to enable skilled person to make all the products claimed in the invention. However, the appeal of Generics was dismissed by the House of Lords and it was held that single method disclosed can be applied to broaden the scope of the claim thus meeting the requirement of sufficiency of disclosure. In addition, it was also held that the invention meets the requirement of novelty and inventive step. In short, it can be concluded from the decision of the House of Lords that if the invention meets the requirement of novelty and inventive step, then providing one reproducible method or example of arriving at the product can meet the requirement of sufficiency of disclosure.

In the case law of Ram Narain Kher vs Ambassador Industries New Delhi and anr, the defendant argued based on Section 10(4) that it is incumbent under aforesaid section to fully and particularly describe the invention and its operation or use the method by which it is to be performed and disclose the best method of performing the invention which is known to the applicant and for which he is entitled to claim protection ending with a claim or claims defining the scope of the invention for which protection is claimed.

The claim of the plaintiff is singularly silent on the above-said aspect. The defendants by their plea that the invention and the advantages claimed by the plaintiff had not been adequately described in the patent and adequately claimed in the claim to bring it within the ambit of the term invention within the meaning of the Act raise arguable matters thereby disputing the validity of the patent in question. The defendants having specifically raised the ground that the claims made by the plaintiff in the patent were vague and did not describe the invention clearly and properly, are competent to claim revocation of the patent on that ground on terms of Section 64(1) of the Act.

In addition, it is known that claims define crux of the invention, which are provided in fresh page after detailed description of the invention. Any aspect of the invention which is not claimed is said to be disclaimed and is open to public for its usage. Also, it becomes very difficult for patentee to establish infringement on any third party on such grounds. It is stated in Halsbury’s Law, that the claims should be as clear as the subject admits, and that a patentee need not simplify his claim so as to make it easy for infringers to evade it. It is further stated in that passage in Halsbury that the patentee’s duty is not to prevent all possible argument as to whether there is or is not infringement in particular case, but to enable the court to formulate the questions of fact to be answered. Practically, in a patent application, the claims are usually worded in broader perspective keeping all the possible infringers in mind. However, such over broad claims may not always be supported by sufficient description. Hence, claims in the specification should always be supported with sufficient experimental data.

The claims should have the preamble as if the applicant is other than natural person and with if the applicant is natural person. In Eastman Kodak Co vs American Photo Booths Inc, the issue was a patent for a photo-booth camera; it was held that the folded optical path as described and claimed could not give rise to the claimed narrowing of the depth of field. As a result, the hearing officer held that the invention could not work as described and claimed, and so lacked both industrial applicability and sufficiency of disclosure. Objecting to insufficiency may be particularly appropriate if the claims do not refer to the intended function or purpose of the invention, for example, if a flying gyroscope is claimed merely as an article having a particular specified construction.

As per Rule 13(7) of the Act, abstract of the invention should start with the title of the invention indicating clearly the technical field to which the invention belongs and should highlight solution to the problem in question. It should not contain more than 150 words. The abstract should be so drafted to enable a person to carry out search in particular technical field to which it belongs. On the flip side, the applicant/ inventor (or his agents) most of the times do not provide necessary information in the abstract, the reason for the same is to hide the invention and to give a generic feel to the third parties so that they will not be motivated to file pre-grant or post-grant opposition. The reason is that IPO publishes only bibliographic information and not full
text of specification. However, for all practical purposes, the Controller is empowered to amend abstract for providing better information to third parties, Section 10 (4)(i).

Any invention involving a biological material in the specification should be deposited with International Depository Authority (IDA) followed by obtaining date of deposition and accession number. These details need to be incorporated in the complete specification. As per Rule 13(7), a time-line of 3 months from the date of filing of complete specification would be provided to applicant to submit such details. However, if, due to circumstances beyond the control, the inventor could not do it within the time-line, but did it after the time-line, then the application can be post-dated to day of deposition of biological material under the discretion of the Controller under Section 17(2). Thus, there is a loss of priority date.

Sufficiency of Disclosure as a Ground of Opposition

Pre-Grant opposition

Section 25(1)(g) if the complete specification does not sufficiently and clearly describe the invention or the method by which it is to be performed.

Post-grant Opposition

Section 25(2)(g) if the complete specification does not sufficiently and clearly describe the invention or the method by which it is to be performed.

The grounds in pre-grant and post-grant opposition are same in the Indian Patent Act, 1970. Accordingly, pending published patent application can be opposed for failure in providing adequate or sufficient information in a patent application under Section 25(1) (g). Similarly it can be opposed for granted patents under Section 25(2) (g).

It is well established in the decision passed by Mr T V Madhusudhan, Assistant Controller of Patents and Designs, dated 22 January 2007 in pre-grant opposition of 190/MAS/1998,

.......

‘........In the words of the applicant, it is the size of the particle or a pellet, which overcomes the problems of chemical stability, picking and sticking phenomena. Comparative examples were provided in the specification with respect to picking and sticking phenomena wherein the results shown prove that the problem of picking and sticking phenomena has been overcome. No substantive explanation has been provided with respect to chemical stability that is achievable from the alleged invention. The invention as disclosed passes the novelty test but lacks in inventive step. The disclosure of the invention also fails to comply with the requirements under Section 10 of the Indian Patents Act, 1970.

In this pre-grant opposition, it was prayed by the opponent that the application is in contravention of Section 10(5) and 25(1) (g) of the Act. However, the plaintiff prayed and argued that the specification has satisfied the requirements of Section 10(5) and the invention is substantiated with examples wherein specific ratios of the ingredients and particle sizes have been provided, hence patent may be granted. However, it was decided by the Controller that the disclosure of the invention fails to comply with the requirements under Section 10 of the Patents Act, 1970. Therefore, grant of patent is refused. No costs were awarded.

Sufficiency of Disclosure as a Ground for Revocation

One of the salient features of the Act, 1970 is enlargement of the grounds for revocation. Any patent can be revoked by petition of any person interested on various grounds specified under Section 64 of the Act. The relevant sections of the Act are:

Section 64 (1)(h) that the complete specification does not sufficiently and fairly describe the invention and the method by which it is to be performed, that is to say, that the description of the method or the instructions for the working of the invention as contained in the complete specification are not by themselves sufficient to enable a person in India possessing average skill in, and average knowledge of, the art to which the invention relates, to work the invention, or that it does not disclose the best method of performing it which was known to the applicant for the patent and for which he was entitled to claim protection;

Section 64 (1)(i) that the scope of any claim of the complete specification is not sufficiently and clearly defined or that any claim of the complete specification is not fairly based on the matter disclosed in the specification;

In the case, Farbwerke Hoechst Aktiengesellschaft Vormals Meister Lucius and Bruning a Corporation vs Unichem Laboratories 1969 Bom 255, as per the Halsbury principles on sufficiency of disclosure, reference in the body of specification to Œa conventional mannerŒ of eliminating sulphur cannot really create any difficulty, and it is in fact unnecessary to import this from the body of the specification into claim no. 11 in view of the fact that claim in terms, being, wide enough to include all methods of eliminating sulphur. As stated earlier in
In the case of Monsanto Company by their Patent Agent, De Penning and De Penning vs Coramandal Indag Products (P) Ltd, it was said by the Supreme Court that “we do not propose to set out in detail the contents of the written statement. It is sufficient to state that the defendant claimed as he was entitled to do under Section 107 of the Patents Act 1970, that the patents were liable to be revoked under Section 64(1)(a),(b),(d),(e),(f),(g),(h),(i),(j),(k),(l) and (m) of the Patents Act. The defendant also made counter claim seeking revocation of the patents.” It is evident from this case law that the defendants had used both 64 (1)(h) and (i) sections in revocation of the patent. However, necessary details are not recited by Supreme Court of India.

Sufficiency of Disclosure - To Constitute an Invention under Section 2(1) (j)

As per Section 2(1)(j) of the Act, ‘invention’ means a new product or process involving an inventive step and capable of industrial application.

In Eastman Kodak Co vs American Photo Booths Inc (BLO/457/02), it was held that the invention lacks industrial applicability as per Section 2(1)(j) and also fails in providing sufficiency of disclosure as per Section 10(4).

Position in USA

As per United States patent law the aspect of sufficiency of disclosure is codified in 35USC 112, paragraph 1 as:

‘The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention...’

Thus in the US, patent specification should be disclosed in full, clear, concise and exactly to enable a PHOSITA or PSA to make use of the invention. In addition, the best mode of performing the invention needs to be provided by the inventors.

In re Wands

This case law is about undue experimentation. More particularly, the patent claims are related to immunoassay methods for the detection of Hepatitis B surface antigens using high-affinity IgM monoclonal antibodies. The issue in focus was whether undue experimentation is necessary to produce monoclonal antibodies. The patentee asserted that the invention is enabled because monoclonal antibodies needed to perform the immunoassays could easily be made from readily available starting materials using methods that are
well known in the monoclonal antibody art. The Court noted that there was no disagreement to the facts, but merely a disagreement to the interpretation of the data and conclusion to be made from the facts. The Court held that the specification was enabling with respect to the claims at issue and found that "here was considerable direction and guidance" in the specification; there was a high level of skill in the art at the time the application was filed; and all the methods needed to practice the invention were well known. After considering all the factors related to the enablement issue, the Court concluded that it would not require undue experimentation to obtain antibodies needed to practice the claimed invention.

Most importantly for future cases, the Court set forth the following eight factors to consider in determining whether undue experimentation would be needed:

1. The quantity of experiments necessary;
2. The amount of direction or guidance presented;
3. The presence or absence of working examples;
4. The nature of the invention;
5. The state of the prior art;
6. The relative skill of those in the art;
7. The predictability or unpredictability in the relevant field;
8. The breadth of the claims.

In Noelle vs Lederman, Noelle claimed for human CD40CR antibodies and mammalian CD40CR antibodies. However, original disclosure only described and claimed mouse CD40CR antibodies. Here the Court applied standard set in Regents of the Univ of Cal vs Eli Lilly, 119 F.3d 1559 (Fed. Cir. 1997) and ruled that patent applicant's specific, narrow disclosure of mouse antigen was not sufficient to support a patent claim for a more generic scope of coverage for CD40CR antibodies, especially when it is in context to other species. The Court held that antibody claims must be fully characterized with proper written description, noting that "as long as an applicant has disclosed a fully characterized antigen either by its structure, formula, chemical name, or physical properties, or by depositing the antibody in a public depository, the applicant can then claim an antibody by its binding affinity to that described antigen."

**Position in Europe**

As per the European Patent Convention (EPC), the aspect of sufficiency of disclosure is codified in Article 83 of EPC. The European patent application must disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

In addition, Article 100 (b) of EPC provides provision of filing opposition on three grounds in general and with respect to insufficiency in particular.

Article 83 EPC requires an invention to be disclosed in a manner sufficiently clear and complete for it to be carried out by PSA.

In the European Technical Board of Appeals decision, T694/92, head note "Where an invention relates to the actual realization of a technical effect anticipated at a theoretical level in the prior art, a proper balance must be found between, on the one hand, the actual technical contribution to the state of the art by the said invention, and, on the other hand, the terms in which it is claimed, so that, if patent protection is granted, its scope is fair and adequate. In cases where the gist of the claimed invention consists in the achievement of a given technical effect by known technique in different areas of application, and serious doubts exist as to whether this effect can readily be obtained for the whole range of applications claimed, ample technical details and more than one example may be necessary in order to support claims of a broad scope. Accordingly, claims of broad scope are not allowable if the skilled person, after reading the description, is not able to readily perform the invention over the whole range claimed without undue burden and without needing inventive skill."

Therefore, guiding principle is always that the skilled person after reading the detailed description of the invention should be able to perform the invention over the whole area claimed. Such performance must be associated without undue burden and without needing inventive skills.

European Technical Board of Appeal, T0135/91, says: "The disclosure of an invention relating to a composition of matter, a component of which is defined by its function is not sufficient if the patent discloses only isolated examples, but fails to disclose, taking into account, if necessary, the relevant common general knowledge, any technical concept fit for generalization, would enable the skilled person to achieve the envisaged result.
without undue difficulty within the whole ambit of the claim containing the functional definition.

In another European Technical Board of Appeal case, T0497/02 and T0965/01, it was decided that where patents are speculative and rely on the achievement of a technical effect that is not demonstrated in the patent, they are invalid as they reduce the skilled person to trial and error in trying to put the speculative teaching into effect. The Boards in both of these cases noted that it was not possible to remedy this deficiency by filing additional information not included in the patent.

A comparison between support, Article 84 and basis, Article 123 of EPC with sufficiency Article 83 is provided below in order to clarify the differences to the reader.

**Article 84 - The Claims**

The claims shall define the matter for which protection is sought. They shall be clear and concise and be supported by the description.

**Article 123 Amendments**

1. The European patent application or European patent may be amended in proceedings before the European Patent Office, in accordance with the Implementing Regulations. In any event, the applicant shall be given at least one opportunity to amend the application of his own volition.
2. The European patent application or European patent may not be amended in such a way that it contains subject-matter which extends beyond the content of the application as filed.
3. The European patent may not be amended in such a way as to extend the protection it confers.

It is evident from Article 84 of EPC that claims shall be drafted clearly and concisely based on the disclosure/support provided in the specification. In any case they should not be drafted too broad or too vague, towards which there is no disclosures/support provided in the specification. It is clear that Article 84 is indirectly related to Article 83 which talks about disclosure of the invention. In short, the scope of claims (as per Article 84) will depend upon the disclosure of the invention in specification (as per Article 83).

Similarly, as per Article 123 of EPC, it is evident that the amendments can be made in patent application or patent. However, the amendments should not go beyond the scope or content of the application as filed i.e. on the filing date of patent application. Again Article 123 in tune with Article 83 wherein the disclosure of invention is indirectly related to the amendments in the specification. Based on the disclosure one can amend the specification by ensuring that the amendments are not going beyond the scope of the invention. If the proposed amendment goes beyond the scope of the disclosure then such amendments can be opposed by opponents during post-grant opposition using the grounds of insufficiency of disclosure (as per Article 100 (b)).

It is evident from Table 1 that post-grant opposition is possible in India and Europe on the ground of insufficiency in description. However, European patent law does not allow pre-grant opposition. This is allowed only in India at any time before the grant of patent or within 6 months from the date of 18 month publication, which ever is later. Similarly, in Europe, a time-line of 9 months from the date of publication of grant, the patent is open for post-grant opposition. On the contrary, US does not have the concept of patent opposition, but has the concept of re-examination on the ground of insufficiency of disclosure.

**Implications of Not Making Sufficient Disclosure in Patent Specification**

(a) It is impossible to add additional information into patent application which is already filed with IPO. However, small typographical errors can be done after filing. For the same a request for such amendments can be made with IPO in Form 13 accompanied by appropriate fee.

(b) Objections/rejections can be raised by the Patent Examiner/Controller of IPO during prosecution of patent application.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Provision of law for sufficiency of disclosure: A comparison between Indian, US and EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>India (Indian Patent Office)</td>
</tr>
<tr>
<td>Relevant section of law</td>
<td>Section 10[4]</td>
</tr>
<tr>
<td>Relevant section for opposition</td>
<td>Section 25(1)(g) Pre-grant</td>
</tr>
<tr>
<td></td>
<td>Section 25(2)(g) Post-grant</td>
</tr>
<tr>
<td></td>
<td>Section 64(h)(i) Revocation</td>
</tr>
</tbody>
</table>
(c) Can be used as a ground for pre-grant opposition by any person before the grant of patent application. Similarly, after grant also it can be opposed under post-grant opposition by person interested.

(d) Can be revoked by any third party at a later date under the grounds specified in Section 64 (1).

(e) Similar consequences can be faced by the application in other jurisdictions, particularly in US, EP and JP.

Recommendations on Overcoming the Problem of Sufficiency of Disclosure

(a) Consult a Patent Agent/ Patent Attorney in the relevant field of technology to which the invention belongs to. Take their opinion towards filing of the patent application as a provisional or complete.

(b) If provisional is to be filed, ensure that the applicant/ inventors are describing the best mode of invention which they are aware of at that particular point of time.

(c) Ensure claims are provided in provisional specification. Claims can be drafted in broadest possible manner, which can subsequently be narrowed at the time of filing complete.

(d) If a complete specification is to be filed, ensure that the invention is fully and particularly described. Also ensure that best mode of performing the invention is provided in the specification. Because, at a later date it is impossible to add additional information into specification.

Additional information if necessary can be submitted to IPO during prosecution as a response to First Examination Report. However, the same cannot be included in the complete specification. Also, its acceptance is totally subject to the discretion of the Patent Examiner/ Controller of IPO. If required, submissions can be made in an affidavit.

Conclusion

In summary, the applicant/ inventor if required need to approach a Patent Agent/ Attorney before filing the patent application. Filing of provisional or complete specification has to be decided based on the information available with the inventors. A decision to file provisional specification can be taken provided if the applicant/ inventors are confident of arriving at necessary information within 12 months from the date of filing of provisional. Failure in filing complete does not pose any problem to applicant/ inventor as filed provisional specification remains as a ‘secret document’ with IPO. This aspect is same across various patent jurisdictions. The only loss could be ‘loss of priority’. This is vital for companies which have commercial commitments. Hence, a fair decision needs to be taken by them in such circumstances.

As regards US, EP and Indian patent law on ‘sufficiency of disclosure’ it can be concluded that the law should be uniform for all Patent Offices across the world. Variation in the law from one jurisdiction to another will attract drafting separate patent specification for each jurisdiction, which is a costly and time consuming proposition especially if Patent Attorneys/ Agents are involved.

It can also be concluded that the ‘sufficiency of disclosure’ requirements are not laid down in specific detail. Therefore, the ambiguity sustains with respect to quantum of information to be provided. In other words, one can say that there is some flexibility provided by Patent Offices so that the inventors can provide necessary information based on technical field to which the invention belongs. The inventors are on undue burden to decide what is appropriate, and the patent examiner needs to check it with lot more patience as what is more relevant. This aspect is not an exception during prosecution of patent application. IPO is very strict with respect to this aspect. Even if IPO grants a patent by error, it can always be opposed by third parties at any point of time during the tenure of the patent.

Thus, it can be said that ‘sufficiency of disclosure’ in patent specification is vital not only from patentability point of view, but also, helps public to make use of the same after 20 years monopoly of patent. In addition, it is helpful for companies which are manufacturing the product before expiry of the patent for marketing approval under ‘Bolar Provisions’.

Acknowledgement

The author would like to thank Mr Ravi Bhola, Partner, K&S Partners, Bangalore and Prof Shamnad Basheer, National University of Juridical Sciences, Kolkata, for going through the drafts and providing insightful comments on this paper. However, all omissions and mistakes remains the responsibility of the author.
References
3. Press Metal Corporation Limited vs Noshir Sorabji Pochkhanawalla, 1982 PTC 259 (Bom).
7. www.patentoffice.nic.in, Decision of Controller, p.11.
8. AIR 1969 Bom 255 at PP 266.
10. 858 F. 2nd 731 (Fed. Cir. 1988).
11. 355 F.3d 1343 (Fed. Cir. 2004).