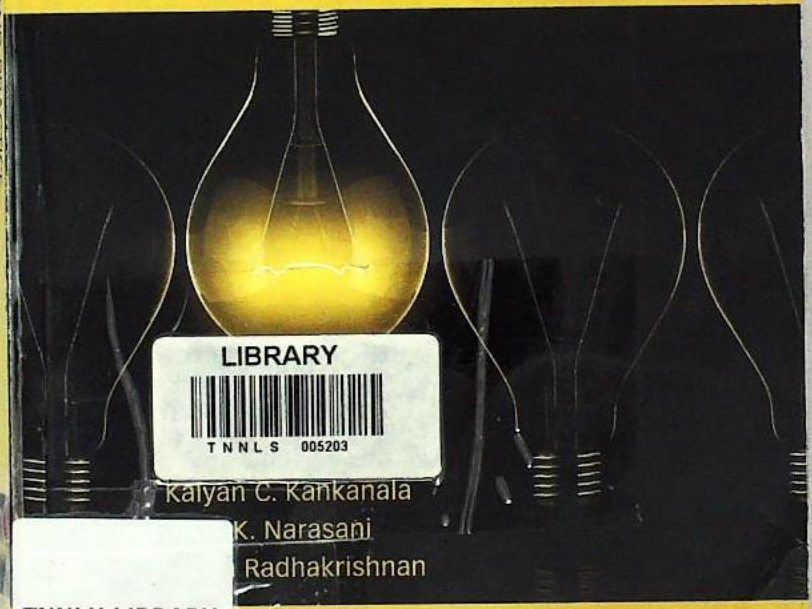
OXFORD INDIA PAPERBACKS

INDIAN **PATENT LAW** AND PRACTICE



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Journal of Intellectual Property Rights

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Patent Procedure

Any person may acquire a patent in India by filing a patent application before the Patent office. The procedure for acquiring a patent involves the following steps:

1. Filing of a patent application;
2. Examination of the application;
3. Publication of patent application;
4. Pre-grant representation;
5. Patent grant and publication; and
6. Post-grant opposition.

The process for acquiring a patent is shown in Figure 3.1.

As shown in the flow diagram, a patent may be acquired in India by filing an application for a patent in the prescribed form along with the prescribed fee at the Indian patent office. The patent office examines the patent application for satisfaction of patentability requirements and provides an examination report to the applicant. If the report includes an objection, the patent applicant may respond to the patent office in writing or may ask the examiner for a hearing. If the applicant satisfies the patent office on all patentability requirements, the patent office will grant a patent over the invention.

After the application is filed, the patent office will publish the application within eighteen months from the date of application or priority date. The rights of a patent applicant will start from the date of publication. A

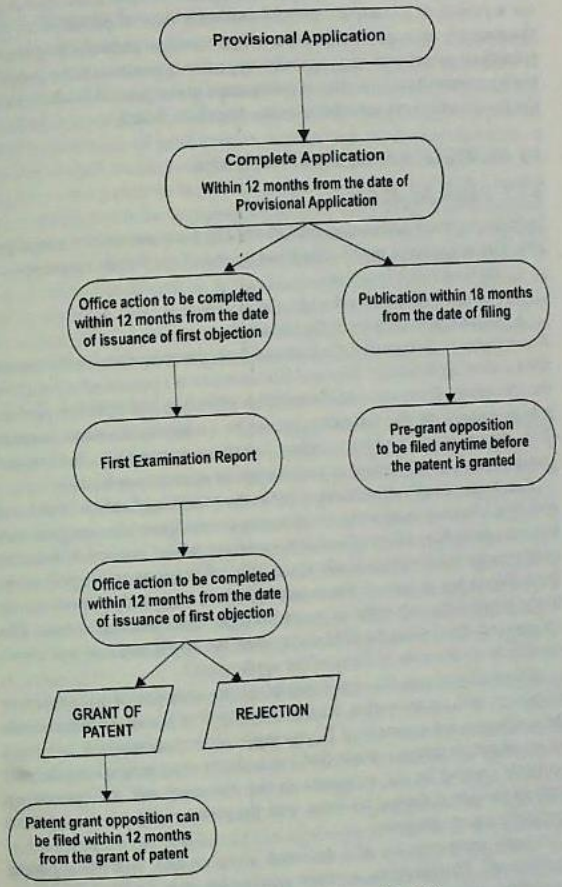

Figure 3.1 The Indian Patent Process

published application will be open for opposition from interested parties for a period of at least six months from the date of publication. After the patent is granted by the patent office, it will be published again. The published patent will once again be open for opposition for a period of twelve months from the date of publication of the grant. The decisions of the patent office are appealable to the Appellate Board.

3.1 FILING OF A PATENT APPLICATION

3.1.1 Patent Applicant

In India, a patent application may be filed by a natural and/or a legal person. The application may be filed by any one of the following persons:

1. True and first inventor;
2. Assignee of the inventor; or,
3. Legal representative of the inventor.

Any person claiming to be the true and first inventor of an invention may file a patent application.[1] True and first inventor is a person who conceives the invention. A person who finances an invention but does not play any role in conceiving the invention cannot be considered to be an inventor (*V.B. Mohammed Ibrahim* v. *Alfred Schafraneck and Ors*). A firm or a company cannot be named as an inventor in a patent application.[2]

An assignee of the invention may file the patent application, if the true and first inventor assigns the invention to the assignee.[3] An assignee may be a company, firm (*Shining Industries and Anr.* v. *Shri Krishna Industries*), government,[4] or any other legal person. While filing the patent application, the assignee has to submit the assignment deed executed by the inventor to the patent office in order to prove his right to file the application. The assignment deed must be filed along with the application or within six months from the date of filing of the application.[5]

An employer can file for a patent as an assignee, if an employee comes up with an invention during the course of his employment with the employer. For example, if X, an employee in a company Y is bound by an employment agreement that has a clause assigning all intellectual property created by the employee to the company and if X comes up with an invention during his work with the company, Y can file a patent application as an assignee.

A legal representative of a deceased inventor may also file a patent application.[6] Furthermore, a patent application may be filed jointly by more than one person, if an invention has more than one inventor and/or assignee.[7]

3.1.1.1 *Filing by Foreign Applicants*

A patent application may be filed by a person from any Convention Country, which is a country that affords the same rights to its citizens as Indian citizens for acquiring a patent.[8] However, if any country does not accord to citizens of India the same rights in respect of the grant of patents and the protection of patent rights as it accords to its own nationals, a national of such country cannot apply for a patent or be registered as the proprietor of a patent in India.[9] An assignee or licensee of such a nation is also prohibited from acquiring a patent in India, even if such assignee or licensee is a person permitted to file a patent in India.[10] For example, if a country A does not allow Indian citizens from acquiring a patent in that country, the citizens of A also cannot acquire a patent in India. In such a situation, if an inventor X, who is a citizen of country A assigns the invention to a person Y, who is a citizen of India or a Convention Country, Y, also, cannot acquire a patent on the invention in India.

3.1.1.2 *Substitution of Patent Applicants*

The name of an applicant in a patent application may be substituted by the name of a person to whom the patent is assigned before the patent is granted. If a person assigns his rights in a patent application after filing the patent application and before the patent is granted to any person, such assignee may make an application to the Controller of Patents to substitute his name as the patent applicant. On receiving the prescribed forms and relevant proof of assignment, the Controller will incorporate the name of the assignee as the applicant and the patent application will proceed in the assignee's name.[11] A person who derives rights over a patent application due to operation of law will have the same rights as an assignee.[12]

An applicant in a joint application is not allowed to make an assignment of his right in a patent application without the consent of the other applicant or applicants.[13] On death of one of the joint applicants before the patent is granted, the Controller of Patents may allow the application to proceed on the name of the surviving applicant or applicants on their request.[14] In such a case, the surviving applicant or applicants should acquire the consent of the legal representatives of the deceased applicant[15] If any dispute arises between joint applicants regarding the proceeding of the patent application, the Controller may on receiving an application from any of the applicants direct that the application should proceed on the name of one of the applicants or regulate the proceeding

of the application in a specific manner.[16] The Controller of Patents will give such directions only after giving each applicant an opportunity of being heard.[17]

3.1.2 Unity of Invention

A patent application can be filed for only one invention or a group of inventions relating to a single inventive concept.[18] If a patent application contains more than one invention or relates to more than one inventive concept, separate applications have to be filed with regard to each of the inventions or inventive concepts. For example, if X files a patent application relating to a pen and a pen holder, X will be required to divide the application into two applications because pen and pen holder are two different inventions. However, if X files a patent application relating to a pen and a process of making the pen, X will not be required to file different applications because the pen and process of making the pen relate to a single inventive concept.

3.1.3 Place of Filing

A patent application must be filed at any of the appropriate patent offices located at Kolkata, Delhi, Mumbai, and Chennai. Each patent office is given a territorial jurisdiction as shown in Table 3.1:

Table 3.1 Territorial Jurisdiction of Patent Offices

Office	*Territorial Jurisdiction*
Patent Office, Mumbai	The states of Maharashtra, Gujarat, Madhya Pradesh, Goa, and Chhattisgarh, and the Union Territories of Daman and Diu, and Dadra and Nagar Haveli
Patent Office, Chennai	The states of Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and the union territories of Pondicherry and Lakshadweep.
Patent Office, New Delhi	The states of Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Uttar Pradesh, Uttaranchal, Delhi, and the union territory of Chandigarh.
Patent Office, Kolkata	The rest of India.

Source: Indian Patent Office website, http://ipindia.nic.in/ipr/patent/patents.htm (last accessed on 9 April 2010)

The appropriate patent office for filing a patent is based on the territory in which:

1. The applicant for a patent normally resides, or has his domicile, or has a place of business. If the application has more than one applicant, the first mentioned applicant's residence, domicile, or business place will be considered; or,
2. The place from where the invention actually originates; or,
3. If the applicant for a patent or party in a proceeding has no place of business or domicile in India, the place of address of service in India given by the applicant.[19]

Example: X, a resident of Bangalore and Y, a resident of San Jose, USA, work with a company Z having offices in San Jose, Bangalore, and Delhi. X and Y jointly come up with an invention while working at the Bangalore office and Z wishes to file a patent application over the invention. Z can file a patent application either at the Chennai Patent Office because the invention originated in Bangalore and Z has a place of business in Bangalore, which falls within the territorial jurisdiction of Chennai Patent Office, or at the Delhi Patent Office because Z has a place of business in Delhi.

Assuming that Z does not have offices in Bangalore or Delhi and X and Y have come up with the invention at San Jose, the patent office at which Z can file will depend on the address for communication. If Z files the application through a patent agent, whose address for communication is at Pune, the appropriate patent office will be the Mumbai Patent Office because the address for communication falls within the territorial jurisdiction of Mumbai Patent Office.

3.1.4 Language of Filing and Format

The patent application and related documents have to be filed in either English or Hindi unless the Controller permits filing in other languages.[20] Such documents must be written, typewritten, lithographed, or printed in large and legible characters with deep indelible ink. The lines must be widely spaced on one side of a strong white paper. The paper size should be approximately 33.00 cm by 20.50 cm (13 inches by 8 inches) or 29.7 cm by 21 cm (11¾ inches by 8¼ inches) with a margin of at least four centimetres on the right and top side and three cm on left and bottom side of the paper. Any signature on the application, which is not legible or which is written in a script other than Hindi or English must be accompanied by a transcription of the name either in Hindi or English in block letters.

in different Convention Countries, a single convention application covering all the three applications can be filed in India within twelve months from the date of filing of the first application.[36] For example: X files a patent application relating to a chair in USA on 4 July 2008. X then files another application in Germany relating to the chair with arm rests and neck rest on 4 December 2008.In such a situation, X can combine the two applications and file one convention application because the application in Germany is a modification of the invention that forms part of the application in USA. In this case, X must file the Indian application before 4 July 2009, that is within twelve months from the date of the USA application.

A convention application must be filed along with a complete specification and a provisional application cannot be filed with it.[37] While filing the convention application, the applicant must give details of filing date of the Convention Country in which the first application was filed and the date on which such application was filed.[38] When required by the Controller, the applicant must submit copies of the application filed in the Convention Country certified by the head of the patent office in that country.[39]

3.1.7.2 *PCT National Phase Application*

An applicant can file an international patent application through the PCT route and designate countries in which the applicant wishes to get a patent. PCT national phase application is an application that designates India and is filed at the Indian Patent Office after completion of the PCT international phase. A PCT application designating India will be treated as an application filed at the Indian Patent Office.[40] Furthermore, the specification filed as a part of the PCT application will be treated as a complete specification filed in India.[41]

The date of filing of the PCT national phase application will be the date of filing or priority of the PCT application.[42] Any amendment brought about during the PCT process will also be considered as an amendment before the Indian Patent Office if the applicant so desires.[43] The Indian Patent Office will start examining PCT national phase applications only after 31 months from the priority date of the PCT application.[44]

3.1.7.3 *Divisional Application*

An applicant may file a divisional application or applications, if a provisional or complete application filed by the applicant contains more than one invention.[45] Such applications may be filed on the initiative of the applicant or based on a requirement of the Controller.[46] The divisional application has to be a complete application relating to an invention, which falls within the scope of the subject matter mentioned in the original or parent specification.[47] The divisional application must specifically give reference to the application number of the original patent application.[48]

No claim present in the parent application can also be present in the divisional application.[49] Each of the applications should cover different subject matter. The date of filing of the divisional application will be the date of filing of the parent application. For example, if X files a patent application relating to a table lamp and a table, the Controller will require the application to be divided and the applicant has to file a divisional application with regard to one of the inventions. Assuming that such divisional application is filed regarding the table lamp, it should not have any claims relating to the table. The date of filing of the divisional application will be the date on which the first application is filed.

3.1.8 Priority Date

Priority date is the date of first filing, allotted by the patent office to an application. The priority date is the critical date, considered by the Indian Patent office to determine the novelty and non-obviousness of an invention that forms part of a patent application. Each claim of the complete specification will have a priority date.[50] If a complete specification is filed after a provisional specification, the priority date of a claim in the complete specification will be the date of filing of the application with provisional specification, which contains subject matter of the claim.[51] For a claim having two priority dates, the earlier date among the two will be the priority date of the claim.[52] For example, if X files a provisional application relating to a special chair with different cushions on 22 October 2008, and then files another provisional application relating to a unique coir cushion and its use in chairs on 22 December 2008 and, thereafter, on 22 March 2009, X combines the two provisionals and files a complete specification relating to a special chair with coir cushion, the claim in the complete specification relating to the chair with cushion will have two priority dates, 22 October 2008 and 22 December 2008. In such a situation, the priority date of the claim will be 22 October 2008.

In case of a Convention application or a PCT national phase application, the priority date will be the date of filing of the first application in a convention country or the date of priority of the PCT application. For example, if X files a patent application in USA on 1 January 2009 and X files an application on the same invention in UK on 1 March 2009 and

then X files a patent application in India on 1 April 2009, the priority date of X's application in India will be 1 January 2009, which is the date of first convention application. It should be noted here that both USA and UK are convention countries and, therefore, X can claim priority from the applications. In the example, if X files a PCT application instead of the UK application claiming the priority of the US application and then enters the Indian national phase, the date of filing of the Indian application will be the priority date of the PCT application, which is once again 1 January 2009, the US filing date.

The priority date of a divisional application is the priority date of the parent application. For example, if X files a patent application claiming a fan and a light in the same application on 11 December 2005 and later divides the application into two divisional applications relating to fan and light on 11 October 2006, the date of priority of the divisional application will be 11 December which is the date of filing of the first application or parent application.

3.1.9 Post-dating of Applications

On receiving a request from an applicant who has filed a complete specification after a provisional specification, the controller can post-date the filing date of the application to the date of filing of the complete specification.[53] The patent applicant may also request the Controller to post-date his patent application at any time before grant of the patent.[54] On receiving such a request the Controller may post-date the application to the date specified in the request.[55] It should be noted that the application cannot be post-dated for more than six months from the original application date.[56] For example, if X files a provisional application on 14 March 2004 and then files the complete specification on 1 January 2005, X can request the Controller to post-date the application to the date of filing of the complete specification. On acceptance by the Controller, the date of application will be 1 January 2005. Thereafter, if X requests the Controller to post-date the application to 14 March 2006, the Controller cannot post-date it because the request for post-dating is beyond six months from the date of the application, which is 1 January 2005. In such a case, the applicant can post-date the application to any date up to 30 June 2005.

Post-dating of a provisional application enables a patent applicant to gain extra time to file the complete specification. By post-dating, a patent applicant can get up to six months extra time. An applicant may post-date his provisional application, if details of the invention for filing a complete specification would not be ready within twelve months from the date of provisional application.

As the term of a patent is calculated from the date of filing of the patent application, by post-dating, an applicant can initiate the patent term from the new date. While making a decision on post-dating, the patent applicant must note that the new date after post-dating will be the date for determining patentability of the invention, and any prior art reference, dated between the original date and the new date, will be considered by the patent office for determining novelty and inventive step of the invention.

3.1.10 Information about Foreign Applications

The applicant of an Indian application must keep the Controller of Patents informed of all foreign patent applications that relate to the same, or substantially same invention, until the Indian patent is granted.[57] Information regarding the filing of a foreign application must be furnished by the patent applicant to the Controller within six months from the date of such filing.[58] At the time of filing the patent application, the applicant must submit an undertaking with respect to foreign applications in Form 3 to the Controller.[59] If the form is not filed along with the patent application, it must be filed within six months from the date of filing of the application in India.[60]

As and when required by the Controller, the applicant must keep the Controller informed about the proceedings of the foreign applications including objections relating to patentability and so on until the patent is granted in India.[61] Such information must be furnished by the applicant within six months of receiving the communication requiring the information from the Controller.[62]

3.1.11 Foreign Filing Permit

A person resident in India can file a foreign patent application only after taking written permission of the Indian Patent Office or after filing an application at the Indian Patent Office.[63] On filing an application in India, the applicant can file a foreign application after six weeks from the date of Indian filing if secrecy directions are not given within that time.[64] The objective of the provision is to ensure secrecy of inventions relating to national security such as atomic energy or defence. If an invention relates to atomic energy or defence purposes, the Controller will grant permission only after taking the consent of the Central Government.[65] An Indian citizen resident outside India need not take permission to file

a foreign application. For example, if X, a citizen of India and a resident of USA, comes up with an invention in USA, he need not acquire a foreign filing permission before filing his patent application in USA or any other country. On the other hand, if a person Z, who is a citizen of USA comes up with an invention while working in India, he has to acquire a foreign filing permission before filing a foreign application.

Foreign filing permit must be acquired even if the invention falls outside the scope of patentable subject matter in India. Furthermore, foreign filing permission must also be acquired before filing a PCT application at the Indian Patent Office as the receiving office.

The application for permission to file a patent application in a foreign country must be filed in Form 25.[66] The Controller will ordinarily decide on the application within 21 days from the date of application.[67] The decision of the Controller may take more than 21 days if the invention relates to atomic energy or defence purposes. If a foreign application is filed by an Indian resident without taking foreign filing permission, the person would be liable for imprisonment up to two years and/or fine.[68] Filing of a foreign application without a foreign filing permit is also a ground for revocation of the patent in India.[69]

3.2 EXAMINATION OF PATENT APPLICATIONS

After a patent application is filed, the patent office will examine the eligibility of the application for patent grant under the Patent Act and Rules. The process of examination, as shown in the flow diagram hereunder, will start with a request for examination and will proceed to examination, and grant or rejection.

3.2.1 Request for Examination

The examination process will start with an application requesting for examination. A patent applicant has to file a request for examination within 48 months from the date of filing of the application or the priority date, whichever is earlier, in order to initiate the examination process.[70] The request for examination must be filed in Form 18.[71] If secrecy directions have been issued with regard to the application, the request for examination must be made within six months from the date of revocation of secrecy directions or within 48 months from the date of priority or filing, whichever is later.[72] For example, X files a patent application over an invention related to defence on 1 September 2008. After reviewing the application the Controller issues directions to maintain secrecy of

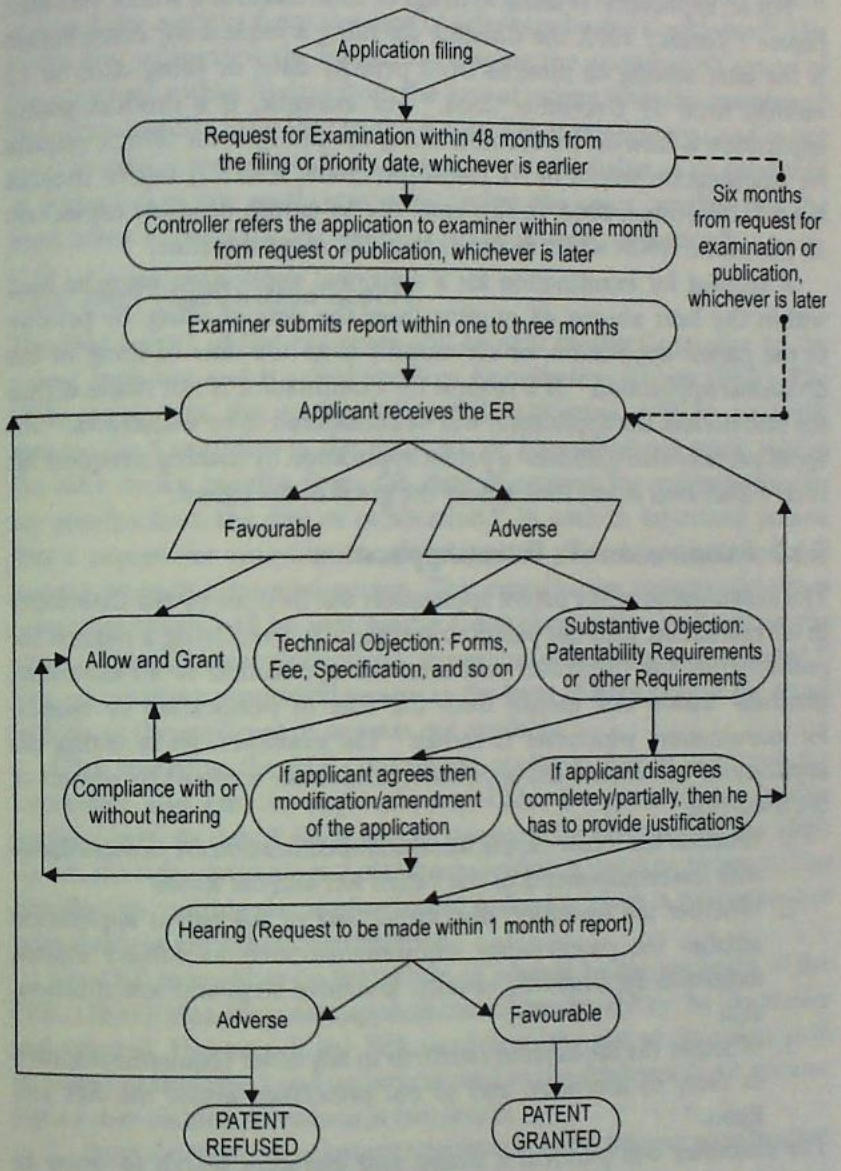

Figure 3.2 Examination Flow Diagram

the invention until 1 July 2012. In such a case, X can file a request for examination any time on or before 31 December 2012 because it is later than 48 months from the filing date, which is 31 August 2012.

For an application relating to drugs or food materials, which was filed before 1 January 2005, the timeline for filing a request for examination is the later among 48 months from priority date, or filing date, or 12 months from 31 December 2004.[73] For example, If a product patent application is filed on 1 December 2001, the deadline for filing a request for examination would be 31 December 2005, which is twelve months from 31December, 2004. In this case, the 48 month deadline expires on 30 November 2005, which is earlier than the other deadline.

A request for examination for a divisional application must be filed within the later among 48 months from the date of filing, or priority of the parent application, or six months from the date of filing of the divisional application.[74] If a request for examination is not made within the said period, the application will be considered to be withdrawn.[75] An applicant may also withdraw a patent application by making a request for such withdrawal at any time before the grant of the patent.[76]

3.2.2 Examination of a Patent Application

The examination of the patent application will be done by the Controller in co-ordination with the patent examiner. After receiving a request for examination, the Controller will refer the application to an examiner, generally within one month from the date of publication or request for examination, whichever is earlier.[77] The examiner, on receiving the application, will review the application and make a report in respect of the following:

1. Whether the form of application and specification are in accordance with the requirements of the Patent Act and the Rules;
2. Whether the invention that forms part of the patent application satisfies the patentability requirements such as subject matter, industrial applicability, novelty, inventive step, and specification; and,
3. Whether the application confirms to any other requirements, such as unity of invention and so on, prescribed under the Act and Rules.[78]

The examiner will perform a patent and literature search in order to identify prior art relevant to the invention that forms part of the patent application. Based on the prior art search, the examiner will analyse novelty and inventive step of the invention. Requirements, such as subject matter, industrial applicability, specification, unity of invention, and so on, will be assessed by review of the complete specification.

The examiner is required to submit the report to the Controller within one to three months from the date of reference by the Controller.[79] The Controller will review the report and dispose the examination report of the examiner within 30 days from the date of receipt from the examiner.[80] The report of the examiner to the Controller is confidential and is not open to public inspection.[81] Such reports are not liable to be produced or inspected in any legal proceeding unless the court certifies that the production or inspection is desirable in the interests of justice.[82]

3.2.3 First Examination Report

The first report of the examiner will be sent by the Controller to the patent applicant and is called the First Examination Report (FER). The FER, along with the application and specification, will be generally sent by the Controller to the applicant or his authorized agent within the later of six months from the date of request for examination, or six months from the date of publication.[83] In case an interested person files a request for examination, an intimation of such examination will be sent to such interested person. The examination reports and other communications will be sent by the Controller to the applicant or the agent ordinarily through electronic communication, duly authenticated.[84] The examination report will be sent in the form of hard copy, if the email address of the applicant or agent is not available.[85]

After receiving the FER, the patent applicant has to convince the Controller and put the application in order for grant within twelve months from its date.[86] Such period may only be extended by the High Court, if a suit relating to the patent application is pending before it. The deadline for putting the application in order for grant is otherwise not extendable in any other circumstance.

The FER may either be favourable or adverse to the applicant. If the FER is favourable, the patent application will be allowed by the Controller and granted. However, if the FER is adverse, the gist of objections will be stated in the report and communicated to the applicant.[87] An adverse report may include objections at two levels:

1. Formal objections, relating to the form of application or specification or fee; and/or,
2. Substantive objections, relating to patentability requirements or any other requirements under the Act.

The Controller may require the applicant to amend the application in order to overcome the objections.

The formal objections generally relate to errors in forms, missing signatures, requisite fee, format of specification, drawings, claims, and other documents that form part of the application.[88] In response to the said objections, the applicant will be required to submit the correctly filled forms with necessary signatures and specification, drawings, and other documents in the format required under the Act and Rules. Formal objections can generally be complied with without any difficulty by the applicant.

With regard to substantive objections relating to patentability requirements under the Act, the applicant may take any of the following steps:

1. Contest the objections of the Controller;
2. Amend the patent application as per the Controller's directions;
3. Request the Controller for a hearing; or
4. Withdraw the patent application.

3.2.4 Contest/Amend

The applicant can contest the objections by writing a response to the examination report giving reasons for non-acceptance of the objections. On receiving the response, the examiner may allow the application based on reasons provided by the applicant or send a second examination report, if in his opinion any of the objections have not been met in the response. The applicant may once again respond to the examination report with his reasons for non-acceptance of objections. The process may continue until the expiry of twelve months for putting the application in order for grant.

During the process, the examiner may require the applicant to amend the application to comply with the objections in FER or subsequent reports.[89] In response, the applicant may amend the application in order to comply with the objections of the examiner, or refuse to make such amendments and state reasons for such refusal in the response. The process may continue until the expiry of the term to put the application in order for grant. If the application is amended by the applicant, it will be examined once again in the amended form as a new application.

After interacting with the examiner, if the applicant complies with the objections, the application will be allowed for grant, else, the application will be rejected. If the applicant fails to respond to an examination report or re-file the documents returned by the patent office, the application will be considered to be abandoned.[90] For example, if the patent office sends

the complete specification along with the FER to the patent applicant, the applicant has to re-file the complete specification at the patent office along with the response. The application will be considered to be abandoned if the applicant does not respond to FER or does not re-file the complete specification at the patent office. The practice of sending patent specifications along with examination reports has now been stopped by the Controller General through a public notice issued in 2009.[91]

3.2.5 Hearing

The applicant may request for a hearing in order to understand the objections raised in the examination report or to explain the reasons for non-acceptance of objections to the Controller and examiner. The request for a hearing may be made by the applicant within one month from the date of receiving the examination report.[92] The Controller may also call for a hearing on his own initiative, if he feels that a hearing is required.[93] The Controller must provide the applicant an opportunity to be heard before taking any adverse decisions with respect to the application. Any applicant desiring to be heard can file a request for hearing at least ten days before the expiry of the time limit specified for an action under the act.[94]

The Controller will fix a date for hearing and inform the patent applicant through a notice at least ten days before the date of hearing or a reasonable period. On receiving such notice, the applicant must inform the Controller about his availability for the hearing and attend it on the said date.[95] The hearing may also be called for on a shorter notice based on the time left for putting the application in order for grant. After hearing the applicant, the Controller will proceed with the examination and, based on compliance with objections, may allow the specification with or without amendment, or refuse the application.[96] The hearing before the Controller will be a public proceeding if the hearing is conducted after the publication of the complete specification.[97]

3.2.6 Withdrawal

The applicant may withdraw the application at any time after filing of the application and before grant of the patent.[98] During the examination process, if the applicant feels that the objections raised by the examiner cannot be met, he may withdraw the application by filing a written request and paying the requisite fee. If the application is withdrawn before the publication of the application, it will not become part of prior art.

3.3 PUBLICATION OF PATENT APPLICATIONS

A patent application filed at the Patent Office will be kept secret until it is published.[99] An application will be published on expiry of eighteen months from the priority date or filing date of the application, whichever is earlier.[100] The Controller will generally publish the application within one month of the expiry of the 18 month period. If an applicant wishes to publish his application before 18 months, he may apply to the Controller for early publication and the Controller will generally publish the application within one month from the date of such application.[101] The request for early publication must be made in Form 9 (Appendix IIA). The object of publication of a patent application is to give notice to the public about the patent application relating to the invention and to give the public an opportunity of opposing the patent application.

A patent application will not be published if,

1. Secrecy directions are issued with regard to the application as it relates to atomic energy or defence purposes; or,
2. The application has been abandoned; or,
3. The application has been withdrawn three months prior to the expiry of eighteen months from priority or filing date.[102]

If an application is the subject of secrecy directions, the application will be published only on expiry of such secrecy directions.[103]

The publication of an application will include,

1. The date of the application;
2. Number of the application;
3. Name and address of the applicant; and
4. The abstract.[104]

On publication of an application:

1. The patent office will make the specification and drawing of the application available to the public for a fee; and,
2. If the application includes a deposit, the depository institution will make the biological material mentioned in the application available to the public.[105]

The rights of the patent applicant will start from the date of publication of the patent application.[106] However, a suit for infringement can be filed only after the patent is granted.

With respect to product patent applications relating to drugs and food materials that have been filed before 1 January 2005, the rights of the patent holder will start only after the grant of the patent. Any company that had made significant investment and were producing and marketing such a product prior to the 1 January 2005 and which continues to manufacture the product covered by the patent on the date of grant of the patent, will be required to pay only reasonable royalty. No infringement proceedings can be instituted against such a company by the patent holder.[107]

For example, Company X files a patent application over a molecule A used for treating cancer on 22 September 2003. The patent office examines the patent application after 1 January 2005 and grants the patent on 24 October 2006. The patent rights of X will start from 24 October 2006. If a company Y has been making and selling the molecule A since 1 January 2004, it can continue to sell the molecule after 24 October 2006 by paying reasonable royalty to X, and X cannot file an infringement suit against Y.

3.4 PRE-GRANT OPPOSITION AND REPRESENTATION

An opposition for the grant of a patent may be filed before or after the grant of a patent. The opposition filed before the patent is granted is called Pre-grant Representation and the opposition filed after the patent is granted is called Post-grant Opposition.

After a patent application is published, any person may file a representation before the Controller against the grant of a patent over the invention that forms part of the application.[108] The procedure followed for representation is shown in Figure 3.3.

The Representation may be filed at any time before the patent is granted.[109] As per the Patent Rules, the patent office cannot grant a patent within six months from the publication date, which means that the minimum time that a person gets to file a representation is six months from the date of publication.[110] A representation may be filed on any of the following grounds:

1. The applicant for the patent wrongfully obtained the invention.[111] For example, if X is the inventor of a patent and Y steals X's laboratory notes and files a patent application relating to an invention mentioned in the notes, X can file a representation opposing the grant of a patent to Y. In such a scenario, the Controller may continue with the application in the name of the person from whom the invention was obtained, which is X in the example;[112]
2. The invention that forms part of the patent application lacks novelty and/or inventive step. [113] For example, If X files a patent application relating to an invention on which Y publishes an article, Y or any other person may file a pre-grant representation against X's application and get the patent application rejected on the ground of lack of novelty and inventive step;

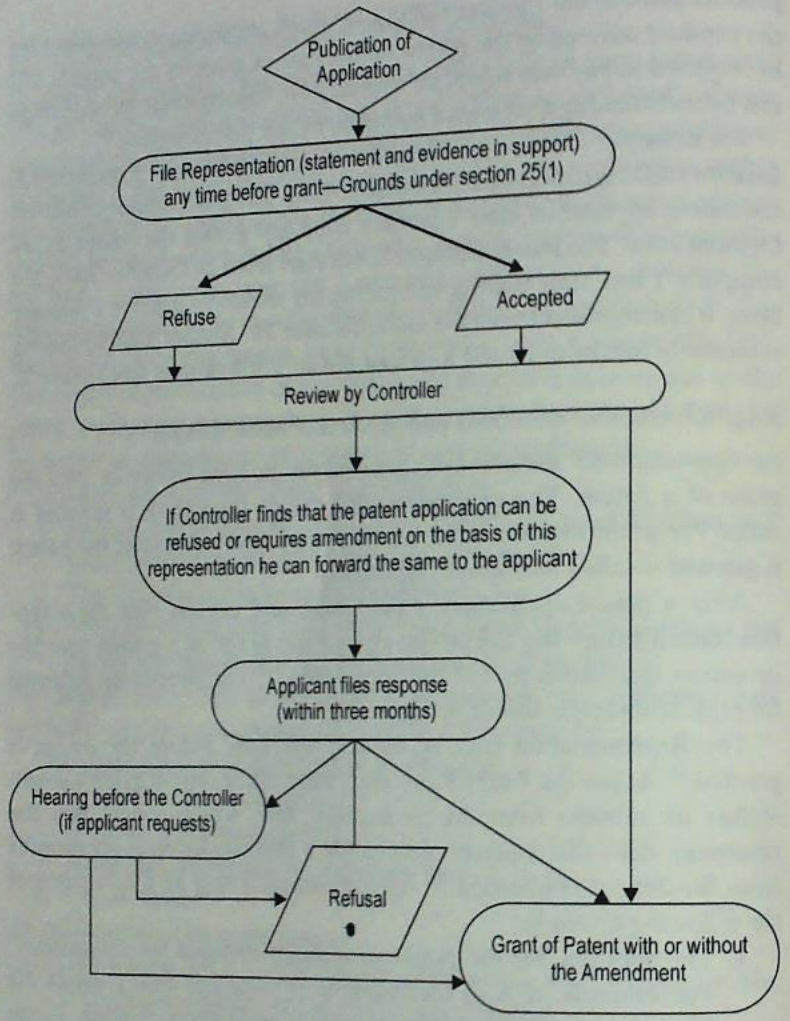

Figure 3.3 Pre-grant Representation

3. The invention is not patentable subject matter.[114] For example, if X files a patent application over an invention relating to a genetically modified animal, any person can file a pre-grant opposition and get the patent application rejected on the ground that the invention is not patentable subject matter;
4. The specification lacks sufficient disclosure or is not enabled.[115] For example, if 'X' files a patent application and fails to disclose the method of carrying out the invention, any person may file a pre-grant opposition against the application on the ground of insufficient disclosure;
5. The applicant withheld information required by the patent office or disclosed false information relating to the application to the patent office.[116] For example, if X files an application over an invention and does not disclose the fact that the subject matter of the application is also the subject matter of another pending application, the application may be opposed and rejected. Furthermore, if X files a patent application on a drug and makes statements about the functioning of the drug without any scientific proof in the specification, any person may file a pre-grant representation against the invention on the ground of disclosure of false information.
6. The convention application was not filed within twelve months from the date of the first application in a convention country.[117] For example, if X files an application in USA on 1 January 2008, and files a convention application in India based on the application in USA on 1 February 2009, any person may file a pre-grant representation against the application and get it rejected because the Indian application was filed after twelve months from the date of first application;
7. The complete specification does not disclose or wrongly mentions the source or geographical origin of biological material used for the invention.[118] For example, if X files an application relating to a genetically modified microorganism found in the sea near Andaman and Nicobar Islands and does not mention the geographical origin of the microorganism, any person may file a pre-grant representation against the application; or,
8. The invention forms part of traditional knowledge anywhere in the world.[119] For example, if X files for a patent over use of turmeric for healing wounds, any person may file a pre-grant representation and get the patent application rejected as the invention forms part of traditional knowledge in India.

The Representation for Opposition must be filed at the patent office at which the application has been filed.[120] it must include a statement and any existing evidence in support of the Representation.[121] The Controller will consider the representation only after a request for examination is filed by the applicant.[122] After considering the representation, if the Controller is of the opinion that the application for patent must be refused or the complete specification requires amendment in the light of the representation, a notice stating the Controller's opinion will be

given to the applicant along with a copy of the representation.[123] The applicant can respond to the notice within three months from the date of receiving the notice by filing a statement and relevant evidence in support of his application.[124] On receiving the patent applicant's response, the Controller may refuse the grant of the patent or require amendment of the specification before the patent is granted.[125] If a request is made for a hearing, the Controller will hear the parties and grant, or reject, the application based on the representation and submissions.[126]

3.4.1 A Study of Relevant Cases

A representation was filed by Natco Pharma Limited against an application for patent (bearing number 1602/MAS/1998) filed by M/s Novartis AG claiming Switzerland priority date of 18 July 1997 for an invention relating to Crystal Modification of N-Phenyl-2-Pyrimidineamine derivative. After reviewing the representation and hearing the parties the Controller held that the invention lacked novelty and inventive step in the light of a US patent application. The Controller also held that the invention is not patentable subject matter because it is a new form of a known substance and because the applicant failed to show any improvement in efficacy. As Switzerland was not a Convention Country on the date of filing of the application, the Controller stated that the applicant cannot claim priority from the application in Switzerland.[127]

Indian Network for People living with HIV/AIDS and Tamil Nadu Networking People with HIV/AIDS v. *Union of India*

The petitioners, societies providing support to people suffering from HIV AIDS, filed a Pre-grant Representation by way of opposition under section 25(1) of the Patents Act, 1970, against a patent relating to Valganciclovir filed by F. Hoffmann-La Roche, which is a drug used to treat CMC retinitis.[128] The petitioners submitted the grounds of opposition and specifically demanded hearing under Rule 55(1) of the Patents Rules.[129] On receiving the representation, the Controller of Patents sent a notice to the patent applicant and granted the patent without giving an opportunity of being heard to the petitioners.[130] Aggrieved by the Controller's action, the petitioners filed a writ petition before the Madras High Court praying for quashing of the patent grant and requesting for an opportunity of hearing before deciding the fate of the patent application.[131] After hearing the parties, the court set aside the patent grant and ordered the Controller of Patents to give a hearing to the petitioners before deciding on grant of patent.[132] The Court stated

that the petitioners have the right for a hearing under Section 25 of the Patent Act and Rule 55 of the Patent Rules and directed the patent office not to assign the hearing to an Assistant Controller who had dealt with the patent application in the first instance.[133]

3.5 PATENT GRANT AND PUBLICATION

If the application satisfies all the requirements of the Patents Act and Rules, the application is said to be in order for grant. An application in order for grant will be granted and the date of patent grant will be entered in the register.[134] The patent grant certificate will be sent to the applicant or agent along with a final version of the complete specification in a compact disc.[135]

A granted patent will be published in the official gazette and will be open for public inspection.[136] The date of the granted patent will be the date of filing of the patent application.[137] The examination carried out by the examiner or Controller does not warrant the validity of the patent.[138] Neither the examiner or Controller, nor any other officer can be held liable for the examination or grant of a patent.[139]

3.6 POST-GRANT OPPOSITION

A Post-grant Opposition may be filed by any interested person after the publication of patent grant and within one year from the date of such publication.[140] An interested person is a person engaged in, or promoting research in, the field to which the invention relates.[141] For example, if X gets a patent grant on a gene sequence responsible for diabetes, a scientist at National Institute of Nutrition, who is researching on diabetes will be considered to be an interested person.

The Post-grant Opposition process is shown in the flow diagram hereunder.

A Post-grant Opposition may be filed based on any of the grounds specified for Pre-grant Representation.[142] The grounds listed under the Act, for both opposition and representation are the same.

3.6.1 Notice of Opposition

Any interested person (opponent) may initiate the opposition by filing a notice of opposition.[143] The notice of opposition must be filed in Form 7.[144] In addition to the notice, the opponent must file a written statement in support of the notice setting out the nature of his interest, facts of the case, and relief sought by him.[145] Evidence may be filed in support of the written statement.[146] A copy of the written statement and evidence, if any,

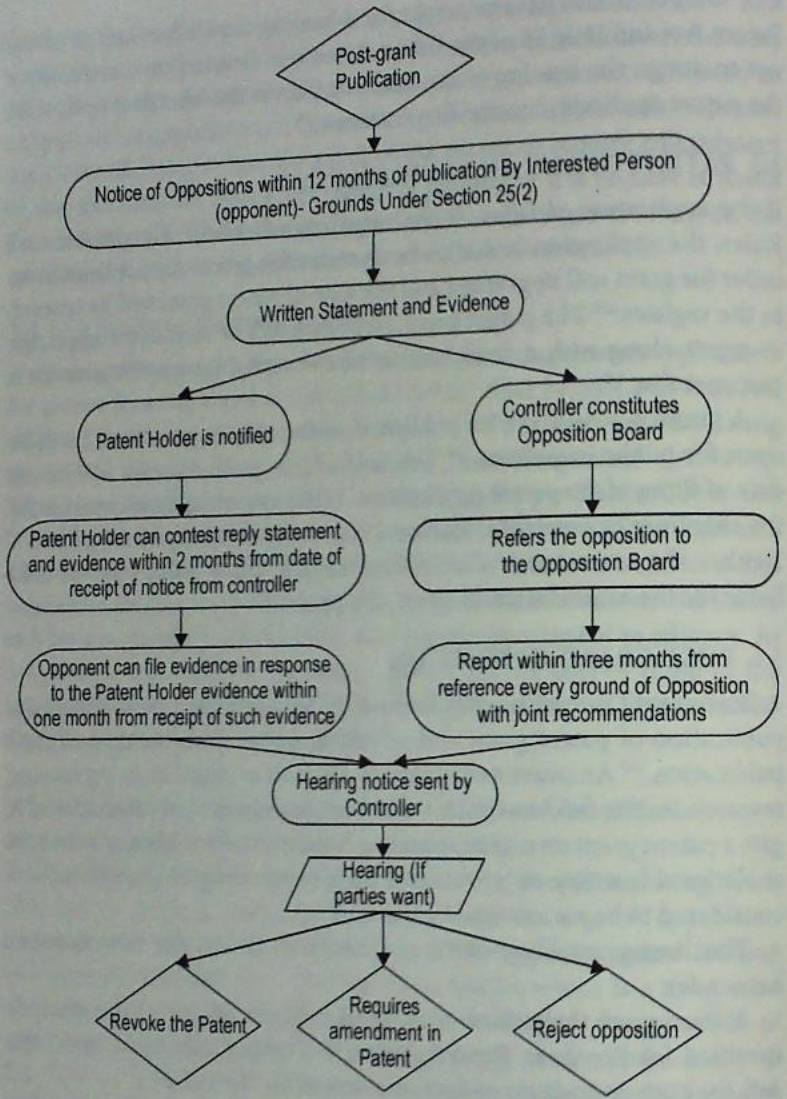

Figure 3.4 Flow Diagram—Post-grant Opposition

must be delivered to the patent holder also.[147] If a notice of opposition is filed by a person who is not residing or does not carry any business in India, the Controller may require such a person to give security for the cost of proceedings and may reject the notice if such a security is not given.[148]

3.6.2 Response to Notice of Opposition

On receiving the notice of opposition, the Controller will notify the patent holder regarding the notice.[149] The patent holder may contest the opposition by filing a reply statement and evidence in response to the opposition notice within two months from the date of receiving the notice from the Controller.[150] The patent holder must deliver a copy of the reply statement and evidence to the opponent also.[151] If the patent holder does not contest the opposition, the patent will be revoked.[152] In response to the patent holder's statement, the opponent may submit evidence relevant to patent holder's evidence in response within one month of receiving such statement.[153]

3.6.3 Opposition Board

The Controller will constitute a three member Opposition Board and refer the opposition, along with the documents, to the Board for examination and submission of its recommendations to the Controller.[154] An examiner in the patent office is eligible to be a member of the Board.[155] However, the examiner who had examined the application cannot be a Board member.[156] The Opposition Board will conduct the examination of the notice of opposition and submit a report, with reasons on each ground taken in the notice of opposition with its joint recommendation, within three months from the date of reference.[157] On receipt of the recommendation of the Opposition Board and after giving the patentee and the opponent an opportunity of being heard, the Controller will order either to maintain, or to amend, or to revoke the patent.[158]

3.6.4 Hearing

After receiving the recommendations of the Opposition Board and completion of submission of evidence, the Controller will fix a date and time for hearing.[159] The Controller may require members of the Opposition Board to be present during the hearing.[160] The Controller will give a notice of hearing at least ten days before the date of hearing to each party.[161] Any party that desires to attend the hearing must inform the Controller through a notice along with the fee.[162] If such a notice is not sent, the Controller may refuse to hear the party.[163] If either or both parties are interested in attending the hearing, the Controller will conduct the hearing.[164]

3.6.5 Decision

After the hearing and/or based on recommendations of the Opposition Board, the Controller will decide on maintaining, revoking, or requiring amendment of the patent.[165] The Controller will communicate the decision with reasons to both the parties.[166] If the patent holder decides to withdraw the patent based on the notice of opposition, the Controller may grant costs to the opponent.[167]

3.6.6 A Study of Relevant Cases

1. A research assistant, who is a laboratory technician filed an opposition against a patent alleging wrongful obtainment and prayed for incorporation of his name as an inventor.[168] The Controller reviewed the facts and stated that a laboratory technician, involved in carrying out experiments or in reducing an invention to practice, cannot be considered to be an inventor. As the opponent just helped in carrying out experiments and, therefore, was not an inventor, the Controller stated that there was no wrongful obtainment and rejected the opposition.
2. An opposition was filed against a patent relating to a process for making a soap composition containing glycerol based on lack of novelty and inventive step in the light of prior art.[169] After reviewing the prior art documents, the Controller stated that the specific steps of the invention were not present in the prior art. The Controller observed that the right balance of salt and glycerol in order to avoid a soap which is too hard or too soft, and balancing quantities of glycerol or salt against the quantities of total fatty matter that formed part of the patent, were not present in the prior art. As the cited prior art did not contain the elements of the invention that formed part of the patent, the Controller rejected the opposition.
3. An opposition was filed against a patent relating to a process for the preparation of a therapeutic anti-inflammatory and analgesic composition containing Nimesulide for transdermal use stating that the invention lacked novelty and inventive step, based on Nigerian and Sri Lankan patents.[170] As the prior art patents disclosed the identical process as that of the invention in the patent, the Controller revoked the grant of patent.
4. An opposition was filed against a patent relating to a Mosquito/Insect Repellant Device on the ground of lack of novelty and inventive step based on prior publication.[171] The opponent relied on citation of Registered Design No.56444, photographs of Registered Design No. 159918 dated 5 July 1988, and advertisement in newspaper with photographs of mosquito repellent with extended cord in the brand name of Good Knight dated 6 August 1990 (Ex-Cl), After reviewing the prior art references, the Controller stated that the invention possessed novelty as all elements were not present in a single prior art reference. With regard to inventive step, the Controller stated that the invention was obvious because the integers of the invention were present in combined prior art and the invention was nothing more than a mere workshop improvement of a skilled person in the light of the prior art. Based on the reasoning, the Controller revoked the patent.

3.6.7 Review of Decisions by the Controller

The Controller will have the powers of a Civil Court with respect to certain actions under the Patents Act.[172] Under such powers, the Controller can review a decision made by him under the Act.[173] A person may apply for a review of the Controller's decision by filing an application under Form 24 within one month of the communication of the decision by the Controller.[174] Such period may be extended on request of the applicant to a maximum period of one month.[175] After reviewing the decision, the Controller may either uphold the decision or set it aside.

3.7 APPEALS TO APPELLATE BOARD

Appeals from certain decisions, directions, or orders of the Controller or Central Government, under the Patents Act may be made to the Appellate Board. The Appellate Board has the jurisdiction to hear appeals from any decision, order, or direction, relating to any of the following aspects:

1. Refusal of a patent application by the Controller under Section 15 of the Act;
2. Any decision with regard to filing of a divisional application under Section 16 of the Act;
3. Any decision regarding the post-dating of an application under Section 17 of the Act;
4. Refusal of the application by the Controller based on anticipation under Section 18 of the Act;
5. Decision of the Controller regarding insertion of a reference due to potential infringement under Section 19 of the Act;

6. Decision of the Controller with regard to substitution or addition of a person's name in the patent application under Section 20 of the Act;
7. Order of the Controller to maintain, or amend, or revoke, the patent under Section 25(4) of the Act;
8. Decision relating to mentioning of the name of the inventor in the patent application under Section 28 of the Act;
9. Directions of the Controller with regard to the sale or lease of the patent, or the grant of licences under the patent under Section 51 of the Act;
10. Decision of the Controller with regard to patent of addition under Section 54 of the Act;
11. Decision or Order of the Controller regarding the amendment of an application, specification or any document relating thereto under Section 57 of the Act;
12. Decision of the Controller with regard to restoration of lapsed patents under Sections 60 and 61 of the Act;
13. Decision of the Controller with regard to surrender of a patent under Section 63 of the Act;
14. Decision of the Central Government to revoke a patent as it is prejudicial to the public interest under Section 66 of the Act;
15. Decision of the Controller to register a person as a proprietor or co-proprietor of a patent under Section 69(3) of the Act;
16. Correction of errors in a patent or application by the Controller under Section 78 of the Act; and
17. Order of the Controller with regard to compulsory licences under Sections 84(1)–(5), 85, 88, 91, 92A, and 94 of the Act.[176]

The Appellate Board does not have jurisdiction regarding any direction made or issued by the central government, or any order, or direction of the Controller, giving effect to Central Government's directions such as secrecy directions for inventions relating to defence purposes or atomic energy.[177]

In addition to hearing appeals, the Appellate Board has the jurisdiction to revoke a patent under Section 64 of the Act and to rectify the register under Section 71. Any decision with regard to revocation or rectification will be communicated by the Appellate Board to the Controller, who will in turn make necessary changes in the register.[178] All cases of appeals against any order or decision of the Controller and all cases pertaining to revocation of patent and rectification of register pending before any High Court have been transferred to the Appellate Board on 2 April 2007 as notified by the Central Government in the Official Gazette.[179] The Appellate Board may proceed with the matter in each case either de novo or from the stage it was so transferred.[180]

3.7.1 Composition of the Appellate Board

The Appellate Board, established under the Trademarks Act, 1999, will have jurisdiction, power, and authority under the Patents Act also.[181] The Appellate Board consists of a chairman, vice-chairman, and number of members as deemed fit by the Central Government.[182] It will exercise its jurisdiction through benches constituted by the Board. A Bench of the Appellate Board consists of one Judicial Member and one Technical Member and sits at Chennai as notified by the Central Government.[183] However, the Technical Member of the Appellate Board, under the Patents Act, is different from the one under the Trademarks Act. Unlike the Technical Member under the Trademarks Act, the member under the Patents Act must:

1. Have held the post of Controller for at least five years or have exercised the functions of the Controller for at least five years; or,
2. Have functioned as a Registered Patent Agent for at least ten years and possesses a degree in engineering, or technology, or a masters degree in science, from any university.[184]

3.7.2 Procedure before the Appellate Board

Every appeal to the Appellate Board must be made within three months from the date of the decision, order, or direction of the Controller or the Central Government, or within such further time as the Appellate Board may allow.[185] The Appellate Board has the power to make rules regarding the conduct and procedure in respect of all proceedings before it.[186] The Appellate Board has the power to regulate its own procedure, including the fixing of place and time of its hearing, within the limits of the provisions of the Trademarks Act and Rules.[187] It is not bound by the code of civil procedure but is bound by principles of natural justice. However, the Appellate Board shall have the same powers as the civil court under the Code of Civil Procedure, 1908, while discharging its functions in respect of the following matters:

1. Receiving evidence;
2. Issuing commissions for examination of witnesses;
3. Requisitioning any public record; and,
4. Any other matter.[188]

Any proceeding before the Appellate Board is considered to be a judicial proceeding, and the Appellate Board is deemed to be a civil court.[189]

If the members of a Bench differ in opinion on any point, they will make a reference to the chairman, who will either hear the point or points himself, or refer the case for hearing on such point or points by one or more of the other members. Such point or points will be decided according to the opinion of the majority of the members who have heard the case, including those who first heard the case.[190]

3.7.3 A Study of Relevant Cases

Ajanta Pharma Limited v. *The Controller General of Patents, The Assistant Controller of Patents and Designs and Eli Lilly and Co.*

The case related to an application for a patent entitled Tetracyclic derivatives, processes for preparation and use, which was assigned to Eli Lilly & Company (Eli Lilly).[191] Ajanta Pharma Limited (Ajanta) filed a pre-grant opposition against the patent application.[192] After considering the opposition, the Controller allowed the process claims but rejected the product claims.[193] Aggrieved by the decision of the Controller, Ajanta filed an appeal to the Delhi High Court under Section 116(2) of the principal Patents Act.[194] Thereafter, the Appellate Board was constituted and the High Court transferred the case to the Appellate Board under Section 117G of the Patents Act.

Eli lilly argued before the Appellate Board that the appeal before the Appellate Board was not maintainable because Section 117A, which deals with appeals to Appellate Board, does not allow an appeal from a decision of the Controller relating to pre-grant opposition.[195] In response, Ajanta argued that the appeal was maintainable because Section 116(2), which was applicable before Section 117A came into force, allowed an appeal from any decision of the Controller, including a decision relating to pre-grant opposition. After reviewing the arguments, the Appellate Board held that the appeal was maintainable before the Appellate Board because Section 116(2), which was in force before Section 117A came into force, allowed an appeal to the High Court and Section 117G provided for transfer of cases pending before the High Court to the Appellate Board.[196] While deciding the case, the Appellate Board observed that whenever there is a repeal of an enactment and simultaneous re-enactment, the re-enactment must be considered as reaffirmation of the old law and provisions of the repealed Act, which were re-enacted, continue in force uninterruptedly unless the re-enacted enactment manifests an intention incompatible with, or contrary to the provisions of the repealed Act.[197]

According to the Appellate Board, a clear legislative intention of the re-enacted enactment regarding preservation or obliteration of rights must be inferred and gathered from the new Act.[198] As Ajanta had the right to go for appeal from pre-grant opposition to the High Court under Section 116(2), as Patent Bench of IPAB had not been formed, and as the enactment of the new section does not expressly or by implication obliterate such a right, the Appellate Board stated that the right would continue to exist, even after the constitution of the Appellate Board and coming into force of Section 117A.[199] In the light of its reasoning, the Appellate Board held that the appeal was maintainable.

Vikram India Limited v. *Kilburn Engineering Limited, The Controller of Patents and The Controller General of Patents and Designs and Trademarks*

The case related to a petition pleading for hearing by the Appellate Board at Mumbai instead of Appellate Board at Chennai. After hearing the arguments, the Appellate Board held that the hearing must be held at Mumbai Patent Office instead of Chennai Patent Office based on the following reasons.[200]

1. The Patent in question was sealed and granted by Patent Office at Mumbai on 21 April 2006, and all the concerned and relevant records of the patent files were available at Mumbai Patent Office;
2. The applicant for revocation had its Registered Office at Kolkata;
3. The patent holder had its R&D establishment and head office at Mumbai, and no cause of action arose in Chennai;
4. The experts conversant with the technical niceties of the patent in questions were available only at Mumbai;
5. Holding the hearing would cause inconvenience for counsels of both the parties;
6. The court which has jurisdiction to try any disputes among the parties is the Bombay High Court; and,
7. As per the Patents Act and Trademarks Act, the Chairman of the Appellate Board has the power to allocate the appropriate bench to conduct a hearing, based on the jurisdiction of the business.[201]

Novo Nordisk Health Care AG v. *The Assistant Controller of Patents and Designs, Government of India*

Novo Nordisk filed a PCT national phase application at the Indian Patent office on 1 December 2003.[202] After examining the application, the Controller of patents issued the FER on 9 June 2006, which meant that the last date for placing the application in order for grant was 9 June

2007.[203] The Controller raised objections to grant of the patent in the FER based on lack of novelty and inventive step in the light of prior art.[204] Novo Nordisk responded to the examination report on 7 June 2007, two days before the last date, with an elaborate response to the objections and requested for a hearing if the Controller decides to make an adverse decision on the application.[205] On receiving the response from Novo Nordisk, the Controller rejected the patent application without giving an opportunity of being heard.[206] In the rejection letter, the Controller stated that a hearing was not given because the request was made just two days before the expiry of the last date.[207]

After reviewing the facts, the Appellate Board held that rejection of the application without giving an opportunity of being heard violates principles of natural justice and set aside the rejection of the application by the Controller.[208] Though, Section 80 requires a patent applicant to file a request for hearing before ten days of the expiry of the deadline, the Board stated that the requirement under the provision may be relaxed by the Controller. The Board remanded the application to the Controller and ordered the Controller to provide an opportunity of being heard before deciding on the application.[209]

Michigan State University v. *The Assistant Controller of Patents and The Controller General of Patents, Trademarks, Designs, and Geographical Indications*

Michigan State University (MSU) filed a patent application relating to Transgenic Plants Producing Polyhydroxyalkanoates.[210] As the invention that formed part of the application had plurality of inventions, the applicant filed two divisional applications related to plants having modified genes through DNA coding.[211] The divisional application in question before the Appellate Board related to modification of gene sequences through a recombinant technique.[212] After examining the application, the Assistant Controller objected to the grant of patent on the ground that the invention was not patentable subject matter as it claimed living matter.[213] MSU responded by stating that the invention claimed was a chemical compound and a process related to the compound and amended the application based on the objections.[214] After a few interactions, the Assistant Controller abandoned the application stating that MSU failed to put the application in order for grant.[215]

Aggrieved by the order of the Assistant Controller, MSU filed a review application stating that the order did not give reasons for abandonment.[216] On rejection of the review application, MSU appealed to the High Court, which transferred the case to the Appellate Board after its constitution.[217] After reviewing the facts of the case, the Appellate Board held that the order of abandonment was not sustainable because MSU was not given an opportunity of being heard.[218] It remanded the case to the Assistant Controller for disposal after hearing the applicant.[219]

Hindustan Unilever Limited v. *The Controller of Patents and Design, Sri Rakesh Kumar, Assistant Controller of Patents and Design, and The Examiner of Patents and Designs*

Hindustan Unilever Limited (HUL) filed a National Phase application for patent with regard to a Fabric Conditioning Kit.[220] After examining the application, the examiner initially raised formal objections in the FER, which were duly complied by HUL.[221] Thereafter, the examiner sent a second examination report with technical objections relating to novelty and inventive step based on three prior art references.[222] HUL responded to the objections and made certain amendments to the patent application.[223] A hearing was requested in the response letter if the Controller took an adverse decision on the application.[224]

After reviewing HUL's response, the examiner rejected the application without giving an opportunity of being heard. Thereafter, HUL filed a review petition for which it did not receive any response from the Controller and, therefore, filed an appeal before the Appellate Board.[225] After hearing the parties, the Appellate Board held that the rejection of the patent application without giving an opportunity of being heard amounted to violation of principles of natural justice and remanded the case to the Controller for disposal after giving a hearing.[226]

EBZ Online Private Limited v. *The Controller of Patents*

EBZ Online Private Limited (EBZ) applied for a patent entitled An Apparatus For Conducting Banking Transactions Including Depositing and Withdrawal of Cash.[227] The Controller issued the FER relating to the application on 8 December 2005.[228] In the FER, the Controller objected the patent application based on substantive and procedural grounds.[229] EMZ responded to the objections on 29 November, 2006.[230]

After reviewing the response, the Controller rejected the application as it was not in order for grant.[231] While rejecting the application, the Controller cited prior art references and did not give the applicant an opportunity to defend the patentability of the application in the light of such references. On appeal, the Appellate Board held that the Controller violated the principles of natural justice by not giving an opportunity of

being heard or opportunity of defending the application.[232] The Appellate Board remanded the application to the Controller for disposal after giving an opportunity of hearing.[233]

Rolic AG et al. v. *The Controller General of Patents and The Assistant Controller of Patents and Designs*

Rolic AG et al. (Rolic) filed a PCT national phase application at the Indian Patent Office for an invention titled Topologically Structured Polymer Coating and a Method of Creating Thereof.[234] After examining the application, the patent office objected to the grant of patent based on grounds relating to subject matter, novelty, and inventive step.[235] Rolic responded to the examination report by amending two claims in the application and by submitting arguments against the objections.[236] Despite the amendment and submissions, the patent office maintained the objections and gave Rolic an opportunity of being heard.[237] After the hearing, Rolic made further amendments to the application.[238] It also submitted details relating to grant of the patent application by the European Patent Office.[239] After reviewing the amendments and documents submitted, the patent office maintained the objections and refused the application.[240]

Aggrieved by the decision of the patent office, Rolic appealed to the High Court and the case was transferred to the Appellate Board after its constitution.[241] After hearing both the parties, the Appellate Board stated that the patent office must give its order of refusal in the light of submissions of the patent applicant with reasons.[242] It further stated that the reasons for refusal of grant of patent should be clear, explicit, and should show that the learned Controller of Patents had applied his mind, considered the observations of the applicant, and discussed or analysed the same, while refusing to proceed with the application.[243] As per the Appellate Board, the refusal order was a mere narration of the patent examiner's technical objections and did not give reasons for refusal.[244] Therefore, the Appellate Board remanded the patent application to the patent office and directed the patent office to give the applicant an opportunity of being heard and to amend the application, if required, before deciding on the application in accordance with the law.[245]

Nokia Corporation of Keilalahdenti v. *The Assistant Controller of Patents and Designs, Government of India*

Nokia Corporation (Nokia) filed a PCT national phase application at the Chennai Patent Office.[246] After reviewing the application, the

Controller issued an examination report having technical and formal objections.[247] The formal objections related to information regarding national phase patent applications filed in other countries.[248] The applicant provided the information relating to foreign applications required by the Controller, but specified the international filing date as the date of filing in Form 3.[249] Based on the date mentioned, the Controller rejected the patent application stating that applicant disclosed false information regarding the date and did not disclose information required under Section 8 of the Patents Act to the patent office.[250]

Aggrieved by the decision, Nokia, the patent applicant, appealed to the Appellate Board. After hearing the arguments of the parties and after reviewing relevant provisions, the Appellate Board stated that the date mentioned by Nokia in Form 3 was not wrong and did not amount to non-disclosure of material information required under Section 8.[251] As per the Appellate Board, as Sections 7 and 138 and Rule 11 of PCT Rules provided very clearly that the date of application of the national phase application would be date of filing of the international application, mentioning the international filing date does not amount to an irregularity on behalf of the patent applicant.[252] The Appellate Board further observed that the patent applicant did not gain any advantage by not disclosing the actual filing date because such information was not material for grant of a patent.[253] In the light of its reasoning, the Appellate Board set aside the order of the Controller and directed the Controller to grant the patent.[254]

Novartis AG v. *Union of India and Ors*

Novartis AG (Novartis) filed an application for patent in 1998 for an invention entitled Crystal Modification of a N-Phenyl-2-Pyrimidine-amine derivative, processes for its manufacture, and its use.[255] The application claimed the methanesulfonic acid addition salt form of the compound, Imatinib, hereinafter called as Imatinib Masylate.[256] It specifically claimed the beta crystal form of Imatinib Masylate, which is non-needle shaped, having better flow properties, and, thus, better processable, less hygroscopic, and more thermodynamically stable, thus better storable than its needle shaped, alpha crystal form, characterized by the differences in the melting points and the X-ray diffraction diagrams.[257] The patent application of Novartis claimed priority from an application filed in Switzerland.[258]

Pre-grant representations opposing the grant of patent were filed by Cancer Patients Aid Association, India, M/s Natco Pharma Limited,

M/s Cipla Limited, M/s Ranbaxy Laboratories Limited, India, and M/s Hetro Drugs Limited, India (opponents).[259] The opponents claimed that the invention claimed in the application was not patentable because it claimed priority date wrongfully, lacked novelty, and inventive step, and fell within Section 3(d) of the Patents Act.[260] After considering the representations and hearing the parties, the Assistant Controller refused the grant of the patent.[261] Aggrieved by the decision of the Assistant Controller, Novartis filed writ petitions before the High Court of Madras and the court converted the said writ petitions into appeals.[262] After the constitution of the Appellate Board in 2007, the case was transferred to the Appellate Board.[263]

The Appellate Board considered each of the arguments raised by the opponents and refused to grant the patent over the claimed compound to Novartis. With regard to priority date, the Appellate Board stated that an issue relating to convention priority would be a ground for opposition under Section 25(1) of the Patents Act.[264] It went on to state that the ground cannot be accepted for refusal of patent application in the case because Novartis could claim priority from a Switzerland Patent application in accordance with the amended Section 133 of the Patents Act.[265]

Regarding novelty, the Appellate Board reviewed the prior art references cited by the opponents and stated that the references do not disclose any specific crystalline form of Imatinib Mesylate as a substance, leaving apart the beta crystalline form, any pharmaceutical composition containing the same or any process for making the said beta form.[266] It further observed that a person skilled in the art would not be able to predict the polymorphism and prepare the subject compound from the prior art.[267] Furthermore, the Appellate Board stated that Beta-crystalline form of Imatinib Mesylate was not inherently anticipated by the prior art because the salt existed in several polymorphic forms, there was no concrete method to prepare the salt form, and because convention methods could not be used to prepare the compound based on the disclosure.[268] In the light of its reasoning, the Appellate Board held that the compound was not anticipated and, therefore, satisfied the novelty requirement.[269]

With regard to the existence of inventive step, the Appellate Board stated that though the prior art provided various salt forms of Imatinib including the Mesylate form and a person skilled in the art might choose the Mesylate form, a person skilled in the art would not be able to discover the same and reach to the beta crystal form of Imatinib Mesylate, or to find its advantageous properties, or to find a suitable process for its

preparation, or make a solid pharmaceutical composition containing the said crystal form, because of polymorphism and related unpredictability in the art.[270] It then stated that the invention had a technical advance as compared to the existing knowledge by way of demonstration of polymorphism, isolation, and characterization of beta (and alpha) crystal forms of Imatinib Mesylate, identifying suitable properties in the beta crystal form usable in the making of oral solid drug formulation for curing cancer.[271] As no one could predict the possibility of existence of polymorphism in Imatinib Mesylate and as there was no motivation in the prior art for an uninventive man to try for finding out different polymorphic forms and their relative properties, suitable for preparing for solid dosage formulation for cancer treatment drug, the Appellate Board concluded that the Beta Crystalline form of Imatinib Mesylate possessed inventive step.[272]

The Appellate Board then discussed about selection patent, which is a patent granted to a compound that is selected from a group having certain characteristics and that shows unexpected results.[273] It laid down certain minimum requirements that may be considered before granting a selection patent, which are:

(1) Whether there is any statement in the specification indicating that the nature of the invention concerns some kind of selection;
(2) Whether the selection is from a class of substances which is already generally known;
(3) Whether the selected substance is new;
(4) Whether the selection is a result of any research by human intervention and ingenuity opposed to mere verifications;
(5) Whether the selection is unexpected or unpredictable; and,
(6) Whether the selected substance possesses any unexpected and advantageous property.[274]

As Imatinib Mesylate was selected from a group of different salt forms cited in the prior art and as the Beta Crystalline form of the compound had surprising and unpredictable results, the Appellate Board stated that the compound in the patent application might be considered to satisfy requirements for grant of a selection patent.[275]

The Appellate Board then analysed the patentability of Imatinib Mesylate under Section 3(d) of the Patents Act. It started its analysis by citing the definition of efficacy of the Madras High Court, which opined that efficacy means a therapeutic effect in healing a disease or having a good effect on the body.[276] The Appellate Board then observed that therapeutic efficacy is different from advantageous property of a drug.[277]

As per Section 3(d) and its explanation, the Appellate Board stated that Imatinib Mesylate is a salt form of Imatinib, which was already known and would not be patentable unless it showed increased efficacy than Imatinib.[278] Though the Beta Crystalline form of Imatinib Masylate had increased bio-availability, the Appellate Board pointed out that it would not be sufficient to satisfy the efficacy requirement.[279] Furthermore, the Appellate Board stated that though physical properties such as improved thermodynamic stability, improved flow properties, and lower hygroscopicity were important to formulate the active ingredients in solid dosage forms such as capsules, tablets, and so on, they had no contribution to actual therapeutic efficacy of the compound.[280] As the Beta Crystalline form of Imatinib Mesylate did not possess any improvement in the therapeutic effect of Imatinib for treatment of cancer, the Appellate Board held that the compound fell within the scope of Section 3(d) and was, therefore, not patentable.

In the light of its analysis, though, Imatinib Mesylate satisfied the requirements of industrial applicability, novelty, and inventive step, the Appellate Board held that compound was not patentable as it fell within the scope of ineligible inventions under Section 3 of the Patents Act.

UCB Farchim SA v. *M/s Cipla Limited and Ors*

Writ petitions were filed by Ucb Farchim, Colorcon, Yeda Research & Development, and Eli Lilly against the order of the Controller rejecting their patent applications based on pre-grant representations filed by various companies. After consolidating the writ petitions, the Delhi High Court held that an applicant aggrieved by the rejection of his application by the Controller, based on a pre-grant representation, may file an appeal to the Intellectual Property Appellate Board (IPAB). As per the Court, a rejection by the Controller based on a pre-grant representation under Section 25(1) would be a decision under Section 15 of the Patents Act and, therefore, may be appealed to the IPAB under Section 117A, though the said section does not specify Section 25(1) among the list of sections from which an appeal is possible.

After analysing the relevant sections, the court divided appeals from pre-grant representations into two categories:

i. Appeals from rejection of pre-grant representation; and,
ii. Appeals from rejection of a patent application based on pre-grant representation.[281]

With respect to appeals from the rejection of a pre-grant representation filed by any person under Section 25(1), the court stated that it may

entertain an appeal under Article 226 of the Constitution.[282] However, with respect to the second scenario, where the Controller rejects an application based on a pre-grant representation, the court stated that such a rejection is in effect a rejection under Section 15 of the Act and, therefore, an appeal would lie to the IPAB under 117A because the said section provides for such an appeal.[283] While stating so, the court observed that a rejection based on pre-grant representation under Section 25(1) would be considered as a rejection under Section 15 because a pre-grant representation is considered as an opportunity given to the general public in order to aid the Controller in the examination process, and the Controller would have the discretion to accept or reject the pre-grant representation. Therefore, though Section 25(1) is not listed among the sections from which an appeal is possible to the IPAB under Section 117A, the court stated that an appeal would be possible in case of rejection of application under Section 15, which is listed as appealable under the section.[284] In the light of its decision, the court allowed the patent applicants (petitioners), whose applications have been rejected based on pre-grant representation to file an appeal with IPAB within two weeks.[285]

3.7.4 Case Notes

Any decision given by the Controller of Patents must be a speaking order. It must clearly state and indicate the reasons based on which the decision has been made. The Controller must follow principles of natural justice before making a decision that is adverse to the applicant. In a response to the examination report of the Controller, if the patent applicant requests for a hearing before rejection of the application, the Controller has to give the applicant an opportunity of hearing before refusing the application.

3.7.5 Appeals from Appellate Board

A decision of the Appellate Board is appealable to the Supreme Court only through a special leave petition.[286] The constitutional validity of such a decision may also be questioned by the High Court or Supreme Court by invoking their writ jurisdiction.[287] The decisions of the Appellate Board are otherwise final and not appealable in any other manner.

3.7.6 Timeline Table

Table 3.2 provides the timelines for taking necessary action at the Indian Patent Office.

Table 3.2 Timeline for Taking Necessary Action at the Indian Patent Office

Application	Timeline
Particulars Complete Application	Within twelve months of the provisional application
Convention Application	Within twelve months of Filing the application in the convention country
Publication of Application	Within eighteen months from filing of application
Declaration of Inventorship	Along with Complete Specification extendable to within one month of filing complete specification
Post-dating of the Application	Up to six months from the original filing date of the application
Foreign Filing of the Application	After six weeks from the Indian filing (if no secrecy directions are given) or after written permission
Examination	
Request for Examination	Within 48 months of filing or priority date, which ever is earlier
Examination of PCT National Phase Application	After 31 months from the date of priority of PCT application
Request for Examination in Case of Divisional Application	Within six month of filing of divisional application
Application in Order for Grant	Within twelve months of receiving the FER
Request for Hearing before Adverse Decision	At least ten days before the expiry of time limit for the action
Opposition	
Pre-grant Opposition Application	Within six month of publication
Post-grant Opposition Application	Within one year of grant of Patent
Notice of Opposition to be Sent to the Applicant by the Controller	Within one month of receipt of such notice
Reply to the Notice of Opposition	Within 60 days of receipt of such notice
Appeal	
Period of Filing the Appeal to the Appellate Board against the Order or Decision of the Controller	Within 3 months from the decision, order or direction of the Controller or the Central Government or within such further time as the Appellate Board may allow
Review	
Application to Controller for Review of an order	Within 1 month from the decision or order of the Controller

3.7.7 Extension of Timelines

The timelines prescribed under the Patent Rules may be extended by the Controller on a request made by the patent holder or patent applicant.[288] Such a request must be made before the expiry of the timeline under the Rules.[289] However, the period for putting the application in order for grant under Rule 24B(4), Pre-grant Opposition under Rule 55, and extension of period for payment of renewal fee under Section 80(1A), cannot be extended beyond the timelines specified in the said Rules.[290]

NOTES

1. Section 6(1)(a), Indian Patent Act, 1970.
2. Ibid., at Para 6.
3. Section 6(1)(b), Indian Patent Act, 1970.
4. Section 2(1)(s), The Patents Act, 1970.
5. Section 7(2), The Patents Act, 1970 and Rule 10, The Patent Rules, 2003.
6. Section 6(1)(c), Indian Patent Act, 1970.
7. Section 6(2), Indian Patent Act, 1970.
8. Sections 133 and 134, The Patents Act, 1970.
9. Section 134(a), Indian Patent Act, 1970.
10. Section 134(b), Indian Patent Act, 1970.
11. Section 20(1), Indian Patent Act, 1970.
12. Ibid.
13. Section 20(2), Indian Patent Act, 1970.
14. Section 20(4), Indian Patent Act, 1970.
15. Ibid.
16. Section 20(5), Indian Patent Act, 1970.
17. Ibid.
18. Sections 7(1) and 10(5), The Patents Act, 1970.
19. Rule 4, The Patent Rules, 2003.
20. Rule 9, ibid.
21. Section 7(4), The Patents Act, 1970.
22. Section 9(1), The Patents Act, 1970.
23. Section 9(2), The Patents Act, 1970.
24. Section 9(3), The Patents Act, 1970.
25. Circular No. 12 issued on 26.6.2009 by Controller General of Patents, Designs & Trademarks http://www.patentoffice.nic.in/OfficeCircular/Circular_12_26June2009.pdf (last accessed on 11 April 2010).
26. Section 10(6), The Patents Act, 1970.
27. Rule 13(6), The Patent Rules, 2003.
28. Patent Office Procedure (POP), 2009, p. 7; http://www.patentoffice.nic.in/PatentOfficeProcedure/PatentOfficeProcedure_2009.pdf (last accessed on 11 April 2010).
29. Ibid.

30. Section 135, The Patents Act, 1970.
31. Section 133, The Patents Act, 1970.
32. Section 135(1), The Patents Act, 1970.
33. Draft Manual of Patent Practice and Procedure, 2008 at Para 5.3.4 citing decision of the Controller in International Chemical Company Limited (Applicant) for application No. 912/Cal/81.
34. Draft Manual of Patent Practice and Procedure, 2008 at Para 5.3.5 citing the case of application No 986/Cal/79.
35. Ibid.
36. Section 135(2), The Patents Act, 1970.
37. Section 136(1), The Patents Act, 1970.
39. Ibid.
39. Section 138(1), The Patents Act, 1970.
40. Section 138(4), The Patents Act, 1970.
41. Ibid.
42. Section 138(5), The Patents Act, 1970.
43. Section 138(6), The Patents Act, 1970.
44. Rule 20(4), The Patent Rules, 2003.
45. Section 16(1), The Patents Act, 1970.
46. Ibid.
47. Section 16(2), ibid.
48. Rule 13(2), The Patent Rules, 2003.
49. Rule 13(3), The Patent Rules, 2003.
50. Section 11(1), The Patents Act, 1970. Section 11(1) reads as follows: 'There shall be a priority date for each claim of a complete specification.'
51. Section 11(2), The Patents Act, 1970. Section 11(2) reads as follows: 'Where a complete specification is filed in pursuance of a single application accompanied by:

(a) a provisional specification; or

(b) a specification which is treated by virtue of a direction under sub-Section (3) of Section 9 as a provisional specification, and the claim is fairly based on the matter disclosed in the specification referred to in clause (a) or clause (b), the priority date of that claim shall be the date of filing of the relevant specification.'

52. Section 11(5), The Patents Act, 1970. Section 11(5) reads as follows: 'Where, under the foregoing provisions of this section, any claim of a complete specification would, but for the provisions of this sub-section, have two or more priority dates, the priority date of that claim shall be the earlier or earliest of those dates.'
53. Section 9(4), ibid.
54. Section 17(1), ibid.
55. Ibid.
56. Ibid.
57. Section 8(1)(a), ibid.

58. Rule 12(2), The Patent Rules, 2003.
59. Section 8(1)(b), The Patents Act, 1970 and Rule 12(1), The Patent Rules, 2003.
60. Rule 12(1A), The Patent Rules, 2003.
61. Section 8(2), The Patents Act, 1970
62. Rule 12(3), The Patent Rules, 2003.
63. Section 39(1), The Patents Act, 1970. Section 39 (1) reads as follows: 'No person resident in India shall, except under the authority of a written permit sought in the manner prescribed and granted by or on behalf of the Controller, make or cause to be made any application outside India for the grant of a patent for an invention unless:

(a) an application for a patent for the same invention has been made in India, not less than six weeks before the application outside India; and

(b) either no direction has been given under sub-Section (1) of section in relation to the application in India, or all such directions have been revoked.'

64. Ibid.
65. Section 39(2), The Patents Act, 1970.
66. Rule 17(1), The Patent Rules, 2003.
67. Rule 71(2), The Patent Rules, 2003.
68. Section 118, The Patents Act, 1970.
69. Section 64(1) (n), The Patents Act, 1970.
70. Section 11B(1), The Patents Act, 1970 as amended in 1999, 2002, and 2005 and Rule 24B(1), The Patent Rules, 2003 as last amended in 2005.
71. Ibid.
72. Section 11B(4)(b), The Patents Act, 1970 .
73. Section 11B(1), The Patents Act, 1970 as amended in 1999, 2002 and 2005 and Rule 24B(1)(v), The Patent Rules, 2003 as last amended in 2006 and Section 11B(3), The Patens Act, 1970 as amended in 1999 and 2002.
74. Rule 24(B)(iv), The Patent Rules, 2003.
75. Section 11B(4), The Patents Act, 1970.
76. Section 11B(4)(a), The Patents Act, 1970.
77. Section 12(1), The Patents Act, 1970 as amended in 1999, 2002 and 2005 and Rule 24B(1)(I), The Patent Rules, 2003.
78. Section 12(1), The Patents Act, 1970.
79. Rule 24B(1)(II), The Patent Rules, 2003.
80. Rule 24B(1)(III), The Patent Rules, 2003.
81. Section 144, The Patents Act, 1970.
82. Ibid.
83. Rule 24B(3), The Patent Rules, 2003.
84. Patent Office Procedure (POP), 2009, p. 16, Public Notice issued on 19 June 2009 by Controller General of Patents, Designs & Trademarks. Available at http://ipindia.nic.in/OfficeCircular/public_notice_19June2009.pdf (last accessed on 9 April 2010).

85. Ibid.
86. Section 21, The Patents Act, 1970.
87. Section 14, The Patents Act, 1970.
88. Draft Manual of Patent Practice and Procedure at Para 6.2.6 citing Section 12 (1)(a), The Patents Act, 1970, as last amended in 2005.
89. Section 15, The Patents Act, 1970.
90. Section 21, The Patents Act, 1970.
91. Patent Office Procedure (POP), 2009, p. 16. Available at http://www.patentoffice.nic.in/PatentOfficeProcedure/PatentOfficeProcedure_2009.pdf (last accessed on 11 April 2010).
92. Rule 28(3), The Patent Rules, 2003 as last amended in 2005.
93. Ibid.
94. Section 80, The Patents Act, 1970.
95. Rule 28(4), The Patent Rules, 2003 as last amended in 2005.
96. Rule 28(5), The Patent Rules, 2003 as last amended in 2005.
97. Rule 139, The Patent Rules, 2003 as last amended in 2005.
98. Section 11B(4)(i), The Patents Act, 1970, as amended in 1999, 2002, and 2005 and Rule 26, The Patent Rules, 2003.
99. Section 11A(1), The Patents Act, 1970.
100. Rule 24, The Patent Rules, 2003.
101. Section 11A(2), The Patents Act, 1970.
102. Section 11A(3), The Patents Act, 1970.
103. Section 11A(4), The Patents Act, 1970.
104. Section 11A(5), The Patents Act, 1970.
105. Section 11A(6), The Patents Act, 1970.
106. Section 11A(7), The Patents Act, 1970.
107. Ibid.
108. Section 25(1), The Patents Act, 1970.
109. Ibid.
110. Rule 55(1A), The Patent Rules, 2003..
111. Section 25(1)(a), The Patents Act, 1970.
112. Section 26(1), The Patents Act, 1970.
113. Section 25(1)(b-e), The Patents Act, 1970.
114. Section 25(1)(f), The Patents Act, 1970.
115. Section 25(1)(g), The Patents Act, 1970.
116. Section 25(1)(h), The Patents Act, 1970.
117. Section 25(1)(i), The Patents Act, 1970.
118. Section 25(1)(j), The Patents Act, 1970.
119. Section 25(1)(k), The Patents Act, 1970.
120. Rule 55(1), The Patent Rules, 2003.
121. Ibid.
122. Rule 55(2), The Patent Rules, 2003.
123. Rule 55(3), The Patent Rules, 2003.

124. Rule 55(4), The Patent Rules, 2003.
125. Rule 55(5), The Patent Rules, 2003.
126. Rule 55(6), The Patent Rules, 2003.
127. Draft Manual of Patent Practice and Procedure, 2008 at Para 7.1.3.
128. Ibid., at Paras 1 and 2.
129. Ibid., at Para 4.
130. Ibid., at Para 7.
131. Ibid., at Para 10.
132. Ibid., at Para 68.
133. Ibid., at Para 69.
134. Section 43, The Patents Act, 1970.
135. Patent Office Procedure (POP), 2009, p. 16. Available at http://www.patent office.nic.in/PatentOfficeProcedure/PatentOfficeProcedure_2009.pdf (last accessed on 11 April 2010).
136. Section 43(2), The Patents Act, 1970.
137. Section 45(1), The Patents Act, 1970.
138. Section 13(4), The Patents Act, 1970.
139. Ibid.
140. Section 25(2), The Patents Act, 1970.
141. Section 2(1)(t), The Patents Act, 1970.
142. Section 25(2), The Patents Act, 1970.
143. Ibid.
144. Rule 55A, The Patent Rules, 2003.
145. Rule 57, The Patent Rules, 2003.
146. Ibid.
147. Ibid.
148. Section 150, The Patents Act, 1970.
149. Section 25(3)(a), The Patents Act, 1970 as amended in 1999, 2002, and 2005, and Rule 56 and 57, The Patent Rules, 2003.
150. Rule 58(1), The Patent Rules, 2003.
151. Ibid.
152. Rule 58(2), The Patent Rules, 2003.
153. Rule 59, The Patent Rules, 2003.
154. Section 25(3)(b), The Patents Act, 1970 as amended in 1999, 2002, and 2005, and Rule 56(1), The Patent Rules, 2003.
155. Rule 56(2), The Patent Rules, 2003.
156. Rule 56(3), The Patent Rules, 2003.
157. Rule 56(1), The Patent Rules, 2003.
158. Section 25(4), The Patents Act, 1970.
159. Rule 62(1), The Patent Rules, 2003.
160. Ibid.
161. Rule 62(1), The Patent Rules, 2003.
162. Rule 62(2), The Patent Rules, 2003.

163. Rule 62(3), The Patent Rules, 2003.
164. Rule 62(5), The Patent Rules, 2003.
165. Rule 62(2), The Patent Rules, 2003.
166. Rule 62(5), The Patent Rules, 2003.
167. Rule 63, The Patent Rules, 2003.
168. Draft Manual of Patent Practice and Procedure, 2008 at Para 7.2.4 citing the matter of Patent No.187163, (581/BOM/1999).
169. Draft Manual of Patent Practice and Procedure, 2008 at Para 7.2.5 citing the matter of Patent No.173953 (223/BOM/1991).
170. Draft Manual of Patent Practice and Procedure, 2008 at Para 7.2.6 citing the matter of Patent No.- 183458 (454/BOM/1998).
171. Draft Manual of Patent Practice and Procedure, 2008 at para 7.2.11 citing *Rickett & Colman of India Limited* v. *Godrej Hi Care Limited*, (2001 PTC 637 (PO).
172. Section 77(1), The Patents Act, 1970.
173. Section 77(1)(f), The Patents Act, 1970.
174. Rule 130, The Patents Rules, 2003 as amended in 2006.
175. Ibid.
176. Section 117A(2), The Patents Act, 1970.
177. Section 117A(1), The Patents Act, 1970.
178. Section 117D(2), The Patents Act, 1970.
179. The Gazette of India Extra-ordinary Part II-Section 3-Sub-section (ii), published by authority No. 354, New Delhi, Tuesday, April 3, 2007/Chaitra 13, 1929, Ministry of Commerce and Industry (Department of Industrial Policy and Promotion), Registered No. D.L.-33004/99.
180. Section 117G, The Patents Act, 1970.
181. Section 116(1), The Patents Act, 1970.
182. Section 84(1), Trademarks Act, 1999.
183. Section 84(2), Trademarks Act, 1999.
184. Section 116(2), The Patents Act, 1970.
185. Section 117A(4), The Patents Act, 1970.
186. Section 117H, The Patents Act, 1970.
187. Section 92(1), Trademarks Act, 1999.
188. Section 92(2), Trademarks Act, 1999.
189. Section 92(3), Trademarks Act, 1999.
190. Section 84(6), Trademarks Act, 1999.
191. Ibid., at Para 3.
192. Ibid., at Para 4.
193. Ibid., at Para 5.
194. Ibid., at Para 5.
195. Ibid., at Para 7.
196. Ibid., at Para 23.
197. Ibid.

198. Ibid.
199. Ibid.
200. Ibid., at Para 7.
201. Ibid., at Para 2.
202. Ibid., at Para 2.
203. Ibid.
204. Ibid.
205. Ibid., at Para 3.
206. Ibid.
207. Ibid.
208. Ibid., at Para 28.
209. Ibid.
210. Ibid., at Para 2.
211. Ibid.
212. Ibid.
213. Ibid., at Paras 5–8.
214. Ibid.
215. Ibid., at Para 8.
216. Ibid., at Para 9
217. Ibid., at Para 10.
218. Ibid., Para 16.
219. Ibid.
220. Ibid., at Para 2.
221. Ibid., at Para 2.
222. Ibid., at Para 3.
223. Ibid.
224. Ibid.
225. Ibid., at Para 4.
226. Ibid., at Para 12.
227. Ibid., at Para 1.
228. Ibid.
229. Ibid.
230. Ibid.
231. Ibid.
232. Ibid., at Para 8.
233. Ibid.
234. Ibid., at Para 2.
235. Ibid.
236. Ibid.
237. Ibid.
238. Ibid.
239. Ibid.
240. Ibid.

241. Ibid., at Para 3.
242. Ibid., at Para 18.
243. Ibid., at Para 20.
244. Ibid.
245. Ibid.
246. Ibid., at Para 2.
247. Ibid., at Para 3.
248. Ibid.
249. Ibid.
250. Ibid.
251. Ibid., at Para 14.
252. Ibid., at Para 13.
253. Ibid., at Para 11.
254. Ibid., at Para 15.
255. Ibid., at Para 2.
256. Ibid., at Para 3.
257. Ibid.
258. Ibid.
259. Ibid.
260. Ibid., at Para 3.
261. Ibid.
262. Ibid.
263. Ibid.
264. Ibid., at Para 10.
265. Ibid.
266. Ibid., at Para 10(ii)
267. Ibid.
268. Ibid.
269. Ibid.
270. Ibid., at Para 10(iii)
271. Ibid.
272. Ibid.
273. Ibid., at Para 10(iv)
274. Ibid.
275. Ibid.
276. Ibid., at Para 10(v)
277. Ibid.
278. Ibid.
279. Ibid.
280. Ibid.
281. Ibid., at Paras 21 and 22.
282. Ibid., at Para 21.
283. Ibid., at Para 22.

284. Ibid.
285. Ibid., at Paras 24–44.
286. Article 136, Constitution of India.
287. Article 32 and Article 226, Constitution o
288. Rule 139(1), The Patent Rules, 2003.
289. Rule 139(2), The Patent Rules, 2003.
290. Rule 139(1), The Patent Rules, 2003.

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111. Section 120, The Patents Act, 1970.
112. Section 67(1), The Patents Act, 1970.
113. Ibid.
114. Sections 72(2) and 147(2), The Patents Act, 1970.
115. Section 67(5), The Patents Act, 1970.
116. Section 119, The Patents Act, 1970.
117. Section 72(1), The Patents Act, 1970 as amended in 1999, 2002, and 2005, and Rule 133, The Patent Rules, 2003.
118. Section 153, The Patents Act, 1970 as amended in 1999, 2002, and 2005, and Rule 134, The Patent Rules, 2003.

5

Patent Specification Drafting

5.1 SPECIFICATION

As discussed in Chapters 3 and 4, a patent applicant must file a patent specification disclosing the details of the invention along with a patent application. Specification is a techno-legal document, which contains scientific information relating to the invention for which patent protection is sought. An application may be accompanied by either a provisional or a complete specification. A provisional specification is generally filed when an inventor has conceived the invention but needs some time to perfect it. On filing a provisional specification, a complete specification must be filed within twelve months from the date of filing of the provisional specification.

The object of a specification is to disclose to public the details of the invention for which protection is sought by the patent applicant. The specification not only discloses the embodiments of the invention but also provides the manner of practising or working the invention. It provides notice of the patent protection sought by an applicant by clearly defining the boundaries of the invention. As specification is the document used by the patent office in order to make a decision on patent grant and the courts to enforce the patent, the manner in which a specification is drafted assumes high importance. This chapter discusses nuances of specification drafting with emphasis on contents of specification, approaches to drafting a specification, and strategic considerations in drafting.

5.2 PARTS OF A SPECIFICATION

5.2.1 Complete Specification

A complete specification must have the following sections:

1. Title
2. Preamble
3. Name, address, and nationality
4. Field of invention and use of invention
5. Prior art and problem to be solved
6. Object of invention
7. General statement of invention
8. Detailed description of invention
9. Statement of claims
10. Drawings
11. Abstract
12. Deposit

Example: Consider an invention pertaining to a pencil with an eraser attached at one end. Assume that this is an invention that satisfies the basic requirements of novelty and non-obviousness. The use of such a pencil is evident as it makes it convenient for a writer to have an attached eraser and as he does not have to worry about carrying an eraser separately. This example will be used to illustrate the various sections of a patent specification.

5.2.1.1 *Title*

The specification must begin with a title sufficiently indicating the subject matter of the invention.[1] The title of the invention has to disclose the specific features of the invention in not more than fifteen words.[2] While the title has to indicate the nature of the invention, it need not describe the invention. Use of laudatory words must be avoided in the title.

Example: A pencil with an attached eraser.

Note that in this example, the title could read as simple as 'A pencil'. While such a title does indicate the subject matter of the invention, it does not disclose the specific features of the invention and, therefore, may not be accepted by the patent examiner.

5.2.1.2 *Preamble*

The preamble provided hereunder should be given on the first page of Form 2 (see Appendix II A) along with other details such as title of the invention, name, address, and nationality of the applicant(s).

The following specification particularly describes the invention and the manner in which it is to be performed.[3]

5.2.1.3 *Name, Address, and Nationality*

Full name, address, and nationality of the applicant have to be provided in the specification. The address may be that of either applicant's place of business or residence.[4]

5.2.1.4 *Field of Invention and Use of Invention*

The field and use of the invention section has to indicate the general art to which the invention belongs and utility of the invention. This section may also demonstrate the industrial applicability of the invention for which protection is sought, and may provide examples of the areas of application and use of the invention. Furthermore, the advantages that the invention possesses over conventional practices may also be provided in this section. The section may start as follows:

This invention relates to ...[5]

Example: This invention relates to a pencil and more particularly to, a pencil with an attached eraser.

Note that in the example given above, the field of invention and use of invention does not capture specifically the utility and the industrial applicability of the invention. However, such a field of invention and use of invention may be acceptable to an examiner as industrial applicability and utility of the invention are clearly evident, as it is in most cases. For example, in this case, it is evident that a pencil with an attached eraser would be very useful for writers and that it could be made in an industry. However, in certain cases, it may not be so. If the utility is not clearly evident in an invention, a practitioner might want to include the use of invention as well in this section.

Example: This invention relates to a pencil, and more particularly to a pencil with an attached eraser. The invention disclosed herein, may be used by writers who use pencils and erasers.

5.2.1.5 *Prior Art and Problem to be Solved*

This section must clearly bring out the current state of the art of technology relating to the invention. Furthermore, the section should identify the closest prior art that may be existing at the time of application, and bring out differences between the invention being disclosed and the prior

art. The prior art referred in the section may include pending patent applications, granted patents, technical literature, books, and so on.

Moreover, apart from identifying the closest prior art, this section must also bring out the distinguishing factors of the invention as compared to the closest prior art. As indicated in the heading, this section should also contain the disadvantages or problems existing with the prior art that the invention solves.

Example: Currently, writers who use pencils to write use erasers to erase text in case they need to make any correction to text or remove any unnecessary portions of the text that they are working on.

Existing pencils do not come with attached erasers. Therefore, writers have to remember to carry or keep erasers separately with them whenever they are writing. However, it is common for writers to forget to carry or keep erasers with them, which leads to discomfort while writing as they cannot make corrections at the time of writing.

Furthermore, when a writer realizes that he or she needs to make correction to the text, the writer needs to put the pencil down and pick up an eraser to erase the portions of text that need to be corrected. This results in spending more time in erasing.

The invention disclosed herein provides for a pencil with an attached eraser, preferably to one end of the pencil. This eliminates the need for writers to specifically remember to carry or keep another item, namely eraser, with them. Also, having an eraser attached to a pencil allows for a writer to quickly turn the pencil and use it as an eraser. This can considerably reduce the time used to erase text while writing.

Note that the example prior art and problem to be solved clearly points out closest prior art, which is a pencil. The section also distinguishes the invention from the prior art by clearly pointing out that the invention includes a pencil having an eraser attached, preferably attached at one end. Apart from covering these two critical aspects, the section also lucidly points out the problems (disadvantages) with the prior art and indicates how the invention solves those problems.

5.2.1.6 *Object of Invention*

The Object of Invention section logically flows from the earlier section relating to prior art and problem to be solved. The section is expected to clearly and explicitly state the objects of the invention. In other words, the necessity of the invention has to be fortified in this section.

While the previous section brings out the disadvantages with the prior art, this section brings out the positive effects (or solutions) from the invention. The objects are generally listed in the following format:

'The principal object of this invention is …'[6]

'Another object of this invention is …'[7]

'A further object of this invention is …'[8]

Example: The principle object of the invention is to provide convenience to writers in making corrections to the text that they are working on, as an eraser is attached to the pencil. Another object of the invention is to reduce the time involved in making corrections to the text, as writers do not have to drop the pencil and pick up an eraser to erase text.

It can be seen from the example that object of the invention section is based on the problems that the invention solves. This section informs an examiner as to why this invention is needed in the light of state of the art.

5.2.1.7 *General Statement of Invention*

The General Statement of the Invention (also known as Statement of the Invention) section must clearly bring out the most essential and distinguishing features of the invention for which protection is sought and without which the invention would not be possible.[9] This section may also expressly detail the essential novel features of the invention for multiple embodiments.

The statement of the invention is intended to complement the omnibus claim during infringement proceedings.[10] An omnibus claim is a claim that claims the subject matter described in the specification without setting any specific boundary. Therefore, it is important to list as many embodiments as possible as part of the statement of invention in order to broaden the coverage of claims. However, it is not required to provide complete details of various embodiments in this section. A brief statement relating to the embodiments with essential novel features will be sufficient.

Example: In the case of the example invention that we selected, the statement of the invention should briefly talk about the various embodiments of the invention. Embodiments of the invention may include various ways of attaching an eraser to a pencil. For example, one embodiment could be achieved by using glue as an attaching mechanism.

Another embodiment could be achieved using a cylindrical means attached to the pencil on one end of the means and to hold an eraser on the other end. The section should focus on listing briefly the various embodiments. The statement of the invention section need not go into details of the embodiments like the types of glue that could be used or the specific details of the mechanism used to hold the eraser. Such details are to be covered under the detailed description section.

5.2.1.8 *Detailed Description of Invention*

The detailed description section of a specification, as the name suggests, is expected to provide a comprehensive description of the invention sought to be protected. Description of an invention is required to be furnished in sufficient detail so as to give a complete understanding of the invention.[11] The nature of improvements or modifications effected with respect to the prior art should be clearly and sufficiently described in the description.[12] To clearly describe and ascertain the nature of the invention, this section may use specific examples and refer to drawings in order to illustrate the various aspects of the invention.[13]

Example: In the case of the example invention, the detailed description section will cover all the embodiments of the invention required to explain the invention in detail. While the statement of invention merely lists the embodiments and provides a brief overview of the listed embodiments, the detailed description section elaborates details of each embodiment. The detailed description section will also include details of various alternatives that are possible for every single embodiment. Considering one embodiment of the example invention, namely, eraser is attached to a pencil using glue, the detailed description may talk about various kinds of glue that could be used to attach an eraser to pencil.

5.2.1.9 *Statement of Claims*

Claims constitute the techno-legal part of the specification. The description of the invention in the specification must end with one or more claims.[14] Claims define the extent of protection sought for an invention and form the heart of the specification. Claim may be either an independent claim, which stands alone without depending on other claims, or dependent claim, which depends on another claim.

Example: A pencil comprising an eraser attached to one end of the pencil.

This claim tries to cover all embodiments that have an eraser attached to a pencil at one end. Therefore, the example claim is an example of a reasonably broad claim that seeks to protect multiple embodiments by drawing a broad boundary around more than one embodiment. However, please note that this claim does not cover those embodiments where an eraser is not attached to one end, but is rather attached somewhere in the middle of the body of the pencil.

Typically, a specification contains more than one claim as part of statement of claims. And, there are different types of claims based on dependency and subject matter. This section of the specification will be dealt in greater details in the subsequent chapter.

5.2.1.10 *Drawings*

Drawings in the specification must be submitted on separate durable sheets.[15] They must be made on a scale sufficiently large to show the invention clearly and the dimensions must not be marked on the drawings.[16] Each drawing must be submitted on standard A4 size sheets with a clear margin of at least 4 cm on the top and left hand side of the sheet and 3 cm at the bottom and right hand side of every sheet.[17] All sheets of the drawings should be sequentially or systematically numbered and must have:

1. The name of the applicant in the left hand top corner;
2. The number of the sheets of drawings and the consecutive number of each sheet in the right hand top corner; and,
3. The signature of the applicant or his agent in the right hand bottom corner.[18]

The drawings must not have any descriptive matter unless they contain flow diagrams.[19] Furthermore, reference letter/numerals as used in the description should also be used in denoting the corresponding component/part in the drawings. No descriptive matter should appear on drawings except under certain circumstances such as usage of flow chart, chemical, and other reaction, and so on.

The same letters or numerals should be used in different figures for the same parts. In complicated drawings or when there is no room to write the reference letters in their proper places, the letters should be shown outside the figures and connected by fine lines with the parts to which they refer.[20]

5.2.1.11 *Abstract*

Claims in a specification are followed by an abstract of the invention

that is the subject of the specification. An abstract must start with the heading Title of the invention and should give a concise summary of the invention.[21] The abstract has to indicate clearly the technical field, to which the invention belongs, the technical problem, to which the invention relates, and the solution to the problem through the invention, and the principal uses of the invention.[22]

The abstract may not contain more than 150 words.[23] Where necessary, reference should be made to the most relevant figures of the drawings.[24] Chemical formulae that characterize an invention may also be included in the abstract, if necessary. The abstract has to be so drafted that it constitutes an efficient instrument for searching in the relevant art and to assess whether there is a need to refer to the specification itself.[25] However, the abstract cannot be used for the purpose of interpreting the scope of protection in legal proceedings.[26]

Example: A pencil with an attached eraser, preferably to one end of the pencil, thereby, eliminating the need for writers to specifically remember to carry or keep another item, namely eraser, with them. Furthermore, having an eraser attached to a pencil allows for a writer to quickly turn the pencil and use it as an eraser, thereby, reducing the time used to erase text while writing.

Note that the example abstract provided here starts with the title of the invention, limits itself to within 150 words, and provides a brief summary of the invention. The example abstract clearly points out the field of the invention, and problems the invention solves through the advantages that it highlights, namely the convenience in having an attached eraser, and reduced time in erasing text while writing.

5.2.1.12 *Deposit*

A deposit of biological material must be made if the invention includes biological materials which cannot be adequately described in the written description. On making a deposit, the reference to the deposit has to be provided in the specification within three months from the date of filing of the specification.[27] All details and characteristics to identify and indicate the biological materials including the name, address of the depository institution, and the date and number of the deposit of the material at the institution, must be mentioned in the specification.[28]

Access to the material needs to be made available only after the priority date or date of application in India.[29] The geographical origin of the biological materials should also be mentioned in the specification.A

summary of procedural requirements in a specification are provided in Table 5.1 for reference.

Table 5.1 Procedural Requirements

Section	*Section/Rules*	*Explanation of the Sections/Rules*
All sections except drawings	Rule 9(1)	All documents and copies except drawings sent to the patent office shall be in written, or typewritten, or printed, either in Hindi or English in large and legible characters with deep indelible ink, with lines widely spaced upon one side only of the strong white paper. The size of the white paper shall be A4 of approximately 29.7 cm by 21 cm, with margin of at least 4 cm on the top and left hand part, and 3 cm on the bottom and right hand part thereof.
Specification	Section 10 Rule 13	Every specification shall have to be made on Form-2. Form-2 should contain, title of the invention and applicant's name, address, and nationality, Preamble to the description Description shall start on the next page. Claims have to start with a preamble—I/We claim on a separate page. Date and signature of agent or applicant has to be made at the end of the last page of specification.
Abstract	Section 10(4)(d) Rule 13(7)	An abstract shall commence with the title of the invention. It shall not exceed more than 150 words. It shall indicate the reference of the figure which needs to be published with abstract. Abstract should be submitted along with complete specification in a separate page.
Title	Rule 13(7)	The Title of the invention shall not be more then 15 words.
Drawings	Rule 15(4)	The drawings shall be on standard A4 size sheets with clear margin, at least 4 cm on the top and left hand and 3 cm at the bottom and the right hand of every sheet. Drawings shall be on scale sufficiently large to show the inventions clearly and dimensions shall not be marked on the drawings.

> Drawings shall be sequentially or systematically numbered and shall bear in the left hand corner the name of the applicant; in the right hand top corner, the number of sheets of drawings and consecutive number of each sheet; and in the right hand bottom corner, the signature of the applicant or his agent

5.2.2 Provisional Specification

The applicant may prepare a disclosure of the invention in the form of a written description and submit it to the patent office as a provisional specification if he requires time to perfect the invention after conceiving it.[30] A provisional application helps in establishing priority of the applicant over any other person that is likely to file an application for a patent in respect of the same invention. After a provisional specification is filed, the complete specification relating to the invention must be filed within twelve months from the date of the provisional specification. Such complete specification must be within the scope of the provisional specification.

A provisional specification cannot be considered to be a rough draft or a skeleton of a subsequent complete specification. It is a separate application that stands on its own. A complete specification, which is filed after a provisional specification claiming priority of the provisional specification, does not replace the provisional specification. Therefore, a provisional specification must provide enough detail to clearly identify the invention and its scope.

A provisional specification must contain the title and detailed description sections.[31] Generally, claims are not included in a provisional specification as the purpose of a provisional specification is not to claim legal protection but only to establish priority. However, some patent agents include independent claims as part of a provisional specification in order to indicate the scope of the invention. Having said that, there is no evidence to suggest that Indian patent office takes note of claims included in a provisional specification to decide whether a subsequently filed complete specification, claiming the priority of the provisional specification, falls within the scope of the provisional specification.

The other sections, namely, field of invention and use of invention, prior art and problem to be solved, object of invention, general statement of invention, and drawings, may be included in the provisional specification, but are not mandatory. However, drawings have to be supplied, if the controller so requires, for the purposes of any specification, whether complete or provisional.[32]

5.3 SUFFICIENCY OF DISCLOSURE

5.3.1 Enablement

The specification must enable a person skilled in the art to carry out the invention described in it. The skilled person must understand the invention completely with respect to the relevant prior art from the specification, and must be capable of recreating the invention. Clear distinction must be made between disclosing the details of an invention and disclosing an invention such that a skilled person in the art is able to recreate the invention. In *Synthon BV* v. *Smithkline Beecham PLC*, the court observed as follows: 'It is very important to keep in mind that disclosure and enablement are distinct concepts, each of which has to be satisfied and each of which has its own rules.'

In another case, *Kirin-Amgen Inc* v. *Hoechst Marion Roussel*, in addressing the sufficiency requirement, the court stated as follows: 'Whether the specification is sufficient or not is highly sensitive to the nature of the invention. The first step is to identify the invention and decide what it claims to enable the skilled man to do. Then one can ask whether the specification enables him to do it.'

Anything claimed in a specification must be enabled by the details provided in the specification. Enabling a skilled person in the art to recreate the invention involves providing specific examples of embodiments that will allow a skilled person in the art to understand the nuances of the invention. Therefore, it is a general practice among patent agents to include specific examples for embodiments disclosed in the specification, to ensure that the working and implementation specifics of the invention are clearly illustrated in order to satisfy the requirement of enablement.

For example, if a new device is made that performs a specific Digital Signal Processing (DSP) operation and if the inventors intend to claim devices with a software DSP and devices with a hardware DSP, then the specification must specifically describe at least one embodiment that contains hardware DSP and at least one embodiment with a software DSP. If the specification describes the working of the hardware DSP only and does not describe the workings of the software DSP, then claims that cover uses of both hardware and software DSPs may not be allowed due to insufficiency of disclosure and lack of enablement.

The number of embodiments disclosed and the number of corresponding examples provided, depends on the scope of protection sought for the invention disclosed. At least one embodiment of the invention sought to be protected must be described in the specification. When the claims cover a broader scope compared to one or more individual embodiments described, multiple embodiments must be shown to substantiate the broader scope of the invention for protection. Finally, in addition to providing details of the working and implementation of the invention through various embodiments and specific examples for those embodiments, a specification should also teach how a skilled person is assumed to be using the invention, to satisfy the enablement requirement.[33]

5.3.2 Best Mode

In addition to providing specific examples and drawings to clearly describe the invention and to satisfy the requirement of enablement, the Indian patent law also requires the best method of implementing the invention to be disclosed in the specification.[34] Since the description section provides the details of the working of the invention and its implementation, the description must also have the best method of implementing the invention at the time of filing the patent application. Non-disclosure of best method of implementing the invention may be used as a ground for revocation of the patent.

5.3.3 Biological Material

Biological material that forms part of an invention must be deposited at a recognized depository, and must be referred in the specification if the biological material is not available to the public, and the invention cannot be described adequately without such a deposit.[35] The deposit must be made with the International Depository Authority under the Budapest Treaty, on or before the date of filing or priority. The International Depository Authority in India is the Microbial Type Culture Collection and Gene Bank (MTCC), which is located at Chandigarh.[36] After making a deposit, reference to the biological material must be made in the specification.

All the available characteristics of the biological material required to identify the material including the name, address of the depository institution, and the date and number of the deposit of the material at the institution must be provided or indicated in the specification.[37] Furthermore, the source and geographical origin of the biological material

mentioned in the specification must also be disclosed.[38] If an invention relates to a gene sequence, sequence listing may be submitted to the patent office and the number of such sequence listing may be provided in the specification.[39] The sequence listings must always be submitted to the patent office in electronic form.[40]

5.3.4 Clarity of Disclosure

Disclosure of an invention in the specification is intended for a person skilled in the art to understand and work the invention.[41] An applicant gets exclusive rights over the invention in return for disclosure of the invention in the specification. The disclosure of the invention in the specification must be clear, precise, honest, and open.[42] The specification and, more specifically, the description must be written in such a way that no doubts are cast on the scope of the invention. Lack of clarity in disclosure may be used as a ground for rejection of a patent application or revocation of a patent.

In the case of *Press Metal Corporation Limited* v. *Noshir Sorabji Pochkhanawalla*, the court stated as follows:

> It is the duty of the patent holder 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. It is immaterial whether the 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 persons versed in the art and who intend to act.

To conclude, the specification must be worded clearly and unambiguously. It must be capable of being understood by a person skilled in the art.

5.3.5 Superfluous Matter

A specification should not contain superfluous or irrelevant matter.[43] Only matter that is necessary to clearly describe the invention may be included in a patent specification. Complicated mathematical calculations and analyses are undesirable, unless they are necessary to a full understanding of the invention.[44] If a specification is inordinately long and is found to have superfluous or irrelevant matter, the modification of such a specification may be required by the patent examiner.[45]

5.3.6 General Disclaimers

Patent agents normally include general disclaimers in the specification. The objective of the general disclaimers is to cover the embodiments

that are the result of minor modifications or modifications that may be possible in the future as a result of advancement of technology. While these general disclaimers may not be objected as a rule during the examination, the disclaimers themselves must not confuse the scope of the invention. For example, a disclaimer such as, 'the invention should be taken to include any modifications, whether novel or not...', would be considered to be confusing the scope of the invention and may be objected.

5.3.7 Technical Terms

Technical jargon that may not be a part of the common use in the relevant art should be avoided in a patent specification. Since a patent specification is intended for a skilled person in the art, only terms that are commonly known in the relevant art may be included to ensure that a skilled person understands the invention. If any specialized term or terms, that are not common in the art, have to be used in a specification, such terms must be clearly defined in the specification.

Terms in foreign languages may be used where there is no alternative. However, it is mandatory to provide English equivalents to such foreign terms.[46] Furthermore, use of vague slang words and colloquialisms will be objected and, therefore, must be avoided.[47] If a specification contains a reference to a proprietary article or specific product, the details of which are not well known, the description should provide details of such articles or products.[48]

5.3.8 Proper Names and Trademarks

Use of proper names or similar words to refer to articles must be avoided in the specification.[49] The articles must be clearly identified, without reliance on the name of the article, in order to enable a skilled person in the art to carry out the invention.[50] However, words that have generally accepted meanings, such as standard descriptive terms, may be used without further explanation. For example, terms such as Bowden cable, Belleville washer, zip fastener, and so on, must be avoided.[51]

A trademark must not be used to refer to a product or an article in a specification because it is an indication of origin rather than of composition or content and, therefore, cannot properly be used to describe an article. If a registered trademark is used, it should generally be accompanied by wording showing that it is a trademark, since its use as a descriptive term without acknowledgement may be prejudicial to the rights of its owner.[52]

5.4 SPECIFICATION DRAFTING

Drafting a specification is an art in its own right and there is no silver bullet approach that is considered to be the best. Having said that, the approach described hereunder is an approach adopted by most patent agents. The approach starts with understanding of the invention disclosure and ends with drafting of the final version of claims.

5.4.1 Invention Disclosure

Drafting a specification requires a thorough understanding of the invention for which protection is sought. The patent agent generally collects the invention information from the inventor through an invention disclosure form (see Appendix IV A) that is filled by the inventor. After receiving the invention disclosure form from the inventor, the patent agent has to peruse the form to get an understanding of the invention. In order to understand the invention thoroughly, the patent agent has to read background materials relevant to the invention unless he is well aware of the art relating to the invention.

A patent drafter generally specializes in a few subject areas like electronics, telecommunication, software, manufacturing, and so on, based on his technical background. Though, the patent drafter tries to be updated with the developments in his field of specialization, the rapid progress of science and technology makes it difficult for him to know about everything in the field. Therefore, the patent drafter may not always have complete knowledge relating to the sub-field or area to which the invention belongs. In such a scenario, it is very important for a patent agent to understand the context of the invention by reading relevant background material.

Relevant material to be reviewed by the patent drafter may include journal articles, technical magazines, technology society periodicals, prior patent publications, and any other materials, which will help the patent drafter to get an understanding of the background of the invention. Among all materials, prior patent publications, generally, give a good insight into the dynamics of the field of invention. In addition to helping in understanding the prior art and providing information relating to the current state of the art of the invention, patent publications provide valuable information relating to the dynamics of protection of similar inventions. Reading prior patent publications provides important insights into the market dynamics of the product or process, the level of protection that is generally sought in the field, and nature of protection sought by applicants of those applications. Such insights are helpful to

the patent agent in deciding on the level of protection required and the nature of protection to be sought through the patent specification.

The invention disclosure form through which the patent agent collects invention details from the inventor, generally has questions relating to the current state of technology in the relevant field, the problems faced by the inventor that led to the invention, the implementation details of the invention, utility of the invention in the industry, and other information relating to the invention. The form must seek all information that will help the patent drafter to understand the invention thoroughly. The patent drafter may also collect the invention information from the inventor through means other than the invention disclosure form based on convenience and circumstances. A sample invention disclosure form has been provided in the Appendix IV A for the reference of the reader.

5.4.2 Inventor Interview

After understanding the background of the invention and reading through the invention details provided by the inventor in the invention disclosure form or otherwise, the next step is to conduct an interview with the inventor in order to collect further information. The primary objective of the inventor interview is to collect complete information from the inventor that is necessary to draft the specification. The patent drafter must collect all information relating to the invention for satisfying the enablement, best mode, written description, drawings if required, and other requirements, under the patent law.

Inventors may some times restrict their invention disclosure to a specific implementation, or a specific application, for which they developed the invention. From the inventor's point of view, he might have encountered a specific problem in a field of application and created the invention as a solution for that application. Therefore, the inventor may not give importance to alternate implementations or alternate applications in order to solve a particular problem. However, in such a situation, it may be possible to extend the same solution to other application areas, or provide one or more alternate implementations of the same solution. Under such circumstances, the patent drafter must ask the right questions in the inventor interview to understand the breadth of the invention, both in terms of possible alternate implementations and different application areas, in order to provide maximum coverage for the invention in the specification.

5.4.3 Outline of Claims

After understanding about the invention from the invention disclosure form, review of relevant materials, and inventor interview, the patent drafter may start the specification drafting process by preparing the first draft of independent claims. Though, some patent agents draft the description of the invention before claims, most of them draft an outline of independent claims before drafting other portions of the specification.

Preparing the claim outline compels the patent drafter to understand the boundaries of the invention clearly in the light of the background and prior art information of the invention. After the patent drafter prepares the outline of the claims, he can discuss the scope of the invention covered in the claims with the inventor. On getting the inventor's approval with regard to the claim scope, the patent drafter can confidently proceed with drafting other portions of the specification.

Defining the outline of claims is one of the most important steps in drafting a specification. While drafting claims, the first step is to prepare independent claims after understanding the different aspects of the invention that have to be claimed in the specification. Independent claims must be based on the way in which a product or a process may be commercialized. For example, for an invention relating to an improved pump set, which is a result of improved electrical circuitry within the pump set, the patent drafter has to consider protecting both the pump set as a whole and the electrical circuitry using separate independent claims. Such claiming is essential because it is possible for a third party to use the same circuitry in a different system (or context) other than in pump sets and obtain improvements in performance of those systems. Writing an independent claim only for the pump set as a whole may not protect the usage of the improved circuitry in other systems. Therefore, patent drafters must consider broad claims that may provide protection to the invention across multiple application areas.

Similarly, with regard to the invention in the example, the patent agent must also consider claiming methods relating to the function of the improved circuitry because it is possible to make changes in configuration of circuitry, and still attain the same functionality and performance. Having independent method claims, that claim the functionality of systems, can be useful in preventing others from creating solutions that are substantially same but differ in specific detail. Another consideration of a patent drafter, while drafting independent claims, must be the breadth of the coverage of the independent claims. The patent drafter

must attempt to write independent claims that are as broad as possible considering the invention and the related prior art. He can do so only if he analyses the prior art comprehensively.

Once the outline of independent claims is prepared, the next step is to extend the outline to include dependent claims for each of the independent claims. All aspects of the invention that are novel but were not covered under the independent claims must be incorporated in the dependent claims.

5.4.4 Drawings

Drawings play an important role in giving clarity to the invention that forms part of the specification. They help in not only giving a good understanding of the invention but also facilitate the enablement of the invention. The drawings in a specification must depict all elements that form part of the claims. In general, detailed drawings help in a clear description of the invention. However, it must be noted that unnecessary information may obscure the invention details and must be avoided in the drawings.

Different forms of diagrams may be used to ensure that the specification is clear and enables a skilled person in the art to recreate the invention. For example, while describing a mechanical invention, it will be helpful to show different views of a machine or a mechanical part. If a machine or component is complicated, or has too many parts to be shown in regular views, it might be better to include an exploded view to show various parts that are part of the particular machine or component.

The sequence of drawings can play an important role in making a patent application easy to understand. In general, drawings may start with figures that capture the broader aspects of the invention, and subsequent figures may capture the details. For example, in describing a new mobile communication device, the first few figures can represent the overall network and where the new mobile communication device fits in the overall system, and the figures following the initial figures can show details of the mobile communication device itself and its various components.

5.4.5 Describing the Invention

Once the claim outline and drawings are completed, describing the invention is a fairly easy task because most of the planning for the description is done. The level of detail in the description is determined after the drawings are prepared and the flow of the description is determined by the sequencing of the drawings. In patent specifications, description generally follows the drawings to make it easier for a person reading the specification to understand the invention clearly.

The level of detail in the description is an important aspect to be considered by a patent drafter for every specification drafted by him. From an inventor's point of view, he would like to avoid as much detail as possible in the specification so as to keep public disclosure of the details of the invention to the minimum. However, that may defeat the purpose of the patent system and, in most cases, may not satisfy the specification requirements. The general guideline to decide on the level of detail is to look at the invention from a skilled person's point of view. A skilled person could be thought of as an average professional working in the industry of the relevant art. The purpose of the specification must be to clearly describe the invention such that the skilled person in the art is able to understand the invention completely, with respect to the relevant prior art, and is able to recreate the invention completely.

The detailed description must provide all the details relevant to the working of the invention and the implementation. If the invention is an improvement over an existing work, the detailed description section must provide the details of the nature of improvements over the prior art and the implementation of such improvements. Considering the pump set example discussed earlier, if claims are included for the pump set, the circuitry, and the functionality of the circuitry, then the detailed description must provide the details of the circuitry and its elements; how the various elements in the circuitry work together to provide the functionality; and how the improved circuitry improves the efficiency of the pump set. However, commonly known elements need not be described. For example, if the circuitry includes a standard and well known switch control circuit, such switch control circuit need not be explained in detail.

5.4.6 Refining and Finalizing Claims

Once the invention is described in detail, the outline of claims may be revisited by the patent drafter to refine and finalize the claims of the specification. It is common to draft the complete set of claims at the outset before describing an invention. However, reviewing and refining claims outline after describing the invention has certain advantages. Though the outline of claims typically covers the most important aspects of the invention, there may be many finer details that one might want to include as part of claims. Inventors and patent agents can easily miss such

finer details during initial discussions. Once the patent drafter thinks through the entire specification during the preparation of drawings and description, he may appreciate the finer details of the invention. After the description is drafted, the patent drafter may include more dependent claims based on the finer details of the invention and refine the outline of claims into final claims.

Referring once again to the decision on the level of detail in the description, the answer for the level of detail to be included in description is found in the level of protection desired through claims. Most often, only aspects that are claimed need to be explained in detail. Aspects of invention that are to be covered in claims must be clearly explained through specific embodiments and examples to illustrate such embodiments. If claims are intended to be broad in their protection, then, most probably, various embodiments illustrating the alternate implementations that are possible might have to be clearly described to substantiate the broader set of claims. Therefore, it is common to find specifications with broader set of claims to have more number of embodiments being detailed and illustrated. If an invention is very specific in nature and requires only a narrow set of claims, then it is quite common to find very limited embodiments and examples being described and illustrated. Therefore, it must be noted that claims and extent of protection sought through claims, often defines the structure of the specification, specifically drawings and description.

5.5 ALTERNATIVE DRAFTING APPROACH

An alternative approach to drafting a specification is to start the drafting with preparing the drawings and the description. Once the drawings and description are prepared, claims may be written to cover the invention to the extent described. There is one advantage with this approach. The advantage is that when an invention is very complex to understand, going through the process of describing the invention provides clarity on the invention itself and that clarity may be used to understand the breadth of protection. However, there are drawbacks with this approach. Since the description is written first, there is a risk that claims that are written later are broader than what is disclosed in the description. In other words, claims may cover more than what is described and the specification may be rejected based on insufficient disclosure or lack of enablement. Another drawback is that the description and drawings might have to be revisited once the claims are prepared to ensure that they support the claims entirely, and that no additional information is disclosed in the description and drawings that is not covered by the claims. As revisiting is required, a patent drafter might have to spend more time in drafting the specification if this approach is followed.

A sample specification along with the explanation of various sections has been provided in the Appendix IVB for the reader's reference.

NOTES

1. Section 10(1), The Patents Act, 1970 as amended in 1999, 2002, and 2005.
2. Section 13(7)(a), The Patent Rules, 2003, as last amended in 2006.
3. Section 5.6.1, Draft Manual of Patent Practice and Procedure, 2008.
4. Section 5.6.1, Draft Manual of Patent Practice and Procedure, 2008.
5. Ibid.
6. Ibid.
7. Ibid.
8. Ibid.
9. Ibid.
10. Ibid.
11 Ibid.
12. Ibid.
13. Ibid.
14. Ibid.
15. Rule 15(3), The Patent Rules, 2003, as last amended in 2006.
16. Rule 15(5), The Patent Rules, 2003, as last amended in 2006.
17. Rule 15(4), The Patent Rules, 2003, as last amended in 2006.
18. Rule 15(6), The Patent Rules, 2003, as last amended in 2006.
19. Ibid.
20. Section 5.6.1, Draft Manual of Patent Practice and Procedure, 2008.
21. Ibid.
22. Section 13(7)(b), The Patent Rules, 2003, as last amended in 2006.
23. Section 13(7)(c), The Patent Rules, 2003, as last amended in 2006.
24. Section 13(7)(d), The Patent Rules, 2003, as last amended in 2006.
25. Section 13(7)(e), The Patent Rules, 2003, as last amended in 2006.
26. Section 5.6.1, Draft Manual of Patent Practice and Procedure, 2008.
27. Rule 12(8), The Patent Rules, 2003, as last amended in 2006.
28. Section 10(4), The Patents Act, 1970, as amended in 1999, 2002, and 2005.
29. Ibid.
30. Section 5.5.2, Draft Manual of Patent Practice and Procedure, 2008.
31. Section 5.5.4, Draft Manual of Patent Practice and Procedure, 2008.
32. Section 10(2), The Patents Act, 1970 as amended in 1999, 2002, and 2005.
33. Section 5.9.9, Draft Manual of Patent Practice and Procedure, 2008.

34. Section 10(4)(b), The Patents Act, 1970, as amended in 1999, 2002, and 2005.
35. Section 5.6.1, Draft Manual of Patent Practice and Procedure, 2008.
36. More information may be obtained at: http://ipindia.nic.in/ipr/patent/d_inst_456.pdf. Further information on Microbial Type Culture Collection and Gene Bank (MTCC) may be obtained at http://wdcm.nig.ac.jp/CCINFO/CCINFO.xml?773, and http://www.imtech.res.in/mtcc (last accessed on 9 April 2010).
37. Section 5.6.1, Draft Manual of Patent Practice and Procedure, 2008.
48. Ibid.
39. Ibid.
40. Ibid.
41. Section 5.9.7, Draft Manual of Patent Practice and Procedure, 2008.
42. Ibid.
43. Ibid.
44. Ibid.
45. Ibid.
46. Section 5.6.1, Draft Manual of Patent Practice and Procedure, 2008.
47. Ibid.
48. Section 5.9.8, Draft Manual of Patent Practice and Procedure, 2008.
49. Ibid.
50. Ibid.
51. Ibid.
52. Ibid.

6
Claim Drafting

Statement of claims is the most important part of a patent specification.[1] The purpose of claims is to define the scope of protection sought by the patent applicant. They define the metes and bounds of an invention. Any matter that forms part of the specification but does not form part of claims is considered to be disclaimed and, therefore, enters the public domain.

Claims form the heart of a patent specification because patentability of an invention and infringement of a patent are assessed based on claims. Considering the value attached to claims, drafting claims assumes great importance. This chapter provides an overview of the anatomy of claims, types of claims based on dependency, subject matter and field of invention, and strategic considerations for drafting claims. As there is a dearth of case laws with respect to claim interpretation, approach and strategy for claim drafting are explained in the light of principles provided in the Manual of Patent Practice and Procedure (MPPP).

6.1 PARTS OF A CLAIM

A claim is a single sentence ending with a period. Every claim has three parts, namely, an introductory phrase, body, and a transition phrase. The introductory phrase or the preamble introduces the claim. The body specifies the elements[2] of the invention and the transition phrase links the

introductory phrase to the body. Parts of a claim are explained hereunder with the help of an example:

I claim a pencil having an eraser fastened to one end.

1. Introductory phrase – 'a pencil' ;
2. Transition phrase – 'having'; and
3. Body – 'an eraser fastened to one end.'

6.1.1 Introductory Phrase

The introductory phrase or the preamble generally introduces the subject matter being claimed. In the example, the phrase 'a pencil' is the introductory phrase of the claim. It introduces the subject matter being claimed, which is a pencil. The introductory phrase may also include broad words or phrases such as article, writing device, machine, and so on. The Indian law permits use of both broad and narrow words or phrases in the introductory phrase as long as they relate to patentable subject matter.

Apart from specifying the subject matter being claimed, the introductory phrase may also be used to set the context for the embodiment of the invention being claimed. Such introductory phrases are used where the invention is an improvement over an existing product or process. In such a situation, the introductory phrase is drafted specifically to set the context and clearly indicate the boundary between the invention and the prior art over which the improvement is made.

6.1.2 Body of the Claim

The body of a claim defines a particular embodiment of the invention using essential elements that form part of the invention. It is the specific legal description of the invention.[3] The phrase 'an eraser fastened to one end' in the claim is the body of the claim. It forms the body of the claim because the eraser being fastened at one end is the essential element of the invention being claimed.

6.1.3 Transition Phrase

The transition phrase joins the introductory phrase and the body of claim to make the claim a proper and complete sentence. The word 'having' in the example is the transition phrase. The type of transition phrase used in a claim influences the scope of terms used in the claim.

The MPPP recognizes the following transition phrases:[4]

- which comprises/comprising;
- including;
- consisting of;
- consisting essentially of; and
- characterized by/wherein.

Each of the phrases has a meaning attached to it for claim interpretation. The meaning of the various transition phrases commonly used is provided hereunder.

Which Comprises/Comprising: The phrases 'comprising' and 'which comprises', have the same meaning. 'Comprising' means including but not limited to the elements given in the body. Whenever the phrase is used in a claim, the elements of the claim are understood to include but not be limited to what is mentioned in the body of the claim. Therefore, the transition phrase 'comprising' is considered to be an open transition phrase.

Including: The term 'including' is a relatively restrictive term compared to 'comprising'. The term 'including' does not broaden the scope of protection beyond the elements provided in a claim. The transition phrase 'including' is considered to be a partially open phrase for purposes of interpretation.

Consisting of: The phrase 'consisting of' is very restrictive in its meaning and means 'including only' those elements that are provided in the body of the claim. It is used in cases where only the elements or steps recited in the claim are required to be included and no other elements are to be part of the invention. This transition phrase is useful in cases relating to chemical and related arts, where in many instances adding alternative or additional elements, or performing alternative or additional steps, can cause the result to change drastically. The transition phrase 'consisting of' is considered to be a closed phrase for the purposes of claim interpretation.

Consisting Essentially of: The phrase 'consisting essentially of' is less restrictive compared to 'consisting of' and conveys the meaning including but not limited to, as long as the elements in the body are essential to the invention. When using 'consisting essentially of' it is important to clearly indicate in the description the potential changes in invention that can make the elements given in the body non-essential. In the absence of such a differentiation, 'consisting essentially of' may be considered to be equal to 'comprising'. The phrase 'consisting essentially of' is considered to be a partially open phrase for purposes of claim interpretation, and takes middle ground between 'comprising' and 'consisting of'.

Characterized by/Wherein: When an invention is an improvement to an existing product or process, the claim must define the boundary of the pre-existing product or process, and the improvement very clearly. The phrase 'characterized by' or 'wherein' is used to define such a boundary. In such a case, a claim generally has two parts, existing product or process (prior art) and the improvement, separated by the word 'characterized by' or 'wherein'.

6.2 TYPES OF CLAIMS BASED ON DEPENDENCY

Claims can be categorized into two types based on their dependency. They may be independent claims and dependent claims.

6.2.1 Independent Claims

Independent claims are claims that do not depend on any other claim. An independent claim generally defines the essential novel features of the most preferred embodiments of a product or a process.

Example claim: Claim 1. A pencil having an eraser fastened to one end.
The claim is an independent claim because it does not depend on any other claim. Independent claims present the broadest possible implementation of a particular embodiment of a product or a process. Further additions to the broadest implementation are done through dependent claims.

6.2.2 Dependent Claims

Dependent claims are claims that depend on either an independent claim or another dependent claim. Dependent claims that depend on more than one claim are called multiple dependent claims.

Example claim: Claim 2 (dependent). A pencil as in claim 1, where said eraser is fastened to said pencil on one end using an adhesive.
This is a dependant claim because the claim depends on another claim.

One form of dependent claim is a multiple dependent claim. As stated earlier, a multiple dependent claim is a dependent claim that depends on more than one claim. Multiple dependent claims may be written as provided hereunder.

Example claims: Multiple dependent claim. A pencil as in claim 1 or 2, where said eraser is fastened to said pencil using an adhesive.

Alternative multiple dependent claim. A pencil as in one of claim 1 and 2, where said eraser is fastened to said pencil on one end using an adhesive.

These claims are multiple dependent claims because they depend on more than one claim.

6.3 TYPES OF CLAIMS BASED ON SUBJECT MATTER

Claims may also be broadly categorized into process claims and product claims, based on the subject matter being claimed.

6.3.1 Process Claims

A process claim is used to claim process inventions and has to clearly define the steps or actions involved in the process. It is not uncommon to find the words 'method' and 'process' being used interchangeably. However, the word 'process' is commonly associated with methods in the industrial context (for example, the process of making a mattress) and the word 'method' is generally associated with other methods (for example, a method of sending a text message in a communication network).

6.3.2 Product Claims

A product claim is used to claim product inventions and has to clearly define the various elements that form part of the product being claimed. A product may be claimed as an apparatus, a system, a device, an article, or any other product. An apparatus is understood to be a single unit with at least a few active elements (elements that perform a function or a set of functions on their own; for example, a processor).

A system is understood to be a set of discrete units with at least a few of the discrete units having active elements. A device, as is commonly used in the electronic arts, is also understood to be a product with at least a few active elements. An article is understood to be a product with only passive elements (elements that are not active; for example, a compact disc with software).

6.4 TYPES OF CLAIMS BASED ON FIELD OF INVENTION

Irrespective of what is claimed, a claim that is not directed towards a process must be directed towards a product. However, the specific types of claims drafted for an invention depends on the field to which the invention belongs. Specific types of claims are generally drafted in certain fields of science and technology, and have become standard practice among patent practitioners. This part of the chapter explains the types of claims that are generally drafted by patent practitioners in manufacturing, electronics, software, chemistry, and biotechnology fields.

6.4.1 Claims in Electronic and Software Arts

Generally, in any product or process relating to electronics and software arts, there are active elements involved. Therefore, patent claims in electronics and software arts may be broadly classified into:

1. Method claims,
2. Apparatus claims, and
3. System claims

6.4.1.1 *Method Claims*

A method claim generally relates to a method as performed by a system, a circuit or a process, and so on. Performing a method may sometimes involve structural elements (for example, a machine or a circuit element). Though the method may involve structural elements, the method claim must specify the function performed by various elements as part of the method. It is not necessary to describe the interrelations between various elements involved in performing the method. Therefore, method claims are generally easier to draft when compared to apparatus claims.

Method claims do not recite specific limitations of structural elements and their interrelations. A method claim gives protection for the method, irrespective of the physical elements that enable the method. Whereas, system claims and apparatus claims protect only the specific configuration of system or apparatus claimed. So, method claims generally provide broader protection compared to apparatus claims.

Consider the moving average digital filter as given in Figure 6.1, where z^{-1} is a first order delay and z^{-2} is a second order delay. Assuming that the

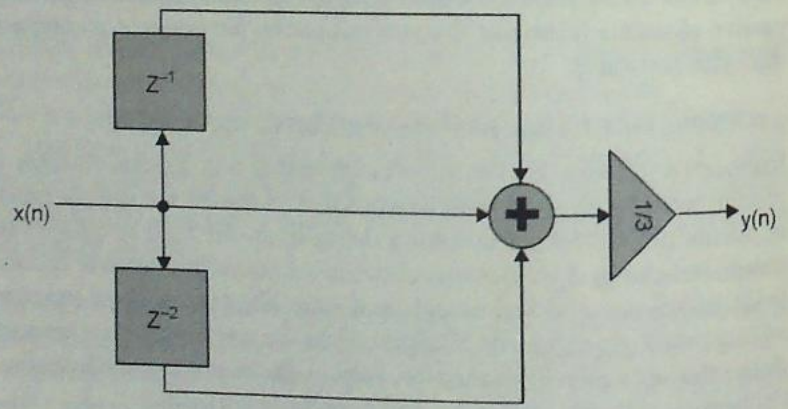

Figure 6.1 Example of a Method Claim

moving average filter is novel and not obvious in the light of prior art, a method claim claiming implementation of such a moving average filter may be written as follows:

A method of implementing a moving average filter, said method comprising:

- Obtaining an input signal;
- Delaying said input signal by one unit by a first delay unit;
- Delaying input signal by two units by a second delay unit;
- Adding said input signal, output of said first delay unit, and output of said second delay unit by an adder; and,
- Multiplying output of said adder by a factor of 1/3 using a multiplier.

Although the example method claim mentions the various elements that are involved as part of the method, the claim does not recite the interrelations between the elements. The primary object of a method claim is to claim the method and, therefore, recites the actions involved in the method.

6.4.1.2 *Apparatus Claims*

An apparatus claim describes an apparatus either in terms of structural elements or in terms of functions performed by the structural elements. Apparatus claims having structural elements define specific constructional features of the invention and the interrelations between the various structural elements.

According to an example provided in the MPPP,[5] it is possible to claim an apparatus through its functionality using the 'means' language, which in effect is the means-plus-function language as it is popularly known. In a means-plus-function claim, an apparatus or a system is claimed through the functions (or actions) performed by the elements of the corresponding apparatus or system, rather than the structural (or physical) features.

Example: Claim 1 (Constructional or Structural)
A moving average filter comprising:

- A first order delay unit, to delay input signal by one unit, said first delay unit connected to input signal in parallel;
- A second order delay unit, to delay input signal by two units, said second delay unit connected to input signal and said first order delay unit in parallel;

- An adder to add input signal, output from said first order delay unit, and output from said second order delay unit; and,
- A multiplier, with scaling factor of 1/3 to multiply with output of said adder.

Example: Claim 2 (Functional)
A moving average filter comprising:

- A first means to delay input signal by one unit, said first means connected to input signal in parallel;
- A second means to delay input signal by two units, said second means connected to input signal and said first means in parallel;
- A third means to add input signal, output from said first and second means; and,
- A fourth means to multiply a factor of 1/3 with output of said third means.

The aforementioned examples illustrate the differences between a structural language apparatus claim and a functional language apparatus claim. In the first example where structural language is used, specific reference is made to the type of elements that are used to perform delay, adding and multiplying operations. However, in the second example where functional language is used, a generic reference using the word 'means' is used to refer to various elements. The claims with structural language are useful when there is a specific structure or specific type of element to be claimed.

In the case of example claim 1, the specification would make a specific reference to a type of delay unit, adder, and multiplier. On the other hand, in the case of example claim 2, multiple implementations of delay units, adders, and multipliers may be specified to cover multiple implementations of the digital filter. For example, a second means to delay input signal by two units could be implemented using a combination of two first order delay units instead of using a second order delay unit. However, using example claim 2 provides broader protection only when the specification provides details of the different implementations. If details of only one implementation are provided in the specification, then both claims may be effectively same in terms of scope of protection.

Scope of protection provided by a means-plus-function apparatus claim will be restricted only to the specific structures/structural elements disclosed in the specification. Since method claims do not have such strict interpretation of the structural elements involved in performing a method, method claims, if drafted appropriately, can provide broader

protection as compared to corresponding means-plus-function claims. If the example claim in method claims section and example claim 2 in this section are compared, example claim 2 provides protection only to the extent the specification supports the claims. In other words, the example claim 2 only protects those embodiments that are described in the description. However, method claims are not subject to such limitations and may provide protection to all possible embodiments (within reasonable limits) of the filter method through the method claim, provided a few embodiments are given in the description.

6.4.1.3 *System Claims*

A system is understood to be a set of discrete elements. As in apparatus claims, system claims also describe a system either in terms of constructional features or in terms of function performed by the constructional or structural elements in the invention.

Example: Claim (System Claim)
A telecommunication network system comprising:

- A plurality of feature modules;
- A plurality of interface modules, each of which is associated with an external line or trunk;
- Communication channels connecting the modules;
- Means for dynamically assembling the feature modules in a graph that connects interface modules that are participating in a communication; and
- Usage such that the assembled feature modules implement features for the communication usage.[6]

In this example, a telecommunication network is claimed with a set of discrete units that form the telecommunication network.

A system can also be considered as a generalization of an apparatus. Today, especially with the rapid progress of digital electronics and communication technology, many examples where functionality of a single unit being split into multiple and discrete units, and vice versa are available. One such example is virtualization, where entire operating system environments are being served by a combination of servers. An example for combining functionality of multiple units into a single unit can be a smart phone. Smart phones today seem to include functionality of more than just a phone. Smart phones are computing platforms in their own right. Therefore, a system could be easily transformed into an apparatus, and an apparatus could be easily transformed into a system.

In such a situation, it is possible to use the word system to mean both an apparatus (a single unit with active elements) and a system (discrete units that have active elements). Such an approach has the advantage of using a single claim to cover two possibilities, one possibility is where all functionality is included in a single unit, and the other possibility is where functionality is split into multiple units. However, care must be taken to specifically state the meaning of the word 'system' and to describe both embodiments adequately in the description to support such claims, especially, when the word 'system' is meant to include the traditional meaning of both an apparatus and a system.

Just like in an apparatus, a system can also be claimed through its functionality using 'means' language.

Example claim: A digital filter system comprising a plurality of digital filters having respective counters operated by the same clock signal, at least one of said digital filters comprising:

- An arithmetic control section having one of said counters to count said clock signal and be cleared with a clear signal, and a circuit to produce a control signal according to the content of said one counter,
- A coefficient memory to produce predetermined coefficients according to an output of said arithmetic control section,
- An arithmetic section to carry out predetermined arithmetic operations with said coefficients under the control of the control signal received from said arithmetic control section, and,
- A circuit to produce a synchronizing signal at the time of end of the operation in said arithmetic section, said synchronizing signal being supplied to clear terminals of the other counters of all the other digital filters to effect synchronization of all said digital filters.[7]

In this claim, the word 'system' refers to the set of multiple digital filters operated by a single clock signal. Such a system could be implemented within a single unit (or an Integrated Circuit) or with multiple units (or Integrated Circuits).

6.4.1.4 *Considerations for Software Arts*

Computer programs, per se, are not an invention[8] and, therefore, do not fall under patentable subject matter in India. This means that software standing alone is not a patentable subject matter in India. However, it is possible to claim a software invention provided the invention meets certain criteria and that the invention is claimed appropriately.

One specific type of claim relating to software programs and that does not fall under statutory subject matter is the computer program product or the computer readable medium claim. According to the MPPP, a computer program product claim is nothing but a claim for a computer program expressed on a computer readable storage medium. Such claims are categorically excluded from being patentable and, hence, are not allowed in India.

Example claim: Considering a pure software implementation of the moving average filter as given in Figure 6.1, a claim for a media (generally referred to as computer program product or a program storage device) that comprises the instructions to perform the operations of a moving average digital filter may be written as follows:

A program storage device readable by computer, tangibly embodying a program of instructions executable by said computer to perform a method of implementing a moving average filter, said method comprising:

- Obtaining an input signal;
- Delaying said input signal by a first order delay unit;
- Delaying input signal by a second order delay unit;
- Adding said input signal, output of said first order delay unit and output of said second order delay unit by an adder; and,
- Multiplying output of said adder by a factor of 1/3 using a multiplier.

Or,

A computer program product, embodied in a computer readable medium, comprising instructions executable by said computer to perform a method of implementing a moving average filter, said method comprising:

- Obtaining an input signal ;
- Delaying said input signal by a first order delay unit;
- Delaying input signal by a second order delay unit;
- Adding said input signal, output of said first order delay unit and output of said second order delay unit by an adder; and
- Multiplying output of said adder by a factor of 1/3 using a multiplier.

As computer programs, per se, are excluded from patentable subject matter in India, a set of general instructions (or software) that requires no specific adaptation or modification of hardware is not patentable when it is claimed as a product, which is in the form of a computer readable

medium because the novelty lies in the software. That is, when a novel software program is written onto a general purpose hardware device (for example, memory device) and claimed as the hardware device, the invention will still be considered as the software itself and, therefore, will not be allowed, as the hardware device has not been adapted specifically for the software program.

The example claims provided earlier may not be allowed as the novelty lies in the software and the computer program product claimed is not being adapted to the software program to perform moving average filter operations.

6.4.1.5 *Technical Effect and Machine Limitation*

In India, it is not enough to write a novel software program onto a general purpose hardware device to claim a software invention. When there is no specific adaptation of a hardware device to run a novel software program, a software invention may be claimed as a method, provided that the method implemented as software demonstrates technical effect. To establish technical effect, it must be demonstrated that the invention solves a technical problem. A mere enhancement in utility is not considered as a solution to a technical problem.

One example provided in MPPP to illustrate technical effect in relation to software arts is a mathematical method for digital image processing that enhances the quality of image that is seen on a screen. A general mathematical method carried out on numbers and producing a result in numerical form without any technical significance may not be considered patentable owing to the abstract nature of the invention. However, a mathematical method for digital image processing that produces technical results in the form of enhanced image quality that can be viewed on a screen may be patentable, but only in the context of image processing. Such an invention is considered to solve a technical problem and, therefore, satisfies the technical effect requirement. It is to be remembered that the claim must not be directed towards the mathematical method or software that implements the mathematical method, as they are not statutorily allowed subject matter. The claim must be directed towards a method of image processing that includes an improved mathematical method.

Method claims relating to software inventions should incorporate the details regarding the mode of the implementation of the invention via hardware or software. Each method claim must have a hardware or

machine limitation. Technical applicability of the software, claimed as a process or method claim, is required to be defined in relation with the particular hardware components. By doing so, 'software per se' is differentiated from software having its technical application. A claim directed to a technical process, which process is carried out under the control of a program (whether by means of hardware or software), cannot be regarded as relating to a computer program as such. For example, a method for processing seismic data, comprising the steps of collecting the time varying seismic detector output signals for a plurality of seismic sensors placed in a cable, cannot be considered to be a 'software per se' claim because the signals are collected from a definite recited structure, namely seismic sensors.[9]

Example claim: A digital image processing method, comprising the steps of:

- Transforming a digital image using an edge sensitive wavelet transform to produce a plurality of wavelet coefficients at various resolutions and a residual image;
- Modifying the wavelet coefficients as a function of the rate of change of the image gradient at a resolution corresponding to the respective wavelet coefficient, wherein the rate of change comprises an image gradient curvature that is computed by applying a Laplacian operator to the image gradient, thereby generating a modification factor that is invariant to scaling of the image;
- Inverse transforming the modified wavelet coefficients and the residual image to produce a processed digital image; and,
- Displaying said processed digital image on a display device.[10]

There are two important aspects to be observed in this example claim: One, the claim is directed to a method of image processing that relates to the technical quality of an image and does not claim the mathematical method as such, and, therefore, the method qualifies as a technical process. Two, the technical effect of the method is realized by displaying the improved image on a display device, and the step of displaying an image on a display device adds machine limitation to the method claim.

If a slightly modified version of the previous example claim as shown in the example below is drafted, it may not be allowed.

Example Claim: A method of wavelet transform on a digital image, comprising the steps of:

- Transforming a digital image using an edge sensitive wavelet transform to produce a plurality of wavelet coefficients at various resolutions and a residual image;
- Modifying the wavelet coefficients as a function of the rate of change of the image gradient at a resolution corresponding to the respective wavelet coefficient, wherein the rate of change comprises an image gradient curvature that is computed by applying a Laplacian operator to the image gradient, thereby generating a modification factor that is invariant to scaling of the image; and,
- Inverse transforming the modified wavelet coefficients and the residual image to produce a processed digital image.[11]

The modified version of the example claim may not be allowed as the claim attempts to claim the method of wavelet transform itself rather than a specific technical process (namely, digital image processing) involving the wavelet transform. Further, the claim does not have a machine limitation as well.

6.4.2 Claims in Mechanical/Manufacturing Arts

Mechanical and manufacturing related arts also have claims directed to subject matter similar to those used in the electronic and software arts. Patent claims in mechanical and manufacturing arts may be broadly classified into:

1. Process claims;
2. Apparatus claims;
3. System claims; and
4. Article of manufacture claims

6.4.2.1 *Process Claims*

As observed earlier, it is not uncommon to use the words process and method in an interchangeable manner. However, the word process is commonly used to refer to methods employed in the industrial context. Therefore, process claims are found very often in the mechanical and manufacturing art related patent applications.

An example claim of a process of manufacturing roll formed profile beams is provided hereunder. Just like any process claim, a process claim relating to manufacturing or mechanical inventions must list the steps involved in the process.

Example claim: A process of manufacturing roll formed profile beams comprising the steps of roll forming a first sheet material, travelling in

Table 6.1 Claim Examples—Reference Table—Electronics/Software

Subject Matter	*Type of claim*	*Example*
Electronics/Software Arts		
Process	Method	A method of implementing a moving average filter comprising: 1. Obtaining an input signal; 2. Delaying said input signal by one unit by a first delay unit; 3. Delaying input signal by two units by a second delay unit; 4. Adding said input signal, output of said first delay unit, and output of said second delay unit by an adder; and, 5. Multiplying output of said adder by a factor of 1/3 using a multiplier.
Process	Method—software	A digital image processing method, comprising the steps of: 1. Transforming a digital image using an edge sensitive wavelet transform to produce a plurality of wavelet coefficients at various resolutions and a residual image; 2. Modifying the wavelet coefficients as a function of the rate of change of the image gradient at a resolution corresponding to the respective wavelet coefficient, wherein the rate of change comprises an image gradient curvature that is computed by applying a Laplacian operator to the image gradient, thereby generating a modification factor that is invariant to scaling of the image; 3. Inverse transforming the modified wavelet coefficients and the residual image to produce a processed digital image; and, 4. Displaying said processed digital image on a display.
Product	Apparatus—structural	A moving average filter comprising: 1. A first order delay unit to delay input signal by one unit, said first delay unit connected to input signal in parallel;

(contd)

Table 6.1 *(contd)*

		2. A second order delay unit to delay input signal by two units, said second delay unit connected to input signal and said first order delay unit in parallel; 3. An adder to add input signal, output from said first order delay unit, and output from said second order delay unit; and 4. A multiplier with scaling factor of 1/3 to multiply with output of said adder.
Product	Apparatus—functional	A moving average filter comprising: 1. A first means to delay input signal by one unit, said first means connected to input signal in parallel; 2. A second means to delay input signal by two units, said second means connected to input signal and said first means in parallel; 3. A third means to add input signal, output from said first means, and output from said second means; and, 4. A fourth means to multiply a factor of 1/3 with output of said third means.
Product	System	A telecommunication network system comprising: 1. A plurality of feature modules; 2. A plurality of interface modules, each of which is associated with an external line or trunk; 3. Communication channels connecting the modules; 4. Means for dynamically assembling the feature modules in a graph that connects interface modules that are participating in a communication; 5. Usage such that the assembled feature modules implement features for the communication usage.

a path into a first profile element having a predefined cross-sectional profile, followed by roll forming a second sheet material, travelling in a path into a second profile element having a predefined cross-sectional profile, which encloses the first profile element to form a closed profile beam.[12]

6.4.2.2 *Apparatus Claims*

As illustrated with examples for electronic and software arts, wherever necessary, the constructional/structural elements and inter-relationships between such constructional/structural elements must be clearly identified in the apparatus claims.

The example provided hereunder is an illustration of an apparatus claim relating to an apparatus for manufacturing a roll formed profile beams.

Example claim: An apparatus for manufacturing roll formed profile beams comprising:

- A first material dispenser for dispensing a first material;
- A first set of rollers having an inlet in communication with the first material dispenser to receive the first material being dispensed therefrom, the first set of rollers being adapted to form the first material into a first profile element having a predefined cross-sectional profile;
- A second material dispenser for dispensing a second material adjacent to the first material at an outlet of the first set of rollers;
- A first welding station for welding the first material to the second material adjacent thereto;
- A second set of rollers for receiving the welded first and second materials from the first welding station, the second set of rollers being adapted to form the second material into a second profile element having a predefined cross-sectional profile which encloses the first profile element; and,
- A second welding station in communication with an outlet of the second set of rollers for welding portions of the second material together as the welded first and second materials exit from the outlet of the second set of rollers to form a closed profile beam.[13]

6.4.2.3 *System Claims*

The system claims in the manufacturing or mechanical field must have the system claim components specified in the section on claims in electronic and software arts. The system claim, provided in the example, relates to an automated manufacturing system that has a discrete set of elements, the discrete elements being a computer processing system and multiple consolidation systems.

Example claim: An automated manufacturing system, comprising:

- A computer processing system, configured to define product packages and one or more product sub-batches within each product package in response to input product intimation, to receive status information from one or more consolidation systems, and

to produce consolidation assignment in response to the status information;

- A plurality of consolidation systems each comprising: a batch storage system configured to store product sub-batches for different product packages in accordance to the consolidation assignment; and,
- A consolidation controller, configured to track the one or more product sub-batches for a product package in the batch storage system, to produce the status information about the batch storage system, and to trigger the consolidation of the one or more product sub-batches into the product package when all the product sub-batches for the product package have been received by the consolidation system.[14]

6.4.2.4 *Article of Manufacture Claims*

Article of manufacture claims are product claims used in mechanical or manufacturing arts, and refer to an article that is manufactured. An article of manufacture is an apparatus that does not have any active elements. In mechanical or manufacturing related arts, an active element is an element that moves relative to other elements that are part of the apparatus. If a claim is directed towards a subject matter that does not have parts that move relative to each other, then the claimed subject matter is considered to be an article of manufacture. Article of manufacture claims describe an article in terms of the constructional elements that are part of the article of manufacture and their features (See Table 6.2). In the example provided hereunder, the article of manufacture is a tree-shaped candle holder. A tree-shaped candle holder comprising:

- At least one twisted tree wire having a root end and a branch end;
- At least one bead wrappingly connected to said tree wire adjacent to said branch end;
- At least one votive cup wrappingly connected to said tree wire; and,
- A base connected to said tree wire root end, said base having a votive cavity therein;
- Wherein said tree wire is comprised of aluminum; said bead is comprised of coloured glass; and said base is comprised of plaster.[15]

6.4.3 Claims in Chemical and Pharmaceutical Arts

Like in other arts, claims pertaining to inventions in the chemical and pharmaceutical sectors can also be broadly classified into product related

Table 6.2 Claim Examples—Reference Table—Mechanical/Manufacturing

Subject Matter	*Type of claim*	*Example*
Mechanical/Manufacturing Arts		
Process	Process	A process of manufacturing roll formed profile beams comprising the steps of: roll forming a first sheet material travelling in a path into a first profile element having a predefined cross-sectional profile followed by roll forming a second sheet material travelling in a path into a second profile element having a predefined cross-sectional profile which encloses the first profile element to form a closed profile beam.
Product	Apparatus	An apparatus for manufacturing roll formed profile beams comprising: 1. a first material dispenser for dispensing a first material; 2. a first set of rollers having an inlet in communication with the first material dispenser to receive the first material being dispensed therefrom, the first set of rollers being adapted to form the first material into a first profile element having a predefined cross-sectional profile; 3. a second material dispenser for dispensing a second material adjacent the first material at an outlet of the first set of rollers; 4. a first welding station for welding the first material to the second material adjacent thereto; 5. a second set of rollers for receiving the welded first and second materials from the first welding station, the second set of rollers being adapted to form the second material into a second profile element having a predefined cross-sectional profile which encloses the first profile element; and 6. (f) a second welding station in communication with an outlet of the second set of rollers for welding portions of the second material together as the welded first and second materials exit from the outlet of the second set of rollers to form a closed profile beam.
Product	System	An automated manufacturing system, comprising: 1. a computer processing system configured to define product packages and one or more product sub-batches

(contd)

Table 6.1 *(contd)*

		within each product package in response to input product intimation, to receive status information from one or more consolidation systems, and to produce consolidation assignment in response to the status information; and 2. a plurality of consolidation systems each comprising: a batch storage system configured to store product sub-batches for different product packages in accordance to the consolidation assignment; and 3. a consolidation controller configured to track the one or more product sub-batches for a product package in the batch storage system, to produce the status information about the batch storage system, and to trigger the consolidation of the one or more product sub-batches into the product package when all the product sub-batches for the product package have been received by the consolidation system.
Product	Article of Manufacture	A tree-shaped candle holder comprising: 1. at least one twisted tree wire having a root end and a branch end; 2. at least one bead wrappingly connected to said tree wire adjacent to said branch end; 3. at least one votive cup wrappingly connected to said tree wire; and, 4. a base connected to said tree wire root end, said base having a votive cavity therein; 5. wherein, said tree wire is comprised of aluminum; said bead is comprised of coloured glass; and said base is comprised of plaster.

claims and process related claims. Having said that, considering the nature of inventions in chemistry and the pharmaceutical arts different types of claims are drafted in patent applications.

6.4.3.1 *Product Related Claims*

The subject matter of product inventions in the chemical and pharmaceutical sector can be broadly categorized into two types, namely:

1. New chemical entity including a molecule or a compound, and,
2. Chemical or pharmaceutical compositions.

A new chemical entity (NCE) also known as new molecular entity is a

new chemical molecule or a compound. A chemical molecule developed in the early discovery stage which later translates into development of a drug product is generally referred to as a new chemical entity.

An NCE can be claimed in several ways. The simplest and the most precise way to draft an NCE claim is to refer to the actual molecular structure of the molecular entity in the claim.

New Chemical Entity Claims: An NCE can be claimed in several ways. The simplest and the most precise way to draft an NCE claim is to refer to the actual molecular structure of the NCE in the claim. For example, what is claimed is a compound with the following (Figure 6.2) molecular structure:

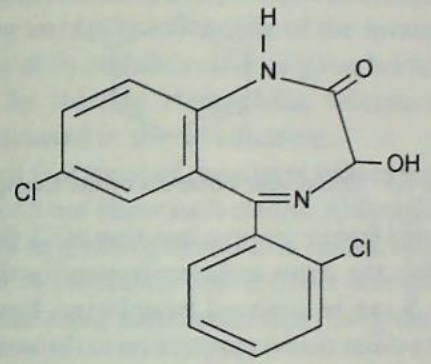

Figure 6.2 Molecular Structure of Compound

It must be noted that the scope of protection rendered by the claim stated in the illustration is limited to the compound bearing the molecular structure. Such a claim is relatively easy to be granted since the scope of the claim is very clear and unambiguous, and the patent office cannot object to the claim based on lack of clarity. It is advisable to draft such a claim, if what is attempted to be claimed is precisely the structure and does not include its variants.

However, to a person having knowledge in chemistry, it is evident that a chemical molecule can have several variants that share common characteristics. For example, in the illustration, if Chlorine (Cl) is to be replaced by another halogen such as Bromine (Br) or Flourine (F) it is likely that the compound will share similar properties. However, this protection afforded by the claim will not extend to such a variant. One method of overcoming this limitation is by incorporating Markush type claim language.

A Markush type claim broadens the scope of protection of the claim to include a chemical entity along with the various variants of the same. Markush claims are primarily close ended claims which enable claiming a group of chemical entities that share similar properties. For example, what is claimed is a compound having the following formula (Figure 6.3).

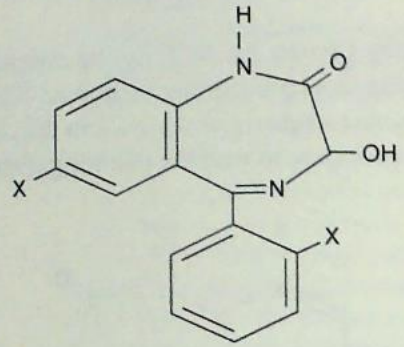

Figure 6.3 Molecular Formula of the Compound

Wherein X is selected from a group consisting of Cl, Br, F, and I.

In the illustration, the claim seeks protection for the structure of the compound where X can be replaced by chlorine, bromine, fluorine, or iodine. Thus, such a claim renders protection to the actual compound and its variants, provided they are substitutable. While drafting a Markush claim one must note that since these claims are typically close-ended claims, the transition phrase used in such cases should necessarily be 'consisting of' or 'consisting essentially of' and not 'comprising of' which is an open-ended transition phrase.

In cases where the compound is identified but its chemical structure is not known, such claims referring to chemical structure cannot be drafted. In a scenario where the chemical structure of the compound is not precisely known, the inventions can be claimed by drafting a 'fingerprint claim' where the novel product is defined in terms of its physical or chemical parameters.[16]

Example: What is claimed is a chemical entity characterized by molecular weight of 280, having a pH of 6.5, which has a melting point of 123 degree Celsius and a boiling point of 180 degree Celsius.

One other type of claim that can be drafted where the chemical structure is unknown is the product by process claim. A product by process claim is used to claim a product by providing the process of making the product. It is not clear whether such claiming is allowed in India. However, such claims are permitted by the European Patent Office, provided the product is novel and there is no other way of describing the product. An example of a product by process claim is given below.

A compound prepared by a process comprising of:

1. Crushing the bay leaves;
2. Boiling the crushed extract;
3. Collecting the fumes into the tube; and,
4. Crystallizing the fumes in the tube.

Another way of claiming an NCE is by using omnibus claims where reference is made to the description provided in the specification without particularly stating any technical details of the invention as part of the claim. An example of an omnibus claim is given below.

A compound for treating Hemophilia, wherein the compound is substantially as discussed in the specification.

It must be noted that most of the patent offices including the United States and Europe do not allow such claims. Although there is no clarity in India with regard to granting of omnibus claims, such claims have been granted in the past by the Indian Patent Office provided it is preceded by a chemical structure claim sufficiently describing the technical features of the invention.

Chemical Composition or Combination Claims: Most of the product patents filed in the chemistry domain relate to composition or combination of chemical compounds. Numerous chemical composition patents are filed on a daily basis in the pharmaceutical domain and the personal care domain.

Novel Combination product patents, including two or more already known chemical compounds available in the public domain, are routinely protected and commercialized in the pharmaceutical sector. Many patent applicants who have secured a patent over a NCE also prefer to file patents for chemical compositions incorporating the said NCE in order to ensure maximum protection. Some of the common claims drafted for compositions are provided hereunder.

For claiming a chemical composition, one must include all the essential ingredients necessary for the working of the composition. For example, if an inventor is the first to conceive an idea of making a shampoo with anti-fungal properties and wishes to file for a patent for his

shampoo composition comprising of alkyl ether sulphate as a surfactant, dimethicone as a conditioner, and imidazole as an anti-fungal agent, the claim for the invention may be drafted in the following ways.

What is claimed is a shampoo composition comprising:

1. 25 per cent of alkyl ether sulphate;
2. 10 per cent of dimethicone;
3. 2 per cent of imidazole, and,
4. 63 per cent water.

As discussed in the earlier section, where chemical entity claims were explained and in which the exact chemical structure was claimed, the composition claim provided in the example also has a narrow scope of protection, which is extended to a shampoo composition comprising alkyl ether sulphate, dimethicone, and imidazole in only the concentrations mentioned in the example claim. The protection in such a scenario cannot be extended to a shampoo composition where a chemical substitute of any of these three elements is used. For instance, this claim will not provide protection to a shampoo composition where imidazole is replaced by triazole or tetrazole, which is likely to provide similar properties.

Also, such a claim will not provide protection for a shampoo composition having the same ingredients if the concentration of such ingredients is different. For example, if the concentration of imidazole is changed from 2 per cent to 3 per cent, such a composition will fall outside the scope of protection of the claim.

One effective way of broadening the scope of protection of such an invention is to substitute the specific elements with general ones and by providing a concentration range instead of stating the most preferred concentration. The broader the range, the broader will be the protection conferred. While generalizing the elements of the claim, the state of the art must be taken into consideration in order to avoid claiming what is already in the prior art. Also, it must be borne in mind that the invention should be enabled at any concentration that falls within the claimed range. Therefore, the claim may be drafted as follows: What is claimed is a shampoo composition comprising:

1. 20–30 per cent of at least one surfactant;
2. 5–15 per cent of at least one conditioning agent;
3. 1–3 per cent of at least one anti-fungal agent, and,
4. Water.

The claim may be followed by dependent claims including the specific and preferred embodiments of the invention. For example, the shampoo

composition as claimed in claim 1, wherein the anti-fungal agent is selected from a group consisting of pyrazole, imidazole, triazole, tetrazole, and pentazole.

Another claim may be drafted as follows.

The shampoo composition in claim 1, wherein said anti-fungal agent is imidazole.

Another way of drafting a composition claim is by including the 'markush' language. As discussed in the previous section, markush claims enable claiming of the entire chemical group which can be used interchangeably without substantially changing the result. Use of 'Markush' language will help in reducing the number of claims in a patent application. An example of a 'Markush' type claim is as follows: What is claimed is a shampoo composition comprising:

1. 20–30 per cent of at least one surfactant;
2. 5–15 per cent of at least one conditioning agent;
3. 1–3 per cent of at least one anti-fungal agent; and
4. Water.

Wherein, the anti-fungal agent is selected from a group consisting of pyrazole, imidazole, triazole, tetrazole, and pentazole.

6.4.3.2 *Process Related Claims*

The process inventions in the chemical and pharmaceutical arts are generally chemical processes, methods of treatment, and diagnostic methods.

Chemical Process Claims: A novel process used to make a product or formulation is patentable subject matter in India. A process claim enumerates the step-wise process for manufacturing the compound or formulation. Details with respect to the conditions under which the process is carried out have to be explicitly mentioned in the claim (Table 6.3).

Example: A process for preparing a modified phosphocalcic compound comprising:

1. Adding a gem-biphosphonic acid or an alkali metal or alkaline-earth metal salt thereof to a suspension of a precursor phosphocalcic compound in ultrapure water;
2. Stirring the reaction medium at room temperature; and,
3. Recovering the formed compound therefrom by centrifugation.

While drafting a process claim the drafter must bear in mind that the steps should be listed in the logical order.

Table 6.3 Claim Examples—Reference Table—Chemical/ Pharmaceutical

Claim Category	*Subject matter*	*Type of claim*	*Example*
Product	Compound	Structure claim	A compound having the formula C2H5Cl.
		Markush Claim	A compound having the formula C2H5X, where X is selected from a group consisting of Cl, F, and Br.
		Finger print	A compound characterized by a boiling point of 100 and pH 7.
		Product by process	A compound manufactured by a process comprising of a) crush the source and b) extract the compound.
	Composition	General	A composition comprising of a) 10–20% of C2H5Cl and b) 80–90% of water.
		Markush Claim	A composition comprising of a) 10–20% of C2H5X and b) 80–90% of water, where X is selected from a group consisting of Cl, Br, and F.
Process	Chemical Process		A process of manufacturing X by a) crushing the source and b) extracting the compound.

6.4.4 Claims in Biotechnology Arts

Various jurisdictions have varied level of tolerance for biotechnology related inventions. While it is possible to get a patent for a genetically modified multicellular organism in the United States, it falls under non-patentable subject matter in India. The Indian Patent law, however, allows patenting of isolated gene and genetically modified unicellular organisms.

Like in chemical and pharmaceutical inventions, biotechnology related inventions can also be broadly classified into two categories, namely, product-related inventions and process-related inventions. This part of the chapter explains the various types of claims that are usually drafted in these categories.

6.4.4.1 *Product Related Claims*

For a novel invention pertaining to gene sequences several aspects can be claimed as a single inventive concept including gene sequence, amino acid sequence, a method of expressing the sequence, vector, and host used for expression of the gene, an antibody against the protein/sequence, and a kit made from the antibody/sequence.[17]

Gene Sequence/Amino Acid Sequence Claims: Gene sequences whose function is disclosed in the specification are patentable in India.[18] While filing an application relating to gene sequences, the sequences must be submitted to the patent office in digital copy. Each sequence needs to be provided with a reference number also referred to as SEQ ID no. Given below are some types of claims that are typically used to claim a gene sequence. For example, what is claimed is an isolated nucleic acid comprising a nucleic acid sequence *ATGGGCCTAACGTGAGGGAATT CGAAATTC*.

Including the entire sequence in the claim may not be viable in case of a long nucleotide sequence as it can run into several pages. Since the digital copy of the sequence is submitted along with the specification, it is sufficient to incorporate the sequence identification number (SEQ ID. no.) in the claim. For example: what is claimed is an isolated nucleic acid molecule comprising a nucleic acid sequence of SEQ ID no. 1.

Although, nucleotide sequences are very specific, slight variations in the bases may not entirely change the nature of the final product. However, these small changes may suffice a competitor to circumvent the claim. In order to overcome this limitation, one can claim a nucleotide sequence by referring to its complementary sequence.

Example: A nucleic acid molecule comprising a nucleic acid sequence that hybridizes to SEQ ID no.1 under stringent conditions.

Furthermore, a nucleotide sequence can also be claimed by combining both the above mentioned claim types in a single claim.

Example: A nucleic acid molecule comprising:

1) SEQ ID no.1;
   or
2) a nucleic acid sequence that hybridizes to SEQ ID no.1 under stringent conditions.

Due to the redundancy of genetic code where a single amino acid can be coded for by more than one codon, several nucleic acid sequences may code for the same amino acid sequence. For example: UUA, UUG, CUU, CUC, CUA, and CUG, code for Leucine. In such a case, if the sequence having the codon UUA is claimed, it will not protect a sequence having the codon UUG in place of UUA, although the final product would remain unchanged. In order to overcome this problem most patents claim the amino acid sequence separately in addition to claiming the nucleic acid sequence. For example: What is claimed is an isolated nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence

Met Ala Asp Asp Cys Glu Phe Val Gly Ser Ala Val

or

an isolated nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence of SEQ ID no. 2.

In this case one must note that even if the claim comprises the amino acid sequence, protection can be conferred to the nucleic acid sequence encoding the said amino acid.

Expression Vector Claims: An expression vector can be simply claimed as a vector comprising a nucleic acid molecule comprising the nucleic acid sequence of SEQ ID no.1

In most scenarios the vector is claimed along with the nucleic acid sequence. Hence, vector claims are invariably dependent on the nucleic acid claims. For example: What is claimed is a vector comprising a nucleic acid molecule as claimed in claim 1.

Host Cell Claims: A host cell can be claimed in the following way.

A transgenic host cell that contains the vector, comprising a nucleic acid molecule, comprising the nucleic acid sequence of SEQ ID no.1.

or,

A transgenic host cell that contains the vector claimed in claim 2.

Antibody Claims: The claimed amino acid sequence usually forms a part of a protein. In most cases, the amino acid forms a part of an antibody molecule which can be used in diagnostic and therapeutic procedures. An antibody comprising the amino acid sequence is another kind of claim that may be claimed under the same inventive concept as a nucleic acid, amino acid, vector, host, and method of expression, in the same patent application.

Example: What is claimed is: An isolated antibody or fragment thereof comprising the amino acid sequence of the VH and VL domains of SEQ ID no. 2.

Such a claim will confer protection for the antibody comprising the amino acid sequence claimed in the earlier claim.

Antibody Kit Claims: An antibody kit that includes the antibody comprising the amino acid sequence can also form a part of the same inventive concept and, therefore, can be claimed in the same patent application. A claim for the antibody kit will typically be as follows:

What is claimed is a kit comprising the antibody or fragment thereof of claim 3.

or,

a kit for producing a protein, at least comprising the nucleotide sequence of claim 1, or a gene expression vector at least, comprising the nucleotide sequence of claim 1.

6.4.4.2 *Process Related Claims*

Like claims for chemical inventions, process claims are also drafted in the biotechnology field. The basic issues that need to be considered for drafting process claims for biotechnology inventions is the same as in chemistry. The steps mentioned should be comprehensive and should have a logical order. Also, all the conditions required for carrying out the process should be explicitly mentioned in the claim. The most frequently used process claims in biotechnology arts are method of expression claim and the biotechnological process claims.

Method of Expression Claim: Claims relating to method of expression must include several components including the nucleic acid sequence, expression vector and host cell. Nucleic acid sequence claims have already been discussed in the previous section of this chapter. In order to ensure complete protection over the expression of the nucleic acid, one must without fail include claims claiming the expression vector and host cells as well. Given below are a few examples.

The method of expression claims have to include the step-wise process for expression which includes the nucleic acid, vector, and host. For example, a method of expressing a target protein or polypeptide comprising the steps of: (a) transfecting a host cell with the expression vector of claim 2; (b) culturing the host cell transfected with the expression vector under conditions that permit expression of the target protein or polypeptide; and (c) isolating the target protein or polypeptide.

Biotechnological Process Claims: These are general process claims. The rules applicable to a chemical process claim mentioned in the previous section may also be applicable to these claims.

For example: A process for making an insulin precursor or an insulin analog precursor, said method comprising (1) culturing a host cell, comprising a polynucleotide sequence encoding an insulin precursor or an insulin analog precursor, according to claim 1 under suitable culture conditions for expression of said precursor; and (2) isolating the expressed precursor (Table 6.4).

Table 6.4 Claim Examples—Reference Table—Bio-Technology

Claim Category	*Subject matter*	*Example*
Product	Gene	An isolated nucleic acid molecule comprising a nucleic acid sequence of SEQ ID no. 1.
		An isolated nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence of SEQ ID no. 2.
		An isolated nucleic acid molecule comprising a nucleic acid sequence that hybridizes to SEQ ID no.1 under stringent conditions.
	Vector	A vector comprising a nucleic acid molecule comprising the nucleic acid sequence of SEQ ID no.1.
	Host	A transgenic host cell that contains the vector comprising a nucleic acid molecule comprising the nucleic acid sequence of SEQ ID no.1.
	Antibody	An isolated antibody or fragment thereof comprising the amino acid sequence of SEQ ID no. 2.
	Antibody Kit	A kit comprising the antibody or fragment thereof of claim 3.
Process	Method of expression	A method of expressing a target protein or polypeptide comprising the steps of: (a) transfecting a host cell with the expression vector of claim 2; (b) culturing the host cell transfected with the expression vector under conditions that permit expression of the target protein or polypeptide; and (c) isolating the target protein or polypeptide.
	Process of isolating the gene product	A process for making an insulin precursor or an insulin analog precursor, said method comprising (i) culturing a host cell comprising a polynucleotide sequence encoding an insulin precursor or an insulin analog precursor according to claim 1 under suitable culture conditions for expression of said precursor; and (ii) isolating the expressed precursor.

6.4.5 Claims Relating to Diagnostic Methods

An in vivo diagnostic method is not patentable in India. However, an in vitro diagnostic method may be patentable. A patent drafter has to ensure that the in vitro nature of the test is explicitly included as a part of the claim in order to qualify for a patent in India and Europe. The drafter may choose to draft a diagnostic claim as a method claim as well as a product claim. A method claim must include the in vitro diagnostic method in a step-wise logical order. For example: A method for in vitro diagnosis of malaria antibodies in a biological sample, comprising:

1. Contacting said biological sample with a composition comprising a protein, according to claim 3, under appropriate conditions which allow the formation of an immune complex, wherein said peptide is labelled with a detectable label, and,
2. (ii) Detecting the presence of said immune complexes visually or mechanically.

Another way of claiming a diagnostic method is to claim it as a product such as a diagnostic kit. Such a claim will include a kit along with its components, which can be linked to the step-wise method of diagnosis. For example: A diagnostic kit used for detecting malaria antibodies in a biological sample comprising of the protein, according to claim 3, where the said protein is brought in contact with the biological sample under appropriate conditions which allow the formation of an immune complex, wherein said peptide is labelled with a detectable label, and the presence of said immune complexes visually or mechanically detected (Table 6.5).

To summarize, chemical, biotechnology, and diagnostics related inventions can be claimed both as a product and a process. A chemical product includes a compound or a composition. Markush claims can be drafted for both NCE and chemical compositions. Markush type claims enable broader protection and help in reducing the number of claims.

Table 6.5 Claim Examples—Reference Table—Diagnostic Methods

Claim Category	Subject Matter	Example
Product	Kit	A diagnostic kit used for detecting malaria antibodies in a biological sample comprising of the protein according to claim 3 where the said protein is brought in contact with the biological sample under appropriate conditions which allow the formation of an immune complex, wherein said peptide is labelled with a detectable label.
Process	In vitro method	A method for in vitro diagnosis of malaria antibodies in a biological sample, comprising (i) contacting said biological sample with a composition comprising a protein according to claim 3 under appropriate conditions which allow the formation of an immune complex, wherein said peptide is labelled with a detectable label, and (ii) detecting the presence of said immune complexes visually or mechanically.

They are always close-ended claims. In composition claims it is advisable to include a concentration range rather than providing the most preferred concentrations.

For biotechnology inventions both product and process claims can be drafted. Product claims can be drafted for gene sequences, hosts, and vectors. A gene sequence can be claimed by referring to the nucleic acid or amino acid. In case of very long sequences, it is preferable to include the reference identification numbers in the claim since a digital copy of the sequences are submitted to the patent office at the time of filing.

Process claims can be drafted for the method of expression and process of isolation of the expressed gene product. In diagnostic methods, an in vivo method is not patentable in India. A diagnostic method may be patentable if it is carried out outside the human body, that is, in vitro. Both process and product claims can be drafted for a diagnostic method. A diagnostic kit can be claimed as a product and an in vitro method of diagnosis can be claimed as a process.

The drafter must always bear in mind that the Indian patent office evaluates every claim on its own merit.[19] This means that if one of the claims is objected, it does not affect the validity of the others. It is, therefore, important to make claims on all aspects of the invention to enable the applicant to get the widest form of protection.

6.5 CLAIM INTERPRETATION AND ANALYSIS

6.5.1 Sources of Interpretation

Claims of a complete specification must be clear and succinct, and fairly based on the matter disclosed in the specification.[20] As the claims must be based on the matter provided in the specification, they must be interpreted in the light of the specification, which includes the description, drawings, and so on. Therefore, the primary source of interpreting claims is the specification. In addition to the specification, prosecution history or file wrapper history, information in the state of the art and dictionaries in the field, may also be used as sources to understand the scope and meaning of claims.

6.5.2 Clarity of Claims

Claims must clearly define the boundaries of protection sought by a patent application. Patent claims define the boundaries of protection by reciting the structural elements and their interrelationships in a machine or a product, or by reciting a sequence of actions involved in a method or a process. In order to clearly define the boundaries of an invention, it is important to use unambiguous language in claims.

The following guidelines will help in drafting lucid claims:

Avoid Ambiguous terms: In general, terms that are not exact in the meaning they convey must not be used in claims. Terms that are not exact in their meaning may include like, close to, almost, near, and so on. For example:

Example 1: ...where said short range communication technology is Bluetooth.

Example 2: ...where said short range communication technology is a communication technology like bluetooth.

Example 1 is clearer in defining a short range communication technology that was used as part of an invention compared to example 2 because example 2 does not clearly state the meaning of the phrase 'a communication technology like bluetooth'. It could mean a communication technology that has range similar to bluetooth, or it could mean a communication technology that has frequency similar to that is used in bluetooth communication. Therefore, language like the one in Example 2 should be avoided.

Avoid glorification. Glorification of the invention in claims must be avoided. The object of a patent application is to demonstrate that the

invention is novel, useful, and has industrial applicability. There is no need to glorify an invention in the claims as it does not serve the purpose of the claims to clearly define the boundaries of protection sought in a patent application.

Example 1: ...where said greatly improved device comprises of:

The phrase greatly improved in Example 1 is not necessary as it neither adds to the description of device nor helps in clearly defining the boundary of the protection sought for the device. Adjectives or terms that glorify an aspect of an invention also fall under the category of ambiguous terms and must be avoided.

Use appropriate punctuation and references to remove any ambiguity in claims:

Appropriate punctuation must be used in order to avoid any vagueness in a claim.

Example 1: *A tool for manufacturing a machine comprising...*

It is not clear in Example 1 whether the text that follows the word comprising is part of the machine or is part of the tool. The same may be rewritten in the following manner:

Example 2: *A tool for manufacturing a machine, comprising...*

Example 2 is clear as compared to Example 1. However, there may still be some ambiguity in asserting that the text following the word comprising forms part of the tool rather than the machine. Example 2 can be further improved to make the claim clearer in the following way:

Example 3: *A tool for manufacturing a machine, said tool comprising ...*

Example 3 removes any ambiguity in asserting that the text following the word 'comprising' is in fact part of the tool and therefore is the best mode of writing a claim.

Avoid including material that does not form part of the invention.

Any material or information that does not form part of the invention must be avoided in a claim. For example, if an invention relates to an improved ceiling fan where improvement of air circulation is achieved through improved design of blades, the essential aspects of the invention, which comprise of the number of blades and the shape of blades that achieve the improved air circulation, must be specified. The claim must not contain other elements like the rotor and electrical mechanisms that are essential parts of the fan but do not form part of the invention.

6.5.2.1 *Unity of invention*

Claims in a patent application must relate to a single invention or inventive concept. Claims relating to more than one invention in a single application will not be accepted and divisional applications may have to be filed with respect to each additional invention.

NOTES

1. Para 5.8.1, Draft Manual of Patent Practice and Procedure, 2008.
2. The word 'element' is used to refer to a structural (physical) feature of the invention, if the claim is a product claim, and to a step or an action if the claim is a method or process claim.
3. Para 5.8.4(c), Draft Manual of Patent Practice and Procedure, 2008.
4. Para 5.8.4(d), Draft Manual of Patent Practice and Procedure, 2008.
5. Para 4.11.7, Draft Manual of Patent Practice and Procedure, 2008.
6. Based on independent claim 1 of US patent 6404878.
7. Based on independent claim 1 of US patent 4149258.
8. Section 3(k), The Patents Act, 1970 as amended in 1999, 2002, and 2005.
9. Para 4.11.6, Draft Manual of Patent Practice and Procedure, 2008.
10. Based on independent claim 1 of US patent 6,611,627.
11. Based on independent claim 1 of US patent 6611627.
12. Based on independent claim 14 of US patent 7073259.
13. Based on independent claim 1 of US patent 7073259.
14. Based on independent claim 1 of US patent 7317960.
15. Based on independent claim 1 of US patent 6923641.
16. http://www.intelproplaw.com/Forum/Forum.cgi?board=patent drafting; action=display; num=1136203018 (last accessed on 9 April 2010).
17. Para 5.8.11(f) iv, Draft Manual of Patent Practice and Procedure, Indian Patent Office.
18. Annexure 1(7), p. 142, Manual of Patent Practice and Procedure, Indian Patent Office.
19. Para 4.4, Manual of Patent Practice and Procedure, Indian Patent Office.
20. Section 10(5), The Patents Act, 1970 as amended in 1999, 2002, and 2005.

7

Patent Assignment and Licences

7.1 ASSIGNMENT AND LICENCES

A patent holder can transfer his patent rights to any person at any time before the expiry of the patent.[1] Transfer of patent rights is generally done through an assignment or a licence.[2] An assignment involves a transfer of ownership in the patent and a licence includes an authorization to exercise the patent rights. For example, If A assigns his patent over a Time Machine to B, from the time of assignment, B acquires ownership over the patent. However, if A grants a licence to use his patented Time Machine to B, B will get the right to exercise rights over A's patent for the period of licence but will not acquire any ownership rights over the patent.

An assignment or a licence is valid only if the parties enter into an agreement in writing, which is signed by both the parties.[3] All terms and conditions of the assignment or licence, including rights and responsibilities of the parties, must be specified in the agreement.[4] After an assignment or licence agreement is signed by the parties, the party acquiring title or interest in the patent as a result of such assignment or licence must register the title or interest at the patent office.[5] Information concerning the title or interest relating to a patent may be registered through an application in writing to the Controller.[6] Such an application must be filed in Form 16 by the assignee or the licensee, as the case may

be, or the patent holder.[7] Certified copies of the assignment or licence agreement, and any other document requested by the Controller must be filed along with the application as proof of title or interest.[8]

On receiving such an application, the Controller will review the documents and on being satisfied with the proof, he will enter the details in the register of patents.[9] In case of an assignment, the assignee will be entered as a proprietor or co-proprietor of the patent and in case of a licence, the interest of the licensee will be specified in the register.[10] The details of the assignment or licence agreement, that gives rise to the title or interest, will also be entered in the register, by the Controller.[11] On request of either of the parties, the terms and conditions of a licence will be maintained confidential by the Controller.[12] The details will be disclosed only based on a court order.[13] It must be noted that an assignment or licence agreement that is not entered in the register will not be accepted as evidence by the Controller or the court in any proceeding except for proceedings relating to rectification of the register.[14]

National Research Development Corpn v. *ABS Plastics Limited*

The National Research Development Corpn. (NRDC), was the assignee of two patents relating to a process for the manufacture of Terpolymers of Acrylonitrile Butadine (ABS Resigns) using what was known as emulsion technology.[15] The invention was developed and patented by Shri Ram Institute of Industrial Research, under one of NRDC's sponsorship schemes of the Council for Scientific and Industrial Research, before being assigned to NRDC.[16] NRDC licensed the patents to ABS Plastics Limited (ABS) on 23 July 1975, for a period of eight years.[17] Under the licence, ABS paid a lump sum royalty of Rs 60, 000 (Rupees sixty thousand) and agreed to pay a running royalty of 1 per cent on the net ex-factory sale price of the material manufactured using the patented process.[18] As ABS failed to pay the royalty due under the licence agreement, NRDC filed a suit to enforce the agreement and claimed the pending royalty with interest.[19]

After reviewing the facts of the case and hearing the arguments of the parties, the court held that the licence agreement was not valid and, therefore, not enforceable because it was not registered at the patent office.[20] The court cited Section 68 of the Patents Act, which provides that a licence agreement must be registered at the patent office within six months of its execution in order for it to be valid.[21] Further, the court stated that the licence agreement would not be valid after 31 October 1979 and 2 May 1981, because the patents expired on the said dates.[22] It

pointed out that a licence agreement over a patent would not be binding on the licensee, ABS, after the expiry of the patents.[23] As the licence agreement was not valid, the court refused to grant relief to NRDC under the agreement.

7.2 COMPULSORY LICENCES

The objective of a patent grant is not only to encourage creation of inventions but also to promote commercial working of such inventions.[24] As laid down under the Act, a patent must be made available at a reasonable price to the consumers and must facilitate technology transfer and dissemination, nationally and internationally.[25] It must not impede protection of public health, be against public interest, or impede national industrial progress.[26]

A compulsory licence will be granted on a patent. If the patent holder uses his patent in a manner that contravenes the aforesaid objective. A compulsory licence is a licence granted by the government to a third party without the permission of the patent holder. The purpose of the grant of such a licence is to ensure that the patent is used in accordance with the philosophy underlying the patent grant.

7.2.1 Conditions

A compulsory licence will be granted over a patent by the Controller if any of the following conditions are satisfied:

1. The reasonable requirements of the public have not been satisfied;
2. The patented invention is not available to the public at a reasonably affordable price; or,
3. That the patented invention is not worked in the territory of India.[27]

7.2.1.1 *Reasonable Requirements of the Public*

A compulsory licence will be granted if the patent holder does not meet the reasonable requirements of the public with respect to the patent. The Act provides a list of circumstances in which reasonable requirements of the public will not be met. They are:

a. The patent holder does not grant a licence on reasonable terms and as a result:
   i. The trade or industry in India or its development or establishment is prejudiced.[28] For example, if X acquires a patent over a process for preserving milk for one year at normal temperature and refuses to license the patent, reasonable requirements of the public may not be met because that would prejudice the development of the dairy industry in India;
   ii. The demand for the patented product is not met adequately or on reasonable terms.[29] For example, if X acquires a patent over an environment friendly car that can run on water and sells only two cars every year at a very high price, his refusal to license the technology may amount to non-satisfaction of reasonable requirements of the public because the demand for the product is not being met adequately by the patent holder;
   iii. A market for export of the patented article manufactured in India is not being supplied or developed.[30] For example, if X acquires a patent over a method of making cloth, which has great export potential, and refuses to give a licence for manufacturing the cloth for export, the reasonable requirements of the public may not be met because the export demand is not being supplied; or,
   iv. The establishment or development of commercial activities in India is prejudiced.[31] For example, if X acquires a patent over an advanced financial transaction device, which facilitates fast and efficient fund transfer, and does not license it to nationalized banks in India on reasonable terms, the reasonable requirements of the public may not be met because it can prejudice the development of commercial activities in India.

b. The patent holder imposes conditions governing the licence, sale, or use of a patented product or process, which:
   1. Prejudice the manufacture, use, or sale of non-patented materials in India; or,
   2. Prejudice the development of any trade or industry in India.[32] For example, if X licenses his patent relating to a switch and imposes a condition that non-patented switches must not be sold by the licensee, the reasonable requirements of the public may not be met because the condition prejudices the sale of non-patented materials. In such a case, a compulsory licence may be granted by the Controller to the customers of the applicant in addition to the applicant for the compulsory licence.[33]

c. The patent holder includes any of the following conditions in the licence:
   1. Exclusive grant back of rights on improvements in the patented product or process.[34] An exclusive grant back clause is a clause that requires the licensee to grant back any rights over the improvements to the patent holder. For example, if X licenses his

patented lock to Y, and imposes a condition in the licence that ownership in improvements in the lock must be transferred back to X exclusively, the reasonable requirements of the public will not be met because the licence has an exclusive grant back clause;

2. Prohibition of challenge of patent validity.[35] For example, if the patent holder includes a clause in the licence stating that the licensee cannot challenge the validity of the licensed patent, the reasonable requirements of the public will not be met; or,
3. Clause that amounts to a coercive package licence.[36] For example, if X licenses his patent relating to a printer and incorporates a condition in the licence that the licensee must buy the cartridges, which are not patented, only from X, the patent will not meet reasonable requirements of the public because it would amount to coercive package licensing.

d. The patent holder does not work the patented invention in India to the fullest possible extent or on a commercial scale to an adequate extent.[37]

For example, if X acquires a patent over a cost effective water purification system and sells only two of the systems only in Karnataka, the patent may not meet the reasonable requirements of the public because it was not available all over India and, therefore, has not been worked to the fullest possible extent.

e. The working of the patented invention on a commercial scale in India is being prevented or hindered due to importation of the patented invention by:
   1. the patent holder or any person authorized by him;
   2. persons purchasing from the patent holder, directly or indirectly; or
   3. any person against whom the patent holder has not taken infringement action.[38]

Example: X acquires a patent over a DVD player and gives a non-exclusive licence to Y. Z starts selling the patented players in India by importing from China and X does not take any action against Z. In such a case, the reasonable requirements of the public will not be met because X has failed to take any infringement action against Z.

7.2.1.2 *Reasonably Affordable Price*

The price of a patented invention must be reasonable and not beyond the capacity of the general public. A compulsory licence will be granted if a patented invention is not available at affordable prices to the public. For example, if X gets a patent over a drug for treating diabetes and prices it at Rs 1,000 per tablet, then a compulsory licence may be granted because the patented drug is not available at a price affordable by the general public.

7.2.1.3 *Worked in India*

The objective of a patent grant is to ensure that the patented invention is worked in India on a commercial scale and in a reasonably practicable manner. A compulsory licence will be granted if the patented invention is not worked in India. A patented invention will be considered to be commercially worked in India if it is manufactured in India, imported into India, licensed, forms part of a product that is sold in India, or commercialized in any other manner. For example, if X acquires a patent over a cricket ball but does not sell such cricket balls in India, a compulsory licence may be granted because the invention has not been worked in India.

7.2.2 Procedure for Grant of a Compulsory Licence

The steps involved in the grant of a compulsory licence are shown in the flow diagram hereunder (Figure 7.1).

Any interested person may make an application for a compulsory licence after the expiry of three years from the date of patent grant.[39] Even a person, who is the holder of a licence over the patent, may file an application for a compulsory licence.[40] The application must state the nature of the interest of the applicant, the facts in support of the application, and the conditions the applicant is willing to accept.[41] It must be filed in Form 17 or Form 19.[42]

After reviewing the application, if the Controller is satisfied that the applicant has made a prima facie case on the conditions for grant of a compulsory licence, he will direct the applicant to send copies of the application to the patent holder or any other person having an interest in the patent.[43] Thereafter, the Controller will publish the application for the compulsory licence in the official journal of patents.[44]

The patent holder or any other person may oppose the application by filing a notice of opposition within two months from the date of publication.[45] The notice of opposition must state the grounds of opposition, terms and conditions of the licence acceptable by the opponent, and necessary evidence in support of the opposition.[46] Once it is filed, the notice of opposition will be served on the applicant for a compulsory licence.[47] The Controller will then fix a date and make a decision on grant of compulsory licence after hearing the parties on the

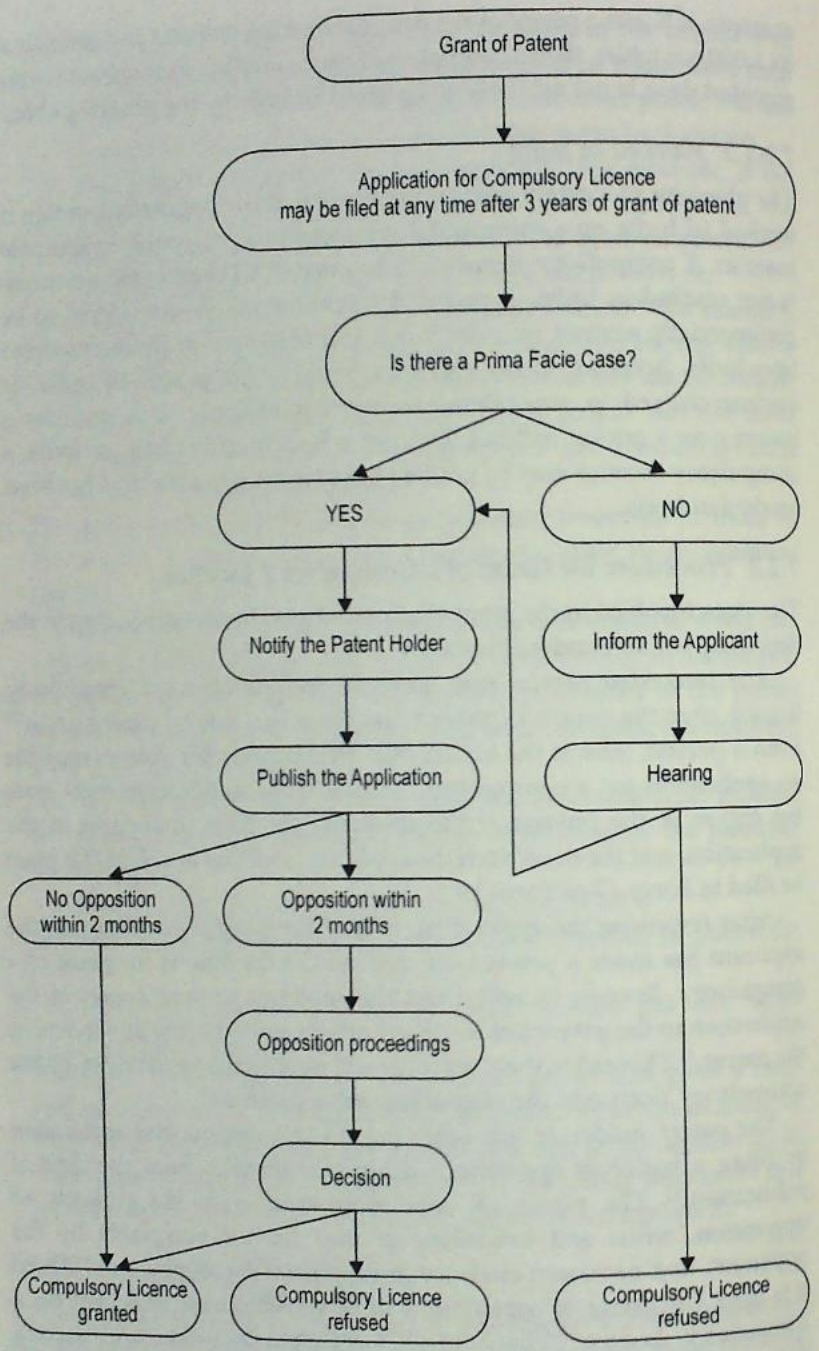

Figure 7.1 Flow Diagram—Compulsory Licence Procedure

said date.[48] The procedure for opposition of a patent will be followed by the Controller for conducting the hearing.[49]

On reviewing the application for compulsory licensing, if the Controller is of the opinion that a prima facie case has not been made, he will notify the applicant.[50] Thereafter, the applicant may request for a hearing within one month from the date of such notification and if such a request is not made, the application for compulsory licence will be refused by the Controller.[51] On receiving the request for hearing, the Controller will hear the applicant and decide whether to allow or refuse the application.[52] On allowance of the application, the patent holder will be notified and the rest of the aforesaid process will be followed for grant of the compulsory licence.

7.2.3 Factors

While deciding on the grant of a Compulsory licence, the Controller will consider the following factors:

1. The nature of the invention, the time which has passed since the grant of the patent, and the measures already taken by the patentee or any licensee to make full use of the invention;
2. The ability of the applicant of the compulsory licence to work the invention to the public advantage;
3. The capacity of the applicant of the compulsory licence to undertake the risk in providing capital and working the invention, if the application were granted; and,
4. Efforts made by the applicant to obtain a licence from the patentee on reasonable terms and conditions for a period of six months.[53]

The Controller will not consider the aforesaid factors in case of national emergency, or other circumstances of extreme urgency, or in case of public non-commercial use, or on establishment of a ground of anti-competitive practices adopted by the patent holder before the date of application.[54] In such circumstances, the Controller will grant a licence in an expedited manner in order to cater to the emergency situation.

7.2.4 Terms and Conditions

On deciding to grant a compulsory licence, the Controller will determine the terms and conditions of such a licence.[55] Through the compulsory licence, the Controller will ensure that the patented invention is worked on a commercial scale in India and that the person, who is already working or developing the invention in India, is not prejudiced in an unfair manner.[56]

While determining the terms and conditions of the compulsory licence, the Controller has to make sure that:

1. Reasonable consideration is given to the patent holder after considering the nature of the invention and the money spent by the patent holder on creation, protection, development, and enforcement of the invention or patent;
2. The patented invention is worked by the holder of the compulsory licence to the fullest extent and is profitable;
3. The patented invention is available to the public at a reasonable price that is affordable;
4. A non-exclusive licence is granted to the applicant;
5. Rights of the licence holder are not assignable;
6. Licence is granted for the balance term of the patent, unless a shorter term furthers public interest;
7. Licence is primarily meant for supplying the Indian market;
8. The use of an invention relating to semi-conductor technology is meant for public non-commercial use; and,
9. The licence holder is allowed to export the invention, if the licence is granted based on anti-competitive practices of patent holder.[57]

The Controller cannot allow the importation of a patented invention into India by granting a compulsory licence, if such activity amounts to infringement, unless directed by the central government in public interest.[58] On the grant of a compulsory licence by the Controller, it will be considered as a licence between the parties and the terms and conditions determined by the Controller will be the terms and conditions that govern the licence. [59]

Example: The Controller granted a compulsory licence to Rail Udyog, which was engaged in manufacturing railway coach and wagon components, and track fittings over a patent relating to double shaft springy track spikes.[60] Though an opposition was raised by a company called Keen Williams limited against the grant of the compulsory licence, the Controller rejected the opposition as the company failed to prove that it was an interested party.[61]

7.2.5 Compulsory Licence on Related Patents

The Controller may grant a compulsory licence on patents that are related to a patent that is subject of a compulsory licence or forms part of a application for a compulsory licence. A compulsory licence may be granted on patents owned by the patent holder that do not form part of the application for the compulsory licence, if the patented invention that forms part of the application cannot be worked without such a licence.[62]

Example: X acquires patents over a wheel and spikes used in the wheel, and the wheel can be used only with the patented spikes. If Y applies for a compulsory licence over the patent relating to the wheel, a compulsory licence may be granted over the patent relating to the spikes also because the patent over the wheel cannot be worked without a licence over the patent relating to the spikes.

A compulsory licence may also be granted if the holder of a patent or a licensee of a patent is prevented or hindered from working the patented invention efficiently or to the best advantage because of the existence of another patent.[63] Such a licence will be granted only if the Controller is satisfied that:

1. The applicant for compulsory licence is capable and willing to grant, or procure the grant of a licence, over the patent held or licensed by him to the holder of the patent or his licensee; and,
2. The invention that is subject of the patent held or licensed, by the applicant for compulsory licence, has made a substantial contribution to the establishment or development of commercial or industrial activities in India.[64]

For example, if X holds a patent over a spinning machine and Y holds a patent over a motor that can run the machine with minimum energy and maximum efficiency, X can acquire a compulsory licence over Y's patent because efficient working of X's spinning machine will be hindered by Y's patented motor. In such a case, if there is a non-patented motor that can help the efficient utilization of the spinning machine, a compulsory licence will not be granted. Furthermore, in order to acquire a compulsory licence, X must be willing to give a licence over his patented spinning machine to Y and X's spinning machine must play an important role in development of textile industry in India.

On satisfaction of the conditions for grant of the compulsory licence, the Controller may grant a licence to the applicant of the compulsory licence on the patent and also grant a licence to the patent holder over the applicant's patent on request.[65] Such a licence is assignable only through the assignment of a patent.[66] All conditions for grant of a compulsory licence will be applicable to a compulsory licence concerning related patents.[67]

7.2.6 Compulsory Licence in Emergency

A compulsory licence may be granted in case of national emergency, extreme urgency, or public non-commercial use, by notification of the Central Government in the official gazette.[68] On such a notification, the Controller will grant a compulsory licence to interested persons, who make an application for such a licence.[69] While granting the licence, the Controller will ensure that the patented invention is available to the public at the lowest prices, bearing in mind the interests of the patent holder to derive advantage from the patent.[70] The normal procedure will not be applied for grant of a compulsory licence if the Controller is of the opinion that a compulsory licence is necessary in case of national emergency, extreme urgency, or public non-commercial use, including public health crises, relating to Acquired Immuno-deficiency Syndrome (AIDS), Human Immuno-deficiency Virus (HIV), tuberculosis, malaria, or other epidemics.[71]

For example, if there is a outbreak of Swine Flu in India and a company X holds a patent over a drug for treating patients infected by Swine Flu, the Central Government will notify that the patent is available for compulsory licence. On such a notification, an Indian pharmaceutical company can apply and acquire a compulsory licence over the patent.

7.2.7 Compulsory Licence For Export

A compulsory licence may be granted for manufacture and export of patented pharmaceutical products to any country having insufficient or no manufacturing capacity in the pharmaceutical sector for the concerned product in order to address public health problems.[72] The licence may be granted on any drug, formulation, or any other product, covered by a patent or made by a patented process, including ingredients of a product or diagnostic kits for use of the product.[73]

For example, if a country X has very high incidence of AIDS but does not have the capability to manufacture drugs for treating the syndrome, a compulsory licence may be granted over a patent relating to a drug for treating AIDS to a company in India, for exporting the drug to X.

This compulsory licensing provision was introduced through an amendment into the Patent Act in 2005, based on Para 6 of the Doha Declaration which permitted WTO members to allow the export of pharmaceutical products to other developing and underdeveloped countries not having manufacturing facilities to deal with public health problems that are common among the countries.[74]

Such a compulsory licence will be granted only if the country has granted a compulsory licence relating to the patented product or has allowed importation of the said pharmaceutical products from India.[75] In such a case, the Controller will grant a compulsory licence to an applicant on terms and conditions, which will be published by him, only for manufacture and export of the pharmaceutical products to the specified country.[76]

On granting the compulsory licence, the Controller will publish the following information:

1. The number of the patent that is the subject of the licence;
2. Details of the person to whom the licence is granted;
3. The quantity of the product allowed by the Controller for manufacture and export;
4. The countries to which export is permitted and the quantity to be supplied to each country; and,
5. The term of the licence.[77]

The Controller will determine the compensation to be paid to the patent holder and the manner in which the products must be packaged.[78] Furthermore, the Controller will also direct the licence holder to incorporate information relating to quantity and features of the product being exported to each country before shipping the products.[79]

7.2.8 Revision and Termination of a Compulsory Licence

The holder of a compulsory licence may make an application for revision of the terms and conditions of the compulsory licence after twelve months from the date of grant of the licence, if the working of the patented invention, under the existing terms and conditions, gives rise to loss.[80] The application must be filed in Form 20 and must supply the facts and evidence in support of the application and relief sought by the applicant.[81] After reviewing the application and hearing the applicant, if a hearing is requested, the Controller will allow or reject the application.[82] On being satisfied with the facts and evidence submitted by the applicant, the Controller will revise the terms and conditions of the compulsory licence.

The compulsory licence may be terminated if the circumstances based on which the licence was granted no longer exist and are not likely to recur.[83] It may be terminated by the Controller on an application, made by the patent holder or a person having an interest in the patent, in Form 21 along with evidence.[84] After the application is filed, the compulsory

licence holder will be served a copy of it.[85] On receiving the application, the holder of the compulsory licence may object to such an application within one month from the date of receiving the application and such objection will be provided to the applicant.[86] Thereafter, the Controller will hear the parties and decide on the application, based on the facts and evidence submitted by the parties.[87] If the Controller decides to terminate the compulsory licence, he will inform the parties about it along with the terms and conditions of such termination.[88] While making the decision to terminate, the Controller will ensure that the termination will not prejudice the interests of the compulsory licence holder.[89]

7.2.8.1 *Case Examples*

Compulsory licensing provisions have been used very sparingly in India. As the data relating to compulsory licences granted in India is not available, examples of licences granted in Malaysia, Thailand, and Ghana, have been provided hereunder for the reader's reference. The examples relate to compulsory licences granted during public health crisis in those countries.

Malaysia: Malaysia granted a compulsory licence on Antiretroviral (ARV) drugs for treatment of AIDS. The licence was granted on 29 September 2004, by the Malaysian Minister of Domestic Trade and Consumer Affairs.[90] The compulsory licence was granted for two years, after the price reduction offered by pharmaceutical companies holding patents over the drugs was not sufficient to meet the requirements of the treatment programme of the government. Under the compulsory licence, the government was allowed to import ARV drugs, including didanosine (ddI), zidovudine (AZT), and lamivudine + zidovidine (Combivir) from India.[91] The patent holders, GlaxoSmithKline and Bristol-Myers, were offered a royalty rate of four per cent of the cost of the generic version of the drug, but refused to take the royalty.

After the grant of compulsory licence, the cost of ARV drugs reduced by 81 per cent and the treatment programme of the government was expanded to 4,000 patients from 1,500 patients.[92] The compulsory licence granted by the Malaysian government proved to be effective for implementing the AIDS treatment programme and making drugs more accessible.

Thailand: Thailand also granted a compulsory licence for importation and local production of efavirenz used for ARV therapy.[93] The licence was granted by the Thailand Ministry of Health on 29 November 2006.[94] The initial royalty proposed under the licence to the patent holder was 0.5 per cent of the price of the generic product.[95] The royalty rate was kept open for negotiation.

After the grant of compulsory licence, Ranbaxy, an Indian pharmaceutical company, supplied 66,000 bottles of the generic version of efavirens to Thailand.[96] The issuance of licence by the government reduced the cost of ARV drugs by 50 per cent and provided access to the drug to 20,000 additional persons.[97] Furthermore, companies like Merck also reduced the cost of their ARV drugs.

7.2.9 Value of Compulsory Licences

The compulsory licences granted in Malaysia and Thailand reduced the price of drugs for treatment of AIDS and improved access to drugs. Indian companies like Ranbaxy played an important role in supplying generic versions of the drugs to both the countries. NATCO, an Indian pharmaceutical company, recently applied for a compulsory licence to supply to Nepal, two cancer drugs, sunitinib malate and erlotinib, whose patents are owned by Pfizer and F Hoffman-La Roche, and the application is pending at the patent office.[98]

Though, the compulsory licences had a positive impact for addressing public health problems in the short term, pharmaceutical companies holding patents argue that grant of such compulsory licences would negatively impact the development of new drugs in the future. They argue that grant of compulsory licences would act as a disincentive for investment in research and development of drugs by preventing them from recovering the investment expenses.

7.3 DRAFTING LICENCES AND ASSIGNMENTS

The objective of this section is to give a primer on the basic terminology and clauses in licence and assignment agreements. The section will give a general understanding of important clauses in the agreements. The introduction provided in this section may be used by the reader as a foundation for further reading on the topic.

A licence or assignment agreement must be in conformity with the contract laws and other laws in force in India. Drafting of an agreement depends on the terms and conditions agreed by the parties and general clauses cannot be used without considering such terms and conditions. The provisions in an agreement may vary, based on the field to which a patent belongs, and the drafter must endeavour to understand the

issues pertinent to the field of invention while drafting the agreement. For example, the provisions that are drafted in a software patent licence agreement will differ from the provisions that go into a biotech patent licence agreement because the issues relevant for licensing inventions belonging to each of the fields are different.

7.3.1 Drafting a Licence Agreement

A patent bestows upon its holder the right to exclude others from making, using, selling, or offering for sale, the patented invention in India or from importing the patented invention into India. A licence is an authorization given by the patent holder to a person to exercise one or more of the patent holder's exclusive rights in the patented invention. Based on its nature, a licence may generally be classified into three types:

1. Exclusive Licence;
2. Non-exclusive Licence; and,
3. Sole Licence.

7.3.1.1 *Exclusive Licence*

An exclusive licence is a licence which authorizes a person to exercise one or more rights of the patent holder exclusively in a defined territory. For example, if X grants a licence to Y to sell his patented light in the state of Karnataka, exclusively, it is an exclusive licence because only Y can sell the patented light in Karnataka.

Through an exclusive licence, the patent holder can give different rights to different persons, exclusively in the same territory, or same right to different persons, exclusively in different territories. For example, If X gives a licence to Y to manufacture the patented light in Karnataka and a licence to Z to sell the patented light in the state of Karnataka exclusively, both are exclusive licences because both Y and Z have an exclusive licence in the same territory to exercise different rights. Furthermore, if X gives a licence to sell his patented invention to Y in Karnataka exclusively and a licence to Z to sell the said light in Andhra Pradesh exclusively, both are exclusive licences because the same right is given by the patent holder to Y and Z exclusively in different territories.

An exclusive licence excludes a patent holder also from exercising the rights granted in the licence in the specified territory. For example, if X, a patent holder, grants an exclusive licence to sell his patented table in the territory of Gujarat to Y, X cannot sell such a table in the State of Gujarat.

7.3.1.2 *Non-exclusive Licence*

A non-exclusive licence is a licence, which gives the same right to more than one person in the same territory. For example, if X gives a licence to Y and Z to sell his patented laptop in Delhi, the licences are non-exclusive licences because the same right is given to more than one person in the same territory.

7.3.1.3 *Sole Licence*

A sole licence is a licence where the patent holder gives exclusive licence to the licence holder and also retains the right to exercise the rights given to the licence holder in the said territory. In an exclusive licence, even the patent holder cannot exercise the rights given to the exclusive licence holder. However, in a sole licence, both the licence holder and the patent holder can exercise patent rights in the said territory. For example, if X gives a sole licence to Y to sell his patented pen in Assam, both X and Y will have the right to sell the pen in Assam.

7.3.2 Important Clauses in a Licence Agreement

A person who gives a licence is called the licensor and a person to whom the licence is granted is called licensee. Some of the most important clauses in a licence agreement are:

1. Recitals;
2. Definitions;
3. Grant;
4. Royalty;
5. Term and Termination; and
6. Warranty, Indemnity, and Liability.

Each of the aforementioned clauses have been explained with the help of examples. It must be noted that the examples have been incorporated to provide an understanding of the clauses and may not be considered as comprehensive or model provisions.

7.3.2.1 *Recitals*

The recitals of the agreement may also be called as introduction or background section of the agreement. The recitals section introduces the parties to the agreement and explains the background of the agreement. It puts the licence agreement in context and may be referred for understanding the meaning and scope of various provisions in the agreement.

issues pertinent to the field of invention while drafting the agreement. For example, the provisions that are drafted in a software patent licence agreement will differ from the provisions that go into a biotech patent licence agreement because the issues relevant for licensing inventions belonging to each of the fields are different.

7.3.1 Drafting a Licence Agreement

A patent bestows upon its holder the right to exclude others from making, using, selling, or offering for sale, the patented invention in India or from importing the patented invention into India. A licence is an authorization given by the patent holder to a person to exercise one or more of the patent holder's exclusive rights in the patented invention. Based on its nature, a licence may generally be classified into three types:

1. Exclusive Licence;
2. Non-exclusive Licence; and,
3. Sole Licence.

7.3.1.1 *Exclusive Licence*

An exclusive licence is a licence which authorizes a person to exercise one or more rights of the patent holder exclusively in a defined territory. For example, if X grants a licence to Y to sell his patented light in the state of Karnataka, exclusively, it is an exclusive licence because only Y can sell the patented light in Karnataka.

Through an exclusive licence, the patent holder can give different rights to different persons, exclusively in the same territory, or same right to different persons, exclusively in different territories. For example, If X gives a licence to Y to manufacture the patented light in Karnataka and a licence to Z to sell the patented light in the state of Karnataka exclusively, both are exclusive licences because both Y and Z have an exclusive licence in the same territory to exercise different rights. Furthermore, if X gives a licence to sell his patented invention to Y in Karnataka exclusively and a licence to Z to sell the said light in Andhra Pradesh exclusively, both are exclusive licences because the same right is given by the patent holder to Y and Z exclusively in different territories.

An exclusive licence excludes a patent holder also from exercising the rights granted in the licence in the specified territory. For example, if X, a patent holder, grants an exclusive licence to sell his patented table in the territory of Gujarat to Y, X cannot sell such a table in the State of Gujarat.

7.3.1.2 *Non-exclusive Licence*

A non-exclusive licence is a licence, which gives the same right to more than one person in the same territory. For example, if X gives a licence to Y and Z to sell his patented laptop in Delhi, the licences are non-exclusive licences because the same right is given to more than one person in the same territory.

7.3.1.3 *Sole Licence*

A sole licence is a licence where the patent holder gives exclusive licence to the licence holder and also retains the right to exercise the rights given to the licence holder in the said territory. In an exclusive licence, even the patent holder cannot exercise the rights given to the exclusive licence holder. However, in a sole licence, both the licence holder and the patent holder can exercise patent rights in the said territory. For example, if X gives a sole licence to Y to sell his patented pen in Assam, both X and Y will have the right to sell the pen in Assam.

7.3.2 Important Clauses in a Licence Agreement

A person who gives a licence is called the licensor and a person to whom the licence is granted is called licensee. Some of the most important clauses in a licence agreement are:

1. Recitals;
2. Definitions;
3. Grant;
4. Royalty;
5. Term and Termination; and
6. Warranty, Indemnity, and Liability.

Each of the aforementioned clauses have been explained with the help of examples. It must be noted that the examples have been incorporated to provide an understanding of the clauses and may not be considered as comprehensive or model provisions.

7.3.2.1 *Recitals*

The recitals of the agreement may also be called as introduction or background section of the agreement. The recitals section introduces the parties to the agreement and explains the background of the agreement. It puts the licence agreement in context and may be referred for understanding the meaning and scope of various provisions in the agreement.

Example: This agreement is entered on the 1st day of September, 1999 (effective date) by and between XYZ, a company registered under the Companies Act, 1956, having its registered office at XXX, YYY, hereinafter called the Licensor and ABC, a company registered under the Companies Act, 1956, having its registered office at AAA, BBB, hereinafter called the Licensee.

Whereas, the licensor holds a patent over a novel helmet and the licensee approached the licensor for a licence over the patent. The licensee submitted a written proposal to the licensor on 4th day of July, 1998.

Whereas, the licensor and the licensee met on the 1st day of August, 1999 to discuss the licensee's proposal. After the discussion the Licensor has agreed to licence the patent to the licensee in accordance with the terms and conditions provided in this licence agreement.

The Recitals clause provided in the example not only gives the details of the parties but also gives a short background of the transactions between the licensor and the licensee before the date of the licence agreement. It lays down the platform for the terms and conditions of the agreement. The recitals clause may be used to interpret the meaning of clauses in the agreement unless expressly provided otherwise.

7.3.2.2 *Definitions*

The Definitions clause, which is also called as the Interpretation clause is a very important clause in the licence agreement. In the Definitions clause, the licence drafter defines important terms and phrases that are used consistently in the agreement. Wherever the defined terms and phrases are used in the agreement, they will have the meaning attributed to them in the Definitions clause. The objective of the clause is to avoid ambiguity and uncertainty with regard to the meaning of provisions in the agreement where the defined terms and phrases are used.

Example: (a) Licensed Patent shall mean the patent bearing the number, 25252, granted in India entitled, Helmet made of novel metal.

(b) Technical Process shall mean the process for manufacturing the helmet, which is the proprietary information of the licensor and is described hereunder ...

Whenever the phrases Licensed Patent or Technical Process are used in the agreement, they will mean as provided in the definitions.

7.3.2.3 *Grant*

The Grant clause is the most important clause of the licence agreement. It defines the scope and extent of the licence granted by the licensor to the licensee. The grant clause states the type of licence being granted, patent right or rights that are being authorized, the territory in which the licence is granted, and the term for which the licence is granted. Other issues, such as sub-licensing rights, grant back, and so on, that are relevant to the grant of licence may also be included in the grant clause.

Example: The licensor hereby grants to the licensee an exclusive licence to make and sell the Licensed Patent within the territory of India for a period of two years from the effective date.

The sample grant clause provides the following information:

1. Who is granting the licence to whom: licensor to licensee, which terms have been defined in the recitals;
2. Type of licence: Exclusive licence;
3. What is being licensed: Licensed Patent, which was defined in the definitions clause;
4. Territory of the licence: Indian territory; and
5. Term of the licence: Two years from the effective date.

7.3.2.4 *Royalty*

While the grant clause provides details of the licence granted by the licensor to the licensee, the royalty clause provides the consideration paid by the licensee to the licensor in return for the grant. The royalty paid by the licensee to the licensor may either be lump sum, fixed, or running. Royalty is said to be lump sum if it is paid at one instance, generally, on a specified date. For example, if a licensee agrees to pay the licensor a sum of Rs ten lakhs, which is to be paid on the effective date of the licence, it is said to be a lump sum royalty.

Royalty is said to be fixed, if the licensee agrees to pay the licensor a fixed amount of money at fixed intervals. For example, if the licensee agrees to pay the licensor a sum of Rs one lakh on the first day of every year for the term of the licence, then it is fixed royalty because the amount is fixed, and time of payment is also fixed.

Running royalty is the royalty that is calculated and paid by the licensee based on certain activities of the licensee. As the royalty is

dependant on the licensee's activities, the amount generally varies for each payment by the licensee. For example, if the licensee agrees to pay 2 per cent of the sale price of every patented article sold on the first day of every quarter, it will be a running royalty because the money to be paid depends on the number of patented articles sold.

Most royalty clauses are a combination of two or more types of royalties. Apart from stating the royalty to be paid by the licensee, the royalty clause may also provide the time of payment, mode of payment, consequences of late payment, applicable taxes, and so on. The clause may also state the conditions for maintenance of royalty accounts.

Example: In consideration of the licence granted by the licensor, the licensee hereby agrees to pay the licensor a lump sum royalty of Rs one crore on the effective date. The licensee shall also pay the licensor two per cent of the sale price of every licensed product sold. Such royalty shall be paid on the first day of every calendar month starting from the month that follows the effective date.

The royalty clause in the example is a hybrid clause having lump sum and running royalty. It specifies the date on which the royalty must be paid by the licensee, which is the effective date of the agreement for the lump sum royalty, and the first day of the calendar month for the running royalty.

7.3.2.5 *Term and Termination*

The term and termination clause is also an important clause in a licence agreement. It defines the term of the agreement and generally provides the start and end date of the agreement. The clause also provides the circumstances under which an agreement may be terminated before the expiry date and consequences of termination.

Example: The term of the licence agreement shall be ten years from the effective date unless terminated earlier as provided herein. The agreement may be terminated earlier on mutual consent of the licensor and licensee in writing. The agreement may also be terminated on default of the licensor or licensee to fulfil obligations under the agreement. On termination of the agreement, the licensee shall pay the royalty due to the licensor until the date of termination.

The example provides the terms of the agreement and circumstances for earlier termination of the agreement. It also provides a post-termination obligation to the fulfilled by the licensee.

7.3.2.6 *Warranty, Indemnity, and Liability*

Warranty, Indemnity, and Liability clauses, are also important clauses and are generally the subject of every licence negotiation. In the warranty clause, the licensor and/or the licensee, warrants certain elements that form part of the licence agreement. The licensor generally warrants aspects such as ownership of the patent, right to grant the licence, and so on.

The licensor or the licensee agrees to make good or indemnify the loss to the other party due to its act, omission, breach of covenants and so on through an indemnity clause. The Indemnity clause generally focuses on infringement of third party intellectual property, breach of obligations under the agreement and so on. The liability clause generally defines the scope and extent of liability of either party under certain circumstances such as infringement, breach of covenants, and so on.

Example: With respect to warranty—The licensor hereby warrants that the licensor is the owner of the patent being licensed under the agreement and that the licensor has the right and ability to grant a licence over the patent.

With respect to indemnity—The licensor hereby agrees to hold harmless and indemnify the licensee, from and against all loss, damages, and costs, incurred by the licensee from any infringement action relating to the Licensed Patent brought by a third party against the licensee.

With respect to liability—The liability of the licensor, under the agreement, shall not exceed the royalty paid by the licensee. If the Licensed Patent is held to infringe a third party's patent by a competent court, the licensor shall acquire a licence from the third party in order to enable the licensee to continue the activities authorized under the licence agreement.

A licence may be granted over an invention, patent application, or a granted patent. All terms and conditions agreed by the parties must be clearly incorporated in the licence agreement. Knowledge of the business of the client will help the drafter in drafting a valid and enforceable licence agreement that captures the business transaction clearly. A sample licence agreement has been provided in the Appendix VB for the reader's reference.

7.3.3 Drafting a Patent Assignment

7.3.3.1 *Important Clauses*

An assignment of a patent transfers ownership in the patent from the patent holder to another person. The assignment may either be a complete or partial transfer of ownership. An invention, patent application, or a granted patent, may be the subject matter of an assignment. The patent holder, who transfers the patent, is called as Assignor and the person to whom the ownership in the patent is transferred is called the Assignee. Every assignment agreement must have the following clauses:

1. Recitals;
2. Definitions;
3. Assignment;
4. Consideration; and
5. Term and Termination.

Recitals

The recitals of the agreement introduces the parties to the agreement and provides the background to the transaction. The context to the agreement is provided by the recitals and may be used to interpret clauses in the agreement.

Example: This assignment agreement is entered on this 11th day of December 2008 (effective date), by and between XYZ, a company registered under the Companies Act, 1956, having its registered office at XXX, YYY, hereinafter called the assignor and ABC, a company registered under the Companies Act, 1956, having its registered office at AAA, BBB, hereinafter called assignee.

Whereas the assignee has approached the assignor for an assignment of his patent relating to a novel projector and the assignor has agreed to assign his patent for a consideration.

Definitions

As mentioned in the section on licence drafting, terms and phrases that are used consistently and continuously in the assignment agreement may be defined in the definitions clause. Defining important terms and phrases will help in bringing about certainty to the agreement.

Example: The term Patent shall mean a patent granted in India entitled improved projector bearing patent number xxx.

Whenever the term 'Patent' defined in the example is used in the agreement it will have the meaning attributed to it in the aforementioned definition.

Assignment

The assignment clause is the most important clause in an assignment agreement. It transfers the ownership of the patent from the assignor to the assignee. Generally, the clause also provides the conditions of the assignment and necessary steps to be taken in order to vest the rights in the assignee.

Example: The assignor hereby assigns all rights, title, and interest in the Patent to the assignee. The assignor shall take all steps and execute all documents necessary to register the assignee's name as the proprietor of the Patent and to vest all rights in the Patent to the assignee.

Consideration

The consideration clause specifies the consideration given by the assignee to the assignor in return for the assignment of the patent. It generally contains the mode and manner of payment of consideration, consequences of late payment, applicable taxes, and so on.

Example: The assignee hereby agrees to pay the assignor a consideration of Rs 10 lakhs as consideration for assignment of the Patent. Such consideration shall be paid by the assignee to the assignor on the date of entry of the assignment in the patent registry.

Term and Termination

The term and termination clause specifies the term of assignment, if the assignment is for a limited period of time. If the term is not specified, it is generally considered to be an assignment in perpetuity. The clause also provides the circumstances under which the assignment will terminate and the consequences of such termination. Generally, the clause will also list the post-termination obligations.

Example: The term of the assignment shall be for a period of ten years from the effective date. The assignment of the Patent shall stand terminated if the assignee fails to commercialize the Patent within a period of two years from the effective date.

Other clauses such as warranty, indemnity, liability, applicable law, and so on may be incorporated in the assignment agreement. An assignment must be drafted to give effect to the terms and conditions agreed by the parties. The drafter must ensure that the assignment is in consonance with the contract laws and other laws in force in India. A sample assignment agreement has been provided in the Appendices for the reader's reference.

NOTES

1. Section 70, The Patents Act, 1970.
2. Ibid.
3. Section 68, The Patents Act, 1970. Section 68 reads as follows: 'An assignment of a patent or of a share in a patent, a mortgage, licence or the creation of any other interest in a patent shall not be valid unless the same were in writing and the agreement between the parties concerned is reduced to the form of a document embodying all the terms and conditions governing their rights and obligations and duly executed.'
4. Ibid.
5. Section 69(1), The Patents Act, 1970.
6. Ibid.
7. Section 69 (1) and (2), The Patents Act, 1970 as amended in 1999, 2002, and 2005 and Rule 90(1), The Patent Rules, 2003 as last amended in 2006.
8. Rule 91, The Patent Rules, 2003 as last amended in 2006.
9. Section 69(3), The Patents Act, 1970.
10. Ibid.
11. Section 69(4), The Patents Act, 1970.
12. Ibid.
13. Ibid.
14. Section 69(5), The Patents Act, 1970.
15. Ibid., at Para 2.
16. Ibid.
17. Ibid.
18. Ibid.
19. Ibid., at Para 3.
20. Ibid., at Para 10.
21. Ibid.
22. Ibid., at Para 11.
23. Ibid.
24. Section 83, The Patents Act, 1970.
25. Ibid
26. Ibid.
27. Section 84(1), The Patent Act, 1970. Section 84(1) reads as follows: 'At any time after the expiration of three years from the date of the grant of a patent,

any person interested may make an application to the Controller for grant of compulsory licence on patent on any of the following grounds, namely:

(a) that the reasonable requirements of the public with respect to the patented invention have not been satisfied, or

(b) that the patented invention is not available to the public at a reasonably affordable price, or

(c) that the patented invention is not worked in the territory of India.'

28. Section 84(7)(a)(i), The Patents Act, 1970.
29. Section 84(7)(a)(ii), The Patents Act, 1970.
30. Section 84(7)(a)(iii), The Patents Act, 1970.
31. Section 84(7)(a)(iv), The Patents Act, 1970.
32. Section 84(7)(b), The Patents Act, 1970.
33. Section 88(1), The Patents Act, 1970.
34. Section 84(7)(c), The Patents Act, 1970.
35. Ibid.
36. Section 84(7)(c), The Patents Act, 1970.
37. Section 84(7)(d), The Patents Act, 1970.
38. Section 84(7)(e), The Patents Act, 1970.
39. Section 84(1), The Patents Act, 1970.
40. Section 84(2), The Patents Act, 1970.
41. Section 84(3), The Patents Act, 1970 as amended in 1999, 2002, and 2005, and Rule 96, The Patents Rules, 2003, as last amended in 2006.
42. Rule 96, The Patents Rules, 2003, as last amended in 2006.
43. Section 84(4), The Patents Act, 1970, as amended in 1999, 2002, and 2005, and Section 87(1), The Patents Act, 1970.
44. Section 87(1), The Patents Act, 1970.
45. Section 87(2), The Patents Act, 1970, as amended in 1999, 2002, and 2005, and Rule 98(1), The Patent Rules, 2003, as last amended in 2006.
46. Section 87(3), The Patents Act, 1970, as amended in 1999, 2002, and 2005, and Rule 98(2), The Patent Rules, 2003, as last amended in 2006.
47. Section 87(4), The Patents Act, 1970, as amended in 1999, 2002, and 2005, and Rule 98(3), The Patent Rules, 2003, as last amended in 2006.
48. Section 87(4), The Patents Act, 1970 as amended in 1999, 2002, and 2005, and Rule 98(5), The Patent Rules, 2003, as last amended in 2006.
49. Rule 98(6), The Patent Rules, 2003, as last amended in 2006.
50. Rule 97(1), The Patents Rules, 2003 as last amended in 2006.
51. Ibid.
52. Rule 97(2), The Patents Rules, 2003, as last amended in 2006.
53. Section 84(5), The Patents Act, 1970.
54. Ibid.
55. Section 84(4), The Patents Act, 1970.
56. Section 89, The Patents Act, 1970.
57. Section 90(1), The Patents Act, 1970.
58. Section 90(2) and (3), The Patents Act, 1970.

59. Section 93, The Patents Act, 1970.
60. Section 84(7)(c), The Patents Act, 1970.
61. Ibid.
62. Section 88(3), The Patents Act, 1970. Section 88(3) reads as follows: 'Where two or more patents are held by the same patentee and an applicant for a compulsory licence establishes that the reasonable requirements of the public have not been satisfied with respect to some only of the said patents, then, if the Controller is satisfied that the applicant cannot efficiently or satisfactorily work the licence granted to him under those patents without infringing the other patents held by the patentee and if those patents involve important technical advancement of considerable economic significance in relation to the other patents, he may, by order, direct the grant of a licence in respect of the other patents also to enable the licensee to work the patent or patents in regard to which a licence is granted under section 84.'
63. Section 91(1), The Patents Act, 1970.
64. Section 91(2), The Patents Act, 1970.
65. Section 91(3), The Patents Act, 1970.
66. Ibid.
67. Section 91(4), The Patents Act, 1970.
68. Section 92(1), The Patents Act, 1970. Section 92(1) reads as follows: 'If the Central Government is satisfied, in respect of any patent in force in circumstances of national emergency or in circumstances of extreme urgency or in case of public non-commercial use, that it is necessary that compulsory licences should be granted at any time after the sealing thereof to work the invention, it may make a declaration to that effect by notification in the Official Gazette, and thereupon the following provisions shall have effect, that is to say, -

(i) the Controller shall, on application made at any time after the notification by any person interested, grant to the applicant a licence under the patent on such terms and conditions as he thinks fit;

(ii) in settling the terms and conditions of a licence granted under this section, the Controller shall endeavour to secure that the articles manufactured under the patent shall be available to the public at the lowest prices consistent with the patentees deriving a reasonable advantage from their patent rights.'
69. Ibid.
70. Ibid.
71. Section 92(3), The Patents Act, 1970.
72. Section 92 A (1), The Patents Act, 1970. Section 92 A (1) reads as follows: 'Compulsory licence shall be available for manufacture and export of patented pharmaceutical products to any country having insufficient or no manufacturing capacity in the pharmaceutical sector for the concerned product to address public health problems, provided compulsory licence has been granted by such country or such country has, by notification or otherwise, allowed importation of the patented pharmaceutical products from India.'

73. Explanation to Section 92A(3), The Patents Act, 1970.
74. Para 6 of the Doha Declaration on the TRIPS Agreement and Public Health. WTO Doc. WT/MIN(01)/DEC/2, 20 November 2001.
75. Ibid.
76. Section 92(A2), The Patents Act, 1970.
77. Draft Manual of Patent Practice and Procedure, 2008, at Para 18.4.
78. Ibid.
79. Ibid.
80. Section 88(4), The Patents Act, 1970.
81. Rule 100(1), The Patent Rules, 2003, as last amended in 2006.
82. Rule 100(2) and (3), The Patent Rules, 2003 as last amended in 2006.
83. Section 94(1), The Patents Act, 1970 as amended in 1999, 2002, and 2005, and Rule 102(1) and (3), The Patent Rules, 2003, as last amended in 2006.
84. Ibid.
85. Rule 102(2) and (3), The Patent Rules, 2003, as last amended in 2006.
86. Ibid and Rule 102(3) and (3), The Patent Rules, 2003 as last amended in 2006.
87. Rule 102(5), The Patent Rules, 2003 as last amended in 2006.
88. Rule 102(7), The Patent Rules, 2003 as last amended in 2006.
89. Section 94(2), The Patents Act, 1970.
90. James Packard Love, Recent examples of the use of compulsory licences on patents, *Knowledge Ecology International*, 8 March 2007, revised 31 March 2007, at http://www.keionline.org/misc-docs/recent_cls_8mar07.pdf (last accessed on 9 April 2010).
91. Ibid.
92. Sara Germano, Compulsory Licensing of Pharmaceuticals in Southeast Asia: Paving the Way for Greater Use of the TRIPS Flexibility in Low-and Middle-Income Countries, 76 Umkclr 273 (Fall 2007) at Page 288.
93. James Packard Love, Recent examples of the use of compulsory licenses on patents, *Knowledge Ecology International*, 8 March 2007, revised 31 March 2007, at http://www.keionline.org/misc-docs/recent_cls_8mar07.pdf (last accessed on 9 April 2010).
94. Ibid.
95. Ibid.
96. Sara Germano, 'Compulsory Licensing of Pharmaceuticals in Southeast Asia: Paving the Way for Greater Use of the TRIPS Flexibility in Low-and Middle-Income Countries', 76 Umkclr 273 (Fall 2007), p. 288.
97. Ibid.
98. Available at http://www.livemint.com/Articles/keywords.aspx?kw=Natco% 20Pharma (last accessed on 9 April 2009).

8

Infringement and Defences

8.1 PATENT RIGHTS

The grant of a patent gives exclusive rights to the patent holder over his invention.[1] The patent holder can prevent or exclude any third party from exercising any of the exclusive rights over the invention without his consent or permission. A product patent grants the following exclusive rights:

1. Right to make;
2. Right to use;
3. Right to sell or offer the product for sale; and
4. Right to import the product into India.[2]

For example, if X gets a patent over a Time Machine, he will get the right to exclude third parties from manufacturing, using, selling, or offering, the time machine for sale. X can also prevent any third party from importing the time machine into India for purposes of using, selling, or offering it for sale.

The holder of a process patent will get the exclusive right to prevent third parties from using the method or process in India.[3] Furthermore, the patent holder will also have the exclusive right to prohibit third parties from making, using, selling, offering for sale, or importing a product that is obtained from the process in India.[4]

For example, if X patents a process of making a time machine, X will get the right to prevent any person from using the process in India. X will also get the right to prevent any person from making a time machine using the process and using, selling, offering for sale in India, or importing into India, a time machine that is made using the process.

The joint holders of a patent will get equal and undivided share in the patent.[5] Each patent holder owns complete rights over the patent and can exercise all the rights granted by the patent, independently. However, a patent holder cannot assign or licence the patent without the consent of the other patent holder.[6] For example, if X and Y are joint holders of a patent relating to an automobile, both X an Y will own the patent completely without any division. Either X or Y can manufacture, use, sell, or offer the automobile for sale or import such an automobile into India, independently without informing the other holder. However, if X wishes to assign or licence the patent to a third party, then the consent of Y must be taken.

8.2 TERM OF A PATENT

The term of every patent granted on or after 20 May 2003, is twenty years from the date of filing of the patent.[7] The term of every patent, which has not expired and has not ceased to have effect on 20 May 2003, also is twenty years from the date of filing of the application for the patent.[8] For example, if X files for a patent on 1 January 1999, and the patent is granted on 1 February 2009, the term of the patent will be twenty years from 1 January 1999. If the application is an international application filed under PCT, the term of the patent will be twenty years from the filing date of the international application.[9]

The rights of a patent holder over the patented invention will be valid only during the term of the patent. On expiry of the patent term, the patent will enter the public domain and will be available to the general public without limitations under the patent law. Any person, in such a case, can exercise rights over the invention without liability.

8.3 TERRITORY OF VALIDITY

Rights granted to a patent holder are territorial. A patent granted in India will be valid only in India and will not be valid in any other territory. In the same way, a patent granted in another country will be valid only in that country and no rights will exist with regard to such a patent in India. So, a person exercising rights in India over an invention that is patented in USA and not in India will not be liable for patent infringement. If a person wishes to have patent rights in different countries, he must acquire patent grants in all such countries.

8.4 INFRINGEMENT OF A PATENT

A person will be liable for patent infringement, if he exercises any of the exclusive rights over a patented invention without the patent holder's permission within the territory of India. A product or process is said to infringe a patent granted in India if the following conditions are satisfied:

1. The product or process in question falls within the scope of at least one claim in the patent; and,
2. The person exercises the exclusive rights of the patent holder over the product or process in India, without permission from the patent holder.

8.4.1 Types of Infringement

Infringement of a patent may be either literal infringement or infringement by equivalence.

8.4.1.1 *Literal Infringement*

A product is said to be literally infringing if all elements of a patent claim are present in the product, and a process is said to be literally infringing if all steps in a claim are present in the process.

8.4.1.2 *Infringement by Equivalence*

Though a product or process is not literally infringing, it may be liable for infringement by equivalence. A product is said to be liable for infringement by equivalence, if elements in the product that differ from the patent claim are in substance equivalent to the elements in the patent claim. A process is said to be infringing by equivalence if the steps differing from those in the patent claim are in substance equivalent to those in the process claim in the patent. In other words, a product or process that includes the substance of the patented invention or the pith and marrow of the invention, would be infringing.[10] A product will be considered to be equivalent of a patented invention, if it is similar in construction and function to the patented invention (*Ravi Kamal Bali* v. *Kala Tech and Ors*). Furthermore, if a product does the same work in the same way to produce the same result as the patented invention, it would be considered to be equivalent of the patented invention.[11]

8.4.2 Determination of Infringement

Determination of infringement is a mixed question of law and fact (*Farbewerke Hoechst Aktiengesellschaft Vormals Meister Lucius & Bruning a Corporation etc.* v. *Unichem Laboratories and Ors*). To determine whether the product or process falls within the scope of a patent claim, the product or process has to be compared with the elements or steps in each of the patent claims (*Mariappan* v. *A.R. Safiullah*). If all elements or steps of a patent claim are present in the product or process, then the product or process is said to be infringing, else it will not be infringing. Determination of infringement is generally done by following the steps laid down hereunder:

8.4.2.1 *Step 1—Claim Construction*

Claim construction is the first step in infringement determination. It involves understanding of the meaning and scope of an invention in a patent, based on the specification and claims (*Raj Prakash* v. *Mangat Ram Chowdhry and Ors*). A claim may be understood by identifying the elements or steps in the claim and then ascertaining the meaning and scope of each element or step. Patent specification, prosecution history, prior art in the field, scientific dictionaries, and other relevant sources, in the specified order of priority may be used for understanding the meaning and scope of each element or step in a patent claim. Prosecution History or File Wrapper History is the interaction between the patent office and the patent applicant during the examination process. It is to be noted that the meaning and scope of claims is generally construed independently, and written description or other sources would be referred only if there is a difficulty or ambiguity in construing the claims (*Farbewerke Hoechst Aktiengesellschaft Vormals Meister Lucius & Bruning a Corporation etc.* v. *Unichem Laboratories and Ors*).

The pith and marrow of the invention must be construed for purposes of ascertaining the scope of the claimed invention (*Raj Prakash* v. *Mangat Ram Chowdhry and Ors*). While constructing the meaning and scope of an invention, ordinary meaning in the field of the invention should be given to words used in the specification and claims (*Raj Prakash* v. *Mangat Ram Chowdhry and Ors*). The words in specification and claims must be interpreted from the point of view of a person skilled in the art.[12] The title of the patent may not be used for interpreting the scope of the invention.[13]

8.4.2.2 *Step 2—Claim Comparison*

After constructing all claims in a patent, the product or process in question must be compared with the patent claims. The comparison must be done claim by claim and element by element, or step by step. If all elements of

at least one claim in a patent are present in the product, literally, then the product is said to be literally infringing. In the same way, if all steps in the patented process are present in the process in question, literally, the said process is said to be literally infringing.

8.4.2.3 *Step 3—Equivalence analysis*

Analysis of equivalence will be required only if the product or process is not literally infringing. If literally differing claim elements in a product or process are present in the product or process by equivalence, then the product is said to be infringing by equivalence. There are no clear guidelines for equivalence analysis under the Indian patent law. Courts have held that a product or process would be infringing by equivalence if it is in substance equivalent to the patented invention. As per the courts, unessential variations in a product would not be considered for determining infringement.

Example: X acquires a patent in India over a table, which is claimed as follows:

I claim a Movable Table comprising: a flat rectangular piece of wood; and four solid rods of equal length to support said flat rectangular piece of wood, wherein, one end of each of said four solid rods is connected to a corner of said rectangular piece of wood, and, wherein, each solid rod is supported by a caster at the other end.

Y makes a table having a circular surface with long circular legs made of wood and connected to wheel assembly and starts selling the table in India. X files an infringement suit against Y.

Infringement Analysis

Step 1: Claim Construction

The elements of X's table are as follows:

1. Flat rectangular piece of wood;
2. Four steel rods of equal length; and,
3. Casters.

Step 2: Claim Comparison

On comparing the elements of X's claim with Y's table, it can be noted that all elements of X's claim are not present in Y's table. While X's claim has a rectangular surface, Y's table has a circular surface. The legs in X's claim are made of steel but the legs in Y's table are made of wood. However, both X's claim and Y's table have casters. As all elements of the patent claim are not present in Y's table, the product would not be literally infringing.

Step 3: Equivalence Analysis

Though, two of the elements in the patent claim of X are not literally present in the product, Y's table may be liable for infringement if the differing elements are in substance equivalent to X's patent claim. An element is said to be equivalent, if it does the same work in the same way to produce the same result. Though Y's table has a circular surface as opposed to X's rectangular surface, the function of both surfaces is the same and such function is carried out in the same way to produce similar result. Furthermore, though X's claim has steel rods as legs and Y's claim has circular wooden legs, the function once again is in substance the same, the manner in which the function is carried out is the same, and the result is also similar. Thus, Y's table can be said to be equivalent to X's patented table.

Furthermore, Y in this instance took the pith and marrow of X's invention by incorporating the flat surface and legs of X's invention and made only unessential or insubstantial variations. Y just changed the shape of the flat surface from rectangular to circular and used a well-known alternative to steel, which is wood, to make legs for his table. As Y made only insubstantial changes to his table, the table can be said to be in substance equivalent to the patented table of X.

Therefore, as Y's product is in substance the same as X's claim in construction and function, its elements are equivalent to those in X's claim and as Y took the pith and marrow of X's invention, Y's table can be said to be infringing by equivalence. Having said that, equivalence analysis is subjective and if it can be proved that Y's table is in substance different from X's patent claim, it would not be infringing.

8.4.3 Infringement by a Patent Holder

A person may be liable for patent infringement even if he holds a patent over his product or process, which infringes a patent of another person. Such a situation will arise when both patents in question claim related inventions but not the same invention. If both the patents claim the same invention, the patent having later priority date will be revoked.

In a case involving a patent relating to a gravity fed water purification system, the patent holder, Respondent, filed a suit against the Appellant alleging that the Appellant's water purification system sold under the mark Forbes Aquasure, infringes its patent (*Hindustan Lever Limited*

v. *Mr Lalit Wadhwa and Anr.*). The Appellant argued in the case that it holds a patent on its product and that an infringement suit cannot lie against another patentee.[14] The court held in the case that Section 48, which gives the right to a patentee to prevent other persons from making, using, offering for sale, selling, and importing the patented product in India, without consent can be enforced against any person.[15] As per the court, existence of a patent over a product cannot prohibit the holder of a prior patent from taking infringement action against activities relating to the product.[16]

In other words, holding a patent does not absolve a person of liability for patent infringement of another patent having an earlier priority date. For example, if X holds a patent over a watch and, later, if Y acquires a patent over a special watch with digital display. Y may be liable for infringing X's patent if his watch falls within the scope of X's patent claims. The fact that Y owns a patent on his watch does not release him from infringement liability of X's patent.

8.4.4 Infringement by Improved Product or Process

A person would be liable for patent infringement if he manufactures, sells, or offers for sale, an improvement of a patented product or process. In other words, improvement of a patented product or process will not fall outside the scope of patent infringement if it falls within the scope of patent claims. For example, if X has a patent over a cell phone and if Y makes an improved cell phone with audio facilities for the blind and sells the same, Y may be liable for patent infringement if Y's cell phone falls within the scope of patent claims of X.

8.4.5 Independent and Dependent Claims

A product or process liable for infringing an independent claim may not be liable for infringing all claims dependent on that independent claim. However, if a product or process does not infringe an independent claim, such a product or process would not infringe all claims depending on such a claim. For example, if Claim 1 is an independent claim, and Claims 2 to 10 depend on Claim1, a product that infringes Claim 1 may not infringe Claims 2 to 10. On the other hand, if a product does not infringe Claim 1, it would not infringe Claims 2 to 10 also.

8.5 JURISDICTION

The district court will have jurisdiction over a suit relating to patent infringement.[17] If a defendant in an infringement suit counter-claims for revocation of a patent, the case will then be transferred to the high court.[18] The decision of a district court is appealable to the high court. An appeal from a decision of the high court may be filed before the Supreme Court.

8.6 PERSONS ENTITLED TO SUE

An infringement suit may generally be filed by the holder of a patent or his assignee. The holder of an exclusive licence may also file an infringement suit for acts committed by any person after the date of patent licence.[19] Such a licensee will be eligible for costs, damages, and lost profits. If the patent holder does not cooperate or join with the exclusive licensee as a plaintiff in such an infringement suit, he will be added as a defendant in the suit.[20] However, a patent holder added as a defendant will not be liable for costs unless the patent holder takes part in the proceedings.[21]

The holder of a compulsory licence also has the right to file an infringement suit under the following conditions:

1. The compulsory licensee has called upon the patent holder to prevent infringement of the patent and
2. The patent holder has not taken any action to prevent infringement for a period of two (2) months of being informed by the licensee.[22]

Example: X acquires a compulsory licence over Ys' patented drug for treatment of malaria. After an year, X discovers that Z is manufacturing the drug without a licence and requests Y to stop the infringement by Z. Y does not take any action against Z for two months. X can now file an infringement suit against Z.

8.7 BURDEN OF PROOF

The burden of proving infringement of a patent by a person is on the patent holder (*Farbewerke Hoechst Aktiengesellschaft Vormals Meister Lucius & Bruning a Corporation etc.* v. *Unichem Laboratories and Ors*). However, in case of infringement of a process patent to obtain a product, burden of proof is on an alleged infringer to prove that the product was not made by the patent holder's process.[23] It should be noted that the burden will shift to the alleged infringer only if the patent holder proves that the product being used, made, sold, offered for sale, or imported, by the alleged infringer is identical to that made by the patented process and if:

1. The patent is over a process to obtain a new product; or,
2. It is most likely that the product of the alleged infringer is made using the patent holder's process; and,

3. The patent holder is unable to determine the process used by the alleged infringer to make the product through reasonable efforts.[24]

While determining whether the alleged infringer discharged his burden, the court will not require him to disclose trade secrets if disclosure of such information would be unreasonable to the alleged infringer in the context.[25]

Example: X acquires a patent over a process for making a novel molecule A. Y, a pharma company, sells compositions containing the molecule A. X files an infringement suit against Y and proves that Y's composition has molecule A. In such a case, the burden is on Y to prove that the molecule A being used in his composition is made by a process which does not infringe on X's patented process.

8.7.1 Study of Relevant Cases

Lallubhai Chakubhai Jariwala v. *Chimanlal Chunilal and Co.*

In a case involving a patent relating to a process of treating dry fruits, the patent holder filed a suit against an alleged infringer stating that his process of treating dry fruits amounts to patent infringement.[26] The court in the case compared the patented process and the alleged infringer's process and held that there was no infringement because a substantial step in the patented process was not present in the alleged infringer's process.[27] It stated that though the steps of:

1. Using a hot solution of washing soda instead of sulphuric acid in the patent, which had similar effect of cleaning or removing the dirt from the goods;
2. Using 4 and 2 per cent of bleaching solution instead of 3 per cent used by the patent holder; and,
3. Using muriatic acid instead of acetic acid, as used by the patent holder.

were equivalent, the alleged infringer's process would not amount to infringement because the alleged infringer's process used sulphur dioxide fumes without pressure, which was an essential step in the patent holder's process.[28] As the alleged infringer's process had a step that was different from that of the patent holder's process, the court held that the alleged infringer was not liable for infringement.[29]

Laxmi Dutt Roop Chand v. *Nankau and Ors*

In this case, the Appellant, Laxmi Dutt Roop Chand, was the patent holder of a patent relating to the process of manufacture of hollow-ware,

such as *lotas*, *batwas*, *degchis*, *batlois*, and so on.[30] The Appellant filed a patent infringement suit against the Respondents, Nankau and others, claiming that their process of manufacturing hollow-ware violates the patents held by the Appellant and prayed for a permanent injunction restraining the Respondents from manufacturing the hollow-ware using the process.[31] In response to the infringement suit of the Appellants, the Respondents claimed non-infringement and counter-claimed for revocation of the patent.[32]

The court compared the claims of the patent with the process being used by the Respondents and held that the Respondents were not liable for patent infringement because their process does not fall within the scope of patent claims. The court differentiated the process of the Respondents from that claimed in the Appellant's patent in the following manner:

1. The *darja* of the Appellant, used in the process, was almost square and had two lateral sides and the side of the ramming hole was almost equal; but the side of the pouring basin was not flat. On the other hand, the darjas which were seized from the Respondents' place had a straight base in which the two lateral sides did not exist, but only a semicircular frame with pouring basin existed;[33]
2. The system of clamping the two parts in the Respondents' darja was absolutely different from that of the Appellant's darja. While the Appellant's darja had guide pins and sockets, such pins and sockets were absent in the Respondents' darja. The Respondent's clamps were also of a different type from that of the Appellant;[34]
3. While the right and left sides of the two halves of the mould box had iron boards in the Appellant's darja, the Respondents were using wooden planks which were fixed to the iron darja by nuts and bolts;[35]
4. The Appellant had a core attached to the core supporting plate; but the core (which had been described in the Appellant's evidence as a *neel* (*mathani*) was totally missing in the Respondents darja;[36]
5. Though the initial process demonstrated by the Respondents in court for filling sand in the darja was almost identical with the process of the Appellant, yet there being no core or mathani in the Respondents' darja, and the subsequent process given in the description for fixing the core with the supporting plate inside the mould was totally missing from the Respondents' mould box;[37]
6. According to the patented process, the making of the central core with the aid of core supporting plate was an essential ingredient in the Appellant's process; but there was nothing like it in the process

demonstrated by the Respondents with the aid of the mould box;[38] and,

7. In the process adopted by the Respondents for manufacture of hollow-ware a solid sand model of the inner side of the hollow was formed in the Respondents' process while in the Appellant's patented process there was a core embedded inside.[39]

Based on the comparison and evidence submitted, the court held that the process of the Respondents had different steps from that of the Appellant and, therefore, was not infringing.[40]

Farbewerke Hoechst Aktiengesellschaft Vormals Meister Lucius & Bruning a Corporation etc. v. *Unichem Laboratories and Ors*

The case related to a patent in respect of the manufacture of new sulphonyl-ureas, salts of those compounds, and of anti-diabetic preparation containing such compounds.[41] One of the chemical compounds comprised in the said patent was Tolbutamide, and since 1957 the patent holder had been marketing the same as an anti-diabetic drug in India and all over the world under the trademark Rastinon.[42] The patent holder filed an infringement suit against the Respondents claiming that the manufacture, preparation, and sale of Uni-Tolbid tablets or Tolbutamide by the Respondents infringes its patent.[43] In response to the suit, the Respondents claimed that their activities were based on a patent held by one of the Respondents for the preparation of substituted benzonesulphonyl ureas from the corresponding substituted benzonesulphonyl thioureas by desulphurization with hydrogen peroxide and, therefore, they were not liable for infringement.[44]

The court construed the claims before deciding on infringement. Claim 1 of the patent read as follows: 'A process for the manufacture of sulphonylureas of the general formula $R\text{-}SO_2\text{-}NH\text{-}CO\text{-}NH\text{-}R_1$ in which R represents a phenyl radical which may contain one or two substitutes selected from alkyl and alkoxy residues, the alkyl group of which containing at most 8 Carbon atoms, and halogen atoms, or represents an aliphatic or cycloaliphatic Hydro-Carbon radical containing 3 to 8 Carbon atoms and R_1 represents an aliphatic or cycloaliphatic Hydra-Carbon radical containing 2 to 8 Carbon atoms, and of the salts thereof, where in compounds of the formula $R\text{-}SO_2\text{-}X$ and $Y\text{-}R_1$ are reacted together in which X and Y are groups which ion reaction together form a urea linkage as defined above or a linkage readily convertible thereto.'[45] Furthermore, Claim 11 of the patent read as follows: 'A process as claimed in claim 1 wherein thioureas of the formula $R\text{-}SO_2\text{-}NH\text{-}CS\text{-}NH\text{-}R_1$ are

treated with agents eliminating the sulphur, R and R_1 having the meanings given above.'[46]

The court stated that Claim No.1 was the main claim of the patent, which covers compounds obtained by the chemical reaction specified in it, either directly to form a urea linkage, or indirectly to form a linkage readily convertible into a urea linkage.[47] As per the court, Claim No.11 falls within the scope of claim No.1, in so far as it deals with the processes by which thioureas were converted to the corresponding urea linkage by being treated with agents eliminating sulphur and the radicals R and R.1 had for the purpose of claim No.11, the same limitations in regard to the number of carbon atoms as they were required to have for the purposes of Claim No.1.[48]

As the Respondents were preparing the compound tolbutamide by the process of desulphurization of benzene-sulphonyl thioureas with hydrogen peroxide, the court stated that such a process falls within the scope of Claim 11 because the claim includes desulphurization of thioureas by any chemical substance, including hydrogen peroxide, which was used by the Respondents.[49] The court stated that Claim No. 11 was wide enough to cover all methods of eliminating sulphur from thioureas, whether the desulphurization was effected, by means of hydrogen peroxide, or by the use of any other substance.[50] As claim 11 depended on claim 1, the court held that claim 1 was also infringed by the Respondents' process.[51] Though, one of the Respondents held a patent for the preparation of substituted benzonesulphonyl ureas from the corresponding substituted benzonesulphonyl thioureas by desulphurization with hydrogen peroxide, the court stated that holding a patent over a step in the process would not avoid liability for patent infringement if the process falls within the scope of a patent claim.

Raj Prakash v. *Mangat Ram Chowdhry and Ors*

This case involved a patent relating to a process for printing picture films for use in film-strip viewer and the films made by the process.[52] The Appellant, patent holder, sued the Respondents, who were making and selling similar film strip viewers for patent infringement.[53] The court compared the product of the Respondents with the patent claims and held them liable for infringement because Respondents were also selling viewers with similar films as that of the patent holder. Though the Respondents made certain variations in their film viewers, the court stated that such changes were unessential to the invention and the viewers of the patent holder and the Respondents were substantially the same.[54]

While concluding on infringement, the court cited a case in which sale of Betacillin was held to infringe a patent on Ampicillin because they were medically equivalent.[55]

8.8 DEFENCES TO PATENT INFRINGEMENT

A person will not be liable for infringement of a patent under certain circumstances. If activities of a person with regard to a patented product or process fall within the scope of such circumstances, the person would be exempt from infringement even if the product or process falls within the scope of patent claims. Such circumstances are called defences to patent infringement because they help in defending an infringement action and exempt liability for infringement. Some of the important defences are explained hereunder.

8.8.1 Government Use

Use of a patented invention by the government for merely its own purposes is exempted from patent infringement.[56] Under the exemption, the government, or any person on behalf of the government, can manufacture or import a patented product or a product made using a patented process for use by the government without infringement liability.[57] The meaning of the term government has not been clearly defined under the Patents Act and may be considered to include both the Central and State governments. As per the Bombay High Court, the exemption is limited to mere use for government's own purposes and it would extend to only use of a product or process by a government department for carrying out its functions, or by government officers and agents for performing their functions and/or duties (*Garware Wall Ropes Limited* v. *A.I. Chopra, Engineers and Contractors, and Konkan Railway Corporation Limited*). On the other hand, the Delhi High Court interpreted the scope of Government Use exemption to also include manufacture or use by any person on behalf of the government under a government contract (*Chemtura Corporation* v. *Union of India (UOI) and Ors*).

For example, if the Police Department manufactures patented electric bikes for its officers in order to enable surprise attacks on criminals, the manufacture of the bikes by the department would not give rise to liability for patent infringement because the purpose of such a manufacture falls within the scope of use by a government department, which is the police department. In such a scenario, if the police department requests a third party to manufacture the bikes, manufacture of bikes by such a third party, on behalf of the government, will amount to patent infringement as per the interpretation of Bombay High Court but will not amount to infringement according to Delhi High Court's interpretation.

The exemption does not apply to manufacture, use, or importation of a patented invention by the government other then for its own use, even if such use is authorized by the Central Government. Furthermore, the sale of a patented invention by the government or the use of a patented invention by a government undertaking is also not covered under the scope of the exemption. Any use, sale, manufacture, and so on, of a patented invention by a person authorized in writing by the Central Government for purposes of government or government undertaking must be done only on terms agreed by the patent holder or determined by the High Court.[58] The patent holder must be paid adequate compensation for such a use, based on the economic value of the patent.[59]

Example: If a patented invention is used by XYZ, a government undertaking, after acquiring written authorization from the Central Government, such use is not covered under the Government Use exemption.

If the Tourism Department of the Central Government sells patented pens representing Indian tradition, such a sale would not be covered under the scope of Government Use exemption because sale is not covered under the exemption.

If the Central Government authorizes a contractor to make patented taps for installation at Indian Oil Corporation Limited, a government undertaking, such manufacture and installation by the contractor would not be covered under the government use exemption. In such a case, the contractor must agree on the terms and conditions of manufacture and installation with the patent holder, and must pay adequate compensation to the patent holder.

8.8.1.1 *Government Use of Medicines or Drugs*

The government can import a patented medicine or drug without liability for patent infringement for:

1. Purposes of its own use;
2. Distribution to any dispensary, hospital, or medical institution of the government, or being run on behalf of the government; or
3. Distribution to a dispensary, hospital, or medical institution rendering public service and recognized as such by the government by notification in the official gazette.[60]

For example, if the government imports a patented drug from Japan for treating influenza outbreak in India and distributes the drug to a

government hospital for treating patients, the government would be exempt from patent infringement.

8.8.2 Experimental Use or Educational Use

The use of a patented invention for experiment or research is exempted from patent infringement. Any person may manufacture or use a patented product, or use a patented process for the purpose of experiment or research, without taking permission of the patent holder.[61] The exemption is called as Experimental Use exception or Research Exemption.

For example, if X, a scientist at National Institute of Science, uses a patented robot for understanding the functioning of the robot under controlled conditions, without taking permission of the patent holder, he would not be liable for patent infringement because such use falls within the scope of research exemption.

Furthermore, use of a patented invention for purposes of imparting education to students is also exempted from patent infringement.[62] A professor can use a patented invention for teaching the functioning of the invention to his pupils without patent liability. For example, if a professor at National Institute of Science uses a patented laser in a laboratory for teaching its functioning to his students, he would not be liable for patent infringement.

8.8.3 Use for Government Approval

The use of a patented invention for the purpose of acquiring government approval is exempted from patent infringement. A person would not be liable for infringement if the patented invention is used for purposes of development and submission of information to a government authority required under a law.[63] The exemption covers the manufacture, construction, sale, use, and importation, of a patented invention for purposes of development of information for submitting such information to a regulatory authority.[64] Such information is generally submitted for getting approval of the government for manufacture, use, sale, or importation, of the patented product or process. The exemption extends to uses reasonably related to requirements under either Indian or foreign laws that regulate activities relating to the patented invention.

For example, if a company X uses a patented drug A, without permission of the patent holder, for purposes of developing clinical information in order to submit to the Drug Controller General of India for getting approval to sell the drug in India, such use of the drug would be exempt from patent infringement.

The exemption was enacted in the United States (US) in 1984 after the decision of the Court in *Roche Products, Inc.* v. *Bolar Pharmaceutical Co. Inc.* and is called the Bolar Exemption.[65] As per the enactment, any company that manufactured, used, sold, offered for sale, or imported, a patented drug or a biological material was exempt from patent infringement if such an activity was meant for development and submission of information to the Food and Drug Authority for getting approval.[66] After the enactment in the US, the exemption was incorporated into laws of many countries. As opposed to the scope of the exemption in the US, the exemption in India is not limited to drug approval. The broad language used in the Patents Act in India extends the scope of the exemption beyond drug regulations and beyond regulatory requirements under Indian law alone.

For example, use of a patented telecommunication device in India without the patent holder's permission may be exempt from liability for infringement if such use is for submitting information to a telecom regulatory authority in a foreign country.

8.8.4 Parallel Imports

Parallel import means the importation of a product from another country without the permission of the patent holder after legally purchasing it from an authorized person in the other country. Parallel importing of a patented product is exempt from patent infringement if the importation is done from a person in another country, who is authorized under the law to produce and sell, or distribute the product in that country.[67] The Parallel Import exemption is based on the doctrine of patent exhaustion, which provides that a patent holder loses all rights over a patented product once he sells it to another person. As per the doctrine, the patent holder cannot have any control over the patented product once it is sold. This is also called as the First Sale doctrine.

The import of a product, sold by a patent holder or his authorized person in another country, will not amount to patent infringement because once sold the rights of the patent holder over the product will be exhausted. The exemption will not extend to products that have been purchased from a person in a country where patent protection for the product does not exist because the rights of the patent holder over the product will not be exhausted by the sale.

Example: X holds a patent over a pen in India, USA, and Europe. X authorizes Y to produce and sell the patented pens in the USA. Z buys the pens from Y and imports them into India. Such importation by Z

will be exempt from liability for patent infringement. The exemption will not apply if X does not hold a patent in USA because no authorization is required for producing and selling the pen in USA and a sale in USA will not exhaust X's patent rights in India. Therefore, importation under such circumstances will be considered as patent infringement.

8.8.5 Gillette Defence

A person would not be liable for patent infringement if a product or process that is infringing was not novel on the filing date of the patent (*J. Mitra and Co. Private Limited* v. *Kesar Medicaments and Anr.*). In other words, if a product or process would not be novel in the light of prior art or forms part of the prior art on the date of patent, such a product or process would not be infringing. In such a case, if the patent holder claims that the product or process falls within the scope of the patent and is therefore infringing, the patent holder faces patent invalidation. On the other hand, if the patent holder accepts that the product or process forms part of the prior art on the date of patent, the product or process would not be liable for infringement.

For example, if X proves in an infringement action that his product forms part of a publication on or before the date of filing of the patent in question, the product would be exempt from infringement. In such a situation, if the patent holder asserts that the product of X falls within the scope of claims, the patent will face risk of revocation due to lack of novelty based on prior publication. On the other hand, if the patent holder accepts that X's product forms part of the publication and claims do not include the elements of the publication, X will not be liable for infringement because his product will not fall within the scope of patent claims.

8.8.6 Other Defences

All grounds based on which a patent may be revoked may be used as defences in an infringement suit.[68] A person would not be liable for infringement if the patented invention falls within the scope of any of the grounds for revocation. The grounds have been listed in the next chapter, which deals with revocation of a patent. In addition to statutory defences, an infringer may also plead equitable defences such as laches, acquiescence, and so on as defences for infringement (*Farbewerke Hoechst Aktiengesellschaft Vormals Meister Lucius & Bruning a Corporation etc.* v. *Unichem Laboratories and Ors*).

NOTES

1. Section 48, The Patents Act, 1970.

Section 48 reads as follows: 'Subject to the other provisions contained in this Act and the conditions specified in Section 47, a patent granted under this Act shall confer upon the patentee–

(a) where the subject matter of the patent is a product, the exclusive right to prevent third parties, who do not have his consent, from the act of making, using, offering for sale, selling or importing for those purposes that product in India;

(b) where the subject matter of the patent is a process, the exclusive right to prevent third parties, who do not have his consent, from the act of using that process, and from the act of using, offering for sale, selling or importing for those purposes the product obtained directly by that process in India.'

2. Section 48(a), The Patents Act, 1970.
3. Section 48(b), The Patents Act, 1970.
4. Ibid.
5. Section 50(1), The Patents Act, 1999, 2002, and 2005.
6. Section 50(3), The Patents Act, 1999, 2002, and 2005.
7. Section 53(1), The Patents Act, 1970.

Section 53(1) reads as follows: 'Subject to the provisions of this Act, the term of every patent granted, after the commencement of the Patents (Amendment) Act, 2002, and the term of every patent which has not expired and has not ceased to have effect, on the date of such commencement, under this Act, shall be twenty years from the date of filing of the application for the patent.

Explanation: For the purposes of this sub-section, the term of patent in case of International applications filed under the Patent Cooperation Treaty designating India, shall be twenty years from the international filing date accorded under the Patent Cooperation Treaty.'

8. Ibid.
9. Ibid.
10. Ibid., at Para 10.
11. Ibid., at Para 10.
12. Ibid., at Para 11 citing *Electrical and Musical Industries, Ld. and Boonton Research Corporation Ld.* v. *Lisson Ld. and another*, 1937 (54) R.P.C. 307(1).
13. Ibid., at Para 13.
14. Ibid., at Para 13.
15. Ibid., at Para 16.
16. Ibid.
17. Section 104, The Patents Act, 1970.

Section 104 reads as follows: 'No suit for a declaration under Section 105 or for any relief under Section 106 or for infringement of a patent shall be instituted in any court inferior to a district court having jurisdiction to try the suit: Provided that where a counter-claim for revocation of the patent is made by the defendant,

the suit, along with the counter-claim, shall be transferred to the High Court for decision.'

18. Ibid.
19. Section 109(1), The Patents Act, 1970.
20. Section 109(2), The Patents Act, 1970.
21. Section 109(2), The Patents Act, 1970.
22. Section 110, The Patents Act, 1970.
23. Section 104A(1), The Patents Act, 1970. Section 104A (1) reads as follows: 'In any suit for infringement of a patent, where the subject matter of patent is a process for obtaining a product, the court may direct the defendant to prove that the process used by him to obtain the product, identical to the product of the patented process, is different from the patented process if,

(a) the subject matter of the patent is a process for obtaining a new product; or

(b) there is a substantial likelihood that the identical product is made by the process, and the patentee or a person deriving title or interest in the patent from him, has been unable through reasonable efforts to determine the process actually used:

Provided that the patentee or a person deriving title or interest in the patent from him, first proves that the product is identical to the product directly obtained by the patented process.'

24. Ibid.
25. Section 104A(2), The Patents Act, 1970.
26. Ibid.
27. Ibid., at Para 19.
28. Ibid., at Para 18.
29. Ibid.
30. Ibid., at Para 2.
31. Ibid., at Para 4.
32. Ibid.
33. Ibid., at Para 13.
34. Ibid., at Para 14.
35. Ibid., at Para 15.
36. Ibid., at Para 16.
37. Ibid., at Para 17.
38. Ibid.
39. Ibid.
40. Ibid., at Para 26.
41. Ibid., at Para 1.
42. Ibid.
43. Ibid.
44. Ibid., at Para 2.
45. Ibid., at Para 10.

46. Ibid.
47. Ibid.
48. Ibid.
49. Ibid.
50. Ibid., at Para 11.
51. Ibid.
52. Ibid.
53. Ibid., at Paras 2 and 6.
54. Ibid., at Para 21.
55. Ibid., at Para 25 citing *Beecham Group Limited* v. *Bristol Laboratories Limited and Anr*, 1967 (16) R.P.C. 406.
56. Section 47(1), The Patents Act, 1970 as amended in 1999, 2002, and 2005. Section 47(1) reads as follows: 'The grant of patent under this Act shall be subject to the condition that

(1) any machine, apparatus or other article in respect of which the patent is granted or any article made by using a process in respect of which the patent is granted, may be imported or made by or on behalf of the Government for the purpose merely of its own use;...'

57. Ibid.
58. Section 100(1), The Patents Act, 1970.
59. Ibid.
60. Section 47(4), The Patents Act, 1970.
61. Section 47(3), The Patents Act, 1970. Section 47(3) reads as follows: 'The grant of patent under this Act shall be subject to the condition that

... (3)any machine, apparatus or other article in respect of which the patent is granted or any article made by the use of the process in respect of which the patent is granted, may be made or used, and any process in respect of which the patent is granted may be used, by any person, for the purpose merely of experiment or research including the imparting of instructions to pupils; ...'

62. Ibid.
63. Section 107A(a), The Patents Act, 1970. Section 107A(a) reads as follows: 'For the purposes of this Act,

(a) any act of making, constructing, using, selling or importing a patented invention solely for uses reasonably relating to the development and submission of information required under any law for the time being in force, in India, or in a country other than India, that regulates the manufacture, construction, use, sale or import of any product; ...'

64. Ibid.
65. Drug Price Competition and Patent Term Restoration Act of 1984 (1984 Act), 98 Stat 1585.
66. 35 USC § 271(e)(1) (20(3).
67. Section 107A(b), The Patents Act, 1970. Section 107A(b) reads as follows: 'For the purposes of this Act,

...(b) importation of patented products by any person from a person who is duly authorised under the law to produce and sell or distribute the product, shall not be considered as an infringement of patent rights.'

68. Section 107(1), The Patents Act, 1970.

9

Patent Revocation and Surrender

9.1 REVOCATION OF A PATENT

One of the most common counter-claims in an infringement suit is patent invalidity or revocation. A defendant in an infringement suit generally counter-claims that he is not liable for patent infringement because the patent is not valid and is liable to be revoked. A patent may be revoked or invalidated at any time before the expiry of its term.

A patent may be revoked:

1. On petition of any person interested; [1]
2. On petition of the Central Government; [2]
3. On a counter-claim in a suit for patent infringement;[3]
4. By the high court under certain circumstances;[4] or
5. By the Controller after receiving directions from the Central Government.[5]

The Appellate Board has the jurisdiction to revoke a patent based on a petition by an interested person or the Central Government.[6] However, if a counter-claim for revocation of a patent is filed in response to an infringement suit then the patent may be revoked by the high court.[7] The burden of proving that a patent is invalid or liable to be revoked is on the person filing a petition or counter-claim for revocation (*Farbweke Hoechst Aktiengesellschaft Vormals Meister Lucius & Bruning a Corporation etc.* v. *Unichem Laboratories and Ors*).

10

Remedies

The reliefs granted to a person in an infringement suit are called as remedies. The remedies granted by a court in an infringement suit may be broadly classified as follows:

1. Injunction;
2. Damages and Account of profits[1]; and
3. Destruction, Seizure or Forfeiture.[2]

10.1 INJUNCTION

An injunction is an order given by the court against a party in an infringement suit asking the party to act or to restrain from acting in a particular manner. Injunctions are generally granted by courts based on equitable principles. The court can grant either a temporary and/or a permanent injunction in an infringement suit.

10.1.1 Temporary Injunction

A temporary or interim injunction is generally granted when an infringement suit is pending before the court. The purpose of a temporary injunction is to restrain the defendant in a suit from carrying out allegedly infringing activities while the case is pending. It is granted to mitigate the risk of injustice to the patent holder during the pendency of the suit (*Wockhardt Limited* v. *Hetero Drugs Limited and Ors*). The object of the injunction is to protect the plaintiff against injury by violation of

his right, for which he could not be adequately compensated in damages recoverable in the action if the suit were resolved in his favour.[3]

The court would grant a temporary injunction in a patent infringement action if,

a. There is a prima facie case, that the patent is valid and infringed;
b. The patent holder will suffer an irreparable loss if injunction is not granted; and,
c. The balance of convenience is in favour of the injunction being granted (*National Research Development Corporation of India* v. *The Delhi Cloth & General Mills Co. Limited*).

10.1.1.1 *Prima Facie Case*

The patent holder must prove that there is a strong prima facie case in his favour for grant of an injunction. He must show to the court that the patent is prima facie valid and infringed. No presumption of validity would attach to a patent granted by the Controller, notwithstanding examination and investigation made by him under the Act (*Surendra Lal Mahendra* v. *Jain Glazers and Ors*). The mere fact of the granting of a patent is not in itself an indication that the patent holder has established to the satisfaction of any authority that he has the right to the monopoly which he claims.[4] The validity of the patent and infringement must be proved independently of the grant of the patent by the Controller.[5]

The patent holder will not have a prima facie case and an interim injunction will generally not be granted if the patent is a recent one and there is a serious controversy about the validity of the grant of the patent itself (*V. Manika Thevar* v. *Star Plough Works, Melur*). Furthermore, if the defendant, alleged infringer, in an infringement suit proves that a serious controversy exists with regard to validity of the patent or, in other words, if patent validity is disputed then the patent holder will not have a prima facie case.[6] For a new patent, a mere challenge at the Bar would be quite sufficient for refusal of a temporary injunction. However, if the patent is sufficiently old and has been worked, the court will, for the purpose of temporary injunction, presume the patent to be valid (*National Research Development Corporation of India* v. *The Delhi Cloth & General Mills Co. Limited and Ors*). As a general principle, the court will presume a patent that is more than six years old to be valid.[7] Furthermore, if the defendant attempted to acquire a licence over the patent, the court will presume that he accepted the validity of the patent.[8]

The patent holder will be considered to have a prima facie case, only if there is a strong possibility of the patent holder succeeding in the suit

(*Hindusthan Lever Limited* v. *Godrej Soaps Limited and Ors*). In other words, to prove prima facie case, the patent holder must prove that the defendant's product or process is infringing at the first instance or based on preliminary analysis. The merits of the patent holder's case and defences of the defendant will be considered for determining the prima facie case (*J. Mitra and Co. Privatea Limited* v. *Kesar Medicaments and Anr.*). Non-use of a patented invention by the patent holder in India will not give rise to a prima facie case and a temporary injunction will not be granted because the objective of the patent system is to promote progress of science and technology, which would not be possible if the patented invention is suppressed by non-working (*Franz Xaver Huemer* v. *New Yash Engineers*). Furthermore, such suppression would also be counter productive to the country's economy because of lack of manufacture, production, and utilization, of the patented invention.[9] While appreciating the question of prima facie case, the court would be governed by sound principles of law, the facts on record, and whether the plaintiff has made out a case for grant of injunction (*Garware-Wall Ropes Limited* v. *Mr. Anant Kanoi and Ors*).

10.1.1.2 *Irreparable Loss*

A party is said to suffer irreparable injury if the party cannot be compensated in money because of an injunction being granted or denied.[10] Holder of a patent will be said to suffer irreparable loss if continuance of infringement by the alleged infringer results in injury to the patent holder, and such injury cannot be compensated through monetary damages. Irreparable loss will be determined by the court based on whether damages would be an adequate remedy to the patent holder on succeeding in an infringement suit. The patent holder will not be considered to suffer irreparable loss, if damages are adequate to compensate the patent holder for the loss caused to him until the suit is decided and the defendant, alleged infringer, is in a position to pay such damages (*F. Hoffmann-La Roche Limited and Anr.* v. *Cipla Limited*). In such a situation, a temporary injunction will not be granted even if the patent holder has a strong prima facie case.[11]

After the patent holder proves that monetary damages would not be adequate to compensate for the injury caused due to infringement by the defendant, the court will verify if monetary damages would be adequate remedy for injury caused to defendant due to grant of injunction.[12] If damages is an adequate remedy and the patent holder is in a financial position to pay such damages, the defendant would not be put under

irreparable loss.[13] In a situation where damages is not an adequate remedy for both the parties in an infringement suit, the court will decide on the grant of injunction based on balance of convenience. On the other hand, if damages are an adequate remedy for both parties, irreparable loss will not be said to exist.

10.1.1.3 *Balance of Convenience*

Balance of convenience is considered by the court for deciding on grant of temporary injunction to the patent holder when there is doubt about the adequacy of compensation in the form of damages to either or both parties in an infringement suit.[14] The factors for determining balance of convenience will vary from case to case and will depend on circumstances of each case.[15] One significant factor for determining balance of convenience is the disadvantage suffered by each party due to grant of temporary injunction and the extent to which the disadvantage to each party cannot be compensated by damages in the event of success in the suit.[16] Other factors such as the nature of the patented invention, use of the patented invention, the timing of the infringement action and so on will also be considered for determining balance of convenience (*F. Hoffmann-La Roche Limited and Anr.* v. *Cipla Limited*). Factors such as expiry of the patent within a short period of time, equal size of parties and so on may go in favour of patent holder for deciding balance of convenience (*Franz Xaver Huemer* v. *New Yash Engineers*). On the other hand, factors such as stultification of defendants investment, loss of employment, public interest in the product (such as life saving drug), or smaller size of the defendant, may go against the patent holder while determining balance of convenience.[17] In a situation, where the balance is approximately equal, the court may consider the relative strength of each party's case and grant or deny temporary injunction, if it is apparent by undisputed evidence that the strength of one party's case in the infringement suit is disproportionate to that of the other party (*F. Hoffmann-La Roche Limited and Anr.* v. *Cipla Limited*).

10.1.2 Study of Relevant Cases

V. Manika Thevar v. *Star Plough Works*

The Appellant, who is the patent holder of a patent, relating to a pattern of a plough having a twist, filed an infringement suit against the Respondent alleging that sale of similar ploughs amounts to infringement and applied for interim injunction against the Respondent during the pendency of the proceedings.[18] In response, the Respondent denied the

allegation of the Appellant by stating that the plough patented by the Appellant was not infringed because the patent was invalid as it was well known and lacked inventive genius.

The court started its reasoning by expounding the principles regulating the grant of an interim injunction in a suit of infringement of a patent. It stated that the patent holder in an infringement suit must make out a strong prima facie case for the issue of a temporary injunction.[19] The court further stated that an interim injunction would not be granted if the patent obtained by the patent holder was a recent one and there is a serious controversy about the validity of the grant of the patent itself.[20] If, from the objections raised by the defendant, it was clear that a serious controversy existed as to whether or not the invention claimed by the patent holder was a new one, or whether or not the invention involved any new inventive skill having regard to what was known or used prior to the date of the patent, the court stated that an interim injunction would not be granted restraining the defendant from pursuing his normal business activity.[21]

Based on the facts of the case, the court stated that the Appellant failed to show prima facie case by rebutting Respondent's plea of prior knowledge and use, and by failing to submit data relating to production and use of the patented product.[22] It further stated that patent validity could not be attached because the patent was a very recent one, it being less than six years old.[23] Additionally, the court observed that there was a serious controversy about the validity of the grant of the patent, touching the originality or the inventive genius of the patent holder, or as to how far the prior knowledge holding the field would disentitle the patent holder to the grant of the patent based on prior knowledge and use.[24] In the light of its analysis, as the Appellant failed to show a prima facie case regarding patent validity, the court denied the grant of interim injunction.

Krone Aktingesellschaft and Anr. v. *Kartik Telecomptrols*

The Appellant in the case, who is the holder of a patent, over an invention for a casing, particularly, a junction-box casing for telecommunications engineering, filed an infringement suit and prayed for an interim injunction during the pendency of the suit.[25] In response, the Respondent counter-claimed that the patent was invalid and that the injunction was not warranted.

As the patented product was on sale and on public display before the patent filing date and as the patent was only two years old, the court stated that the prima facie case was not in favour of the Appellant.[26] With regard to balance of convenience, the court stated that as the patented products were sold only to government departments, which made it easy to assess the damages and as the Respondent had already invested in the products, the factor weighed against the patent holder.[27] In the light of its analysis, as prima facie case and balance of convenience were against the patent holder, the court denied the interim injunction.

Officine Lovato SPA v. *Raajan Automobiles Pvt Limited and Ors*

The patent holder of a patent relating to an Auto Gas Conversion Kit filed an infringement suit against the Respondent alleging patent, design, and trademark infringement, and prayed for an interim injunction during the pendency of the suit.[28] After reviewing the facts and arguments, the court stated that the product sold by the Respondent was identical to that of the patent holder, and that it infringed the patent and design rights of the patent holder.[29] Therefore, it stated that the patent holder proved the prima facie case and that non-grant of the injunction would cause irreparable loss.[30] In the light of its reasoning, the court granted the interim injunction. The court pointed out in the case that an interim injunction may be granted in a case even if the patent or trademark was pending grant or registration, if the patent holder can show prima facie case through grant or registration in convention countries.[31]

J. Mitra v. *Kesar Medicaments*

The patent holder, Appellant, of a patent relating to a device for detection of antibodies to Hepatitis C Virus, filed an infringement suit against the Respondents and applied for an interim injunction during the pendency of the suit.[32] The court first observed that it is well settled as held in the decisions in *Bishwanath Prasad Radhey Shyam* and *Standipack Private Limited* cases that the grant of a patent would not give rise to a presumption of validity of the patent, notwithstanding, the examination and inspection carried out by the Patent Controller and that the validity of the patent could be challenged in infringement proceedings on the same grounds on which revocation could be claimed under Section 64 of the Patent Act.[33] The court then cited the decision in *M/s National Research Development Corporation of India* case, which held that where a patent had been in existence for sufficiently long and had been worked the court could presume the same to be valid for purposes of grant of temporary injunction.[34] It then stated that the term of existence of the patent alone

would not give rise to validity of a patent for grant of injunction and that merits of the case of the patent holder and defences of the defendant must be considered.[35]

After reviewing the facts of the case, the court considered various aspects such as prior knowledge, prior working, anticipation, inventive step, sufficiency of disclosure, and similarities between patented invention and the product, and held that the patent holder had a prima facie case. It stated that the patented invention was not known or worked before the date of patent, the patent was not anticipated by the cited US patents and that the patent possessed sufficient disclosure.[36] Then, the court compared the patent to the product and pointed out that the product had all features claimed in the patent.[37] In the light of its analysis, the court held that the patent holder had made out a prima facie case by proving that the patent was valid and infringed.[38]

As the use of patent was limited, the court observed that irretrievable prejudice would be caused to the patent holder if interim orders were not granted.[39] The court then stated that the balance of convenience was in favour of the plaintiff as the plaintiff's patent could not be permitted to be infringed in the circumstances of the case.[40] As the patent holder proved prima facie case, irreparable harm would be caused to the patent holder in the absence of an injunction and because the balance of convenience was in favour of the patent holder, the court granted an interim injunction, restraining the Respondents from manufacturing, selling, offering for sale, or in any other manner dealing with the patented product.[41]

Dhanpat Seth and Ors v. *Nil Kamal Plastic Crates Limited*

The Appellant, as patent holder, filed an infringement suit against the Respondent alleging violation of its patent relating to a *Kilta* and prayed for an interlocutory injunction during the pendency of the suit, which was denied by the single judge of the high court.[42] The Appellant, therefore, filed an appeal before the Divisional Bench against the order of the single judge. The court stated in the case that a mere grant of a patent would not give rise to a presumption of validity because the patent may be challenged by any person before the patent expires.[43] As the Respondent in the present case challenged the validity of the patent and the court on its preliminary analysis believed that the invention that was the subject of the patent lacked novelty and inventive step, the court said that the Appellant did not have a prima facie case for grant of injunction.[44]

The court then cited the decision of the House of Lords in *American Cyanamid Co.* v. *Ethicon Limited*,[45] which clearly laid down that if damages

in the measure recoverable at common law would be adequate remedy and the defendant would be in a financial position to pay them on the success of the patent holder in the suit, no interlocutory injunction would normally be granted, however, strong the patent holder's claim appeared to be at that stage.[46] The court then pointed out that the Appellant in the present case could be adequately compensated by damages because the loss to the Appellant could be ascertained.[47] As the Appellant's patented invention lacked novelty and inventive step and because the Appellant could be adequately compensated on success in the suit, the court denied the interlocutory injunction to the Respondent.[48] The court then directed the Respondent to maintain accounts of the sales of *Kiltas* until the case was decided and to submit such accounts to the court.[49]

Bajaj Auto v. *TVS Motor Company*

Bajaj Auto Limited (Bajaj) acquired a patent with regard to an invention relating to the use of twin spark plugs for efficient combustion of lean air fuel mixture in small bore, ranging from 45 mm to 70 mm, internal combustion engine working on the 4-stroke principle.[50] TVS Motor Company Limited (TVS) launched motor bikes of 125cc under the trademark FLAME, powered with a lean burn internal combustion engine of bore size 54.5 mm with a twin spark plug configuration.[51] Bajaj filed an infringement suit against TVS and applied for an interim injunction during the pendency of the suit.

The court considered the existence of prima facie case, balance of convenience, and inadequacy of compensation for making a decision on grant of interim injunction. It stated that the invention was novel and non-obvious because it was different from prior art, had been marketed without objection for five years, and there was no proof that the invention was obvious.[52] In such a situation, the court pointed out that Bajaj would have a prima facie case of validity of the patent. It further stated that the patented product's extensive use in the market proved that it was enabled. As the grant of a patent creates a statutory monopoly, which protects the patentee against any unlicensed user of the patented devise, enabling the patentee to get an order of injunction, and considering that a patent had been in existence for more than five years, the court stated that there was a presumption of patent validity.[53] As the product of TVS was similar to that of Bajaj, the court observed that there was a prima facie case of infringement.[54]

Considering the fact that Bajaj was in the market and its patent was for a limited period and it was in a crucial stage of development, the

court pointed out that TVS could not be permitted to interfere with Bajaj's business, especially as TVS was a strong competitor to Bajaj.[55] Furthermore, considering the fact that Bajaj had come up in the world market by sale of its product, and its period was only for twenty years, and there was every possibility for a new invention in the field by bringing the new product even before the time of expiry of patent granted to Bajaj, and, as such, the invention might be brought by Bajaj itself, the court stated that quantum of damages which Bajaj might suffer in not granting injunction could not be ascertained in the monetary sense.[56] Because, either party was in a position to pay damages if the other party succeeded, the court held that balance of convenience weighed in favour of Bajaj.[57] With regard to irreparable loss, the court pointed out that damages could not be calculated because it was difficult to estimate the loss on Bajaj due to sales of TVS and competition in the market, and, therefore, Bajaj would be put under irreparable loss if injunction was not granted.[58] The court granted injunction because Bajaj had a prima facie case, the balance of convenience weighed in its favour, and as damages was not an adequate remedy, and irreparable loss would be caused if injunction was not granted.

TVS Motor Company Limited v. *Bajaj Auto Limited*

The case is a continuation of the patent litigation between TVS Company Limited and Bajaj Auto Limited regarding the patent held by Bajaj relating to the improved internal combustion engine based on four stroke principle. Bajaj filed an infringement suit against TVS for infringement of its patent and prayed for interim injunction during the pendency of the suit. In furtherance, an interim injunction was granted by the Madras High Court in favour of Bajaj, restraining TVS from selling motor cycles having internal combustion (IC) engines with three valves and two spark plugs. In this case, TVS filed an application challenging the continuance of the interim injunction against it.[59]

After hearing the parties and analysing the facts of the case, the court discontinued the interim injunction granted against TVS.[60] The court compared the technologies used by Bajaj and TVS in the light of patents based on which such technologies had been implemented by the companies and held that the technologies were prima facie different from each other.[61] While Bajaj's technology sparked the ignition with twin plugs in a four-stroke engine of a single cylinder with two valves, in order to produce improved internal combustion in a lean burn mixture, the court pointed out that TVS's technology licensed from AVL Austria

was valve centric as the two intake valves provided for combined air fuel mixture of swirl and tumble action, with a separate exhaust valve in an internal combustion engine of single cylinder with four stroke with the aid of twin plug provision.[62] The court pointed out that the technologies differed in the number of valves and positioning of the spark plugs.[63] As both the technologies were patented in India, the court observed that they were prima facie valid and deserved equal protection.[64]

Considering the fact that the technologies achieve the result using different techniques, the court stated that TVS's technology does not prima facie infringe on Bajaj's patent and, therefore, Bajaj does not have a prima facie case of infringement.[65] The court further fortified its view, stating that Bajaj does not have a prima facie case because the validity of the patent was in question in a revocation proceeding before the Appellate Board.[66] The court did not discuss about balance of convenience and irreparable loss because Bajaj failed to show prima facie case.[67] In the light of its analysis, the court discontinued the interim injunction granted to Bajaj as it did not show a prima facie case of infringement by TVS.[68]

In a special leave appeal, filed by Bajaj before the Supreme Court, against the decision of the court, the Supreme Court affirmed the decision and allowed TVS to sell its bikes, but asked it to maintain an accurate records/accounts of its all India and export sales.[69] The Supreme Court also ordered for the appointment of a Receiver to whom the records of such sale must be furnished every fortnight by TVS.[70] Finally, the Supreme Court asked the court to dispose the case by 30 November 2009.

Mariappan v. *A.R. Safiullah*

The holder of a patent, relating to food-grade laminated paper, and a method and apparatus for manufacturing the laminated paper, filed an infringement action against Mariappan and others and sought an interim injunction to restrain infringing activities during the pendency of the suit.[71]

The court started its analysis by observing that it was a settled position of law for granting an order of ad-interim injunction, including the infringement of Designs, Copyrights, and Patents, that the applicant/plaintiff must prima facie establish that the balance of convenience lay clearly in his favour and irreparable loss might be caused to him on account of non-granting of an order of ad-interim injunction.[72] It then pointed out that a patent granted after the 2005 amendment would be given greater weight for ascertaining prima facie case and that the onus

of proving prima facie patent validity and infringement was on the patent holder.[73]

Though the patent was examined and granted by the patent office, the court observed that the existence of a granted patent would not guarantee the validity of the patent.[74] It then stated that grant of a patent itself could not be deemed to be prima facie case on the side of the patent holder and that it was the duty of the patent holder to prove prima facie case, as in any other case of application for injunction.[75] Since applications for opposition of grant of patent were pending adjudication before the appropriate authority, the court stated that prima facie case weighed against the patent holder.[76] Considering the fact that the art of making laminate paper was well known and as there were patents and publications that dealt with laminate paper, the court stated that the patent prima facie lacked inventive step and was, therefore, not valid.[77] As the patent holder failed to prove prima facie case, the court upheld the denial of interim injunction. The court observed in the case that the rule, which provides that presumption of validity would lie against a patent that was less then six years old, was no longer a strict principle because of the rapid pace at which technology was progressing, and the speed at which products would today lose relevance.[78]

Ravi Kamal Bali v. *Kala Tech and Ors*

The patent holder in the case sought an injunction restraining the Respondents from making, using, selling, or distributing tamper proof locks/seals that fall within the scope of the claims of the patent holder's patent bearing No. 162675 and patent of addition No. 178879, which activities would infringe the patents. And, claimed for a temporary injunction during the pendency of the suit.[79]

Though the court agreed that the product in the case was infringing, it denied interim injunction as the patent holder made an incorrect representation regarding a material fact before the court.[80] The patent holder in the case represented that it was not aware of the infringing activities of the Respondents until the date of application, which the court based on its analysis concluded was not true.[81]

Garware-Wall Ropes v. *Techfab India*

The Appellant, who is the holder of a patent relating to synthetic rope gabion, filed an infringement suit against the Respondent, and applied for an interim injunction during the pendency of the suit.[82] The trial court granted interim injunction, which was interfered by the single judge of

the high court.[83] The Appellants challenged the decision of the single judge before the Division Bench.

The court upheld the decision of the single judge because the Appellant could not show prima facie case, and, because, damages would be adequate remedy if the Appellant proves infringement by the Respondent. As the patent was new, its validity was not upheld by any court and as the Respondent raised a substantial controversy regarding the validity of the patent, the high court stated that an interim injunction was not warranted.[84] In the light of its analysis, the court rejected the grant of interim injunction and ordered for maintenance of accounts by the Respondent as per the directions of the single judge.[85]

Garware Wall Ropes v. *A.I. Chopra, Engineers and Contractors*

The Appellant, who is the patent holder of a patent relating to GSWR and Spiral Lock Systems, filed a suit for declaration that the Respondent was not entitled to manufacture, sell, use, or offer for sale, the patented invention and prayed for a permanent injunction and damages.[86] The patent holder prayed for a temporary injunction during the pendency of the suit.[87] In response, the Respondent claimed that the patented invention was publicly known for two decades and was, therefore, not an invention, and that the use of the patented invention for the Railways amounted to government use, and that the patent holder delayed in approaching the court and, therefore, that the temporary injunction should not be granted.[88]

The court started its analysis by stating that the grant of a patent must be given credibility while deciding on the grant of an injunction.[89] Though the grant of a patent does not give rise to a presumption in favour of the patent holder, the court stated that it would have value while deciding on the issue of injunction.[90] After considering the articles cited by the Respondents as prior art, the court stated that all the elements and/or features of the GSWR System, claimed in the patent, were not disclosed in a single document.[91] It further opined that any given single document was silent on many aspects of the GSWR System and, further, stated that the GSWR System was neither a workshop improvement nor a cosmetic change to the existing methods for protection of rock-fall.[92] In the light of its reasoning, the court held that respondents had failed to prove by adequate pleadings and by affirmative evidence even prima facie that the patented products or process was known and used in India or elsewhere for two decades, as claimed by them.[93]

Furthermore, the court stated that the use by the Respondents was not government use and that irreparable loss would not be caused to the Respondents due to stoppage of the railway contract if injunction was granted because a licence was available from the patent holder to carry out its obligations for Indian Railways.[94] As the patent was in force, the court held that allowing the Respondent to use the patented invention would drain the profits of the patent holder and, therefore, the court held that the balance of convenience was in favour of the patent holder.[95] In the light of its reasoning, the court granted the temporary injunction because the patent holder proved prima facie case and that balance of convenience was in its favour.[96]

M.C. Jayasingh v. *Mishra Dhatu Nigam Limited (MIDHANI), Apollo Hospitals, Apollo Hospitals Enterprise Limited and Cancer Institute (WIA), (Regional Cancer Centre)*

The Appellant, Jayasingh, acquired a patent over a prosthesis made of titanium alloy, which is used in bone salvage surgery.[97] On learning that the Respondents were making, selling, distributing, and using prosthesis that was covered by his patent, Jayasingh filed an infringement suit against the Respondents and prayed for an injunction during the pendency of the suit.[98] After hearing the parties and reviewing the facts on record, the court refused to grant temporary injunction to Jayasingh.

The court stated that the Hinge Knee Prosthesis of the Respondents was different from the prosthesis claimed by Jayasingh because it did not have the polymer, rotating hinge mechanism, extending mechanism, and so on, that were present in the patented prosthesis.[99] Therefore, the court pointed out that the prosthesis of the Respondent was not prima facie similar, or deceptively similar to that of the Appellant.[100] The court further observed that mere functional similarity of the products of the patent holder and the alleged infringer would not warrant the grant of a temporary injunction.[101]

Considering the relevance of prosthesis to those who are in need of the same as a life-saving equipment, its cost effectiveness, and the functional advantage of a customized titanium prosthesis made and used by the Respondents, the court stated that the balance of convenience was not in favour of Jayasingh.[102] Furthermore, the court pointed out that there was no proof of loss that would be suffered by Jayasingh if the injunction was not granted.[103] Based on its analysis, the court rejected the temporary injunction to Jayasingh and ordered the trial court to complete the infringement proceedings within four months.[104]

Braun Melsungen AG and Ors v. *Rishi Baid and Ors*

The case related to a patent involving an invention concerning safety intravenous catheters or cannulae held by the Appellant, Braun Melsungen AG. The Appellants filed a patent infringement suit against Respondents, who were contract manufacturers of the Appellants, alleging that the Respondent's safety catheter infringed the patented catheter.[105] The Appellants applied for an interim injunction during the pendency of the suit.

After examining the arguments of the parties, the court held that the Appellants were not eligible for an interim injunction because they did not have a prima facie case.[106] The court stated that the Appellants did not have a prima facie case because the patent was a recent one and because there was a serious challenge to its validity.[107] It stated that the validity of the patent was prima facie questionable because the field of the patent was a crowded one, safety catheters were being used for a long time and, because, there were close prior art patents relating to the safety catheters.[108] After comparing the Appellants' catheter to the Respondents' catheter, the court observed that they were prima facie different from each other.[109] The court further pointed out that the Appellants did not approach the court with clean hands because they withheld important facts in the application for injunction.[110] As the Appellants could not show prima facie case and approached the court with unclean hands, the court denied the temporary injunction to the Appellants.[111] However, the court directed the defendants to keep accounts of the manufacture and sales of the safety intravenous cannulae in question during the pendency of the suit, and to make the same available to the court as and when directed by it.[112]

F. Hoffmann-LA Roche Limited and Anr. v. *Cipla Limited*

The Appellants, F. Hoffmann-La Roche Limited (Roche), the Licensor of a patent relating to the drug Erlotinib used for cancer treatment and OSI Pharmaceuticals Inc. (OSI), the holder of the patent of the said drug, filed an infringement suit against the Respondent, Cipla Limited (Cipla).[113] The Appellants filed an application for temporary injunction during the pendency of the suit, which was rejected by the single judge and, therefore, filed this appeal.[114]

After hearing both the parties, the court upheld the rejection of the temporary injunction based on the following reasons:

a. The patent granted to OSI related to the compound comprising combination of Polymorphs A and B.[115] Subsequently, OSI filed

another application relating to the Polypmorph B form of the compound but failed to disclose such information to the Controller.[116] Non-disclosure of such information regarding patent filings was not in consonance with the requirements of the Patents Act.[117] As the information relating to patent applications would have an impact on the decision of the Controller to grant a patent, the Respondent's challenge to patentability of OSI's compound was credible.[118] Furthermore, non-disclosure of information relating to patent filings before the court, while asking for an interim injunction, did not give the court an opportunity to determine whether the drug sold by Cipla fell within the scope of the patent in question, and, therefore, the Appellants failed to show a prima facie case for grant of temporary injunction.[119]

b. The Respondent raised a serious question regarding the validity of the patent in the light of Section 3(d) of the Patents Act by stating that polymorphs of known substances were not patentable, and by citing relevant prior art references.[120] As the validity of the patent is in question, an interim injunction was not warranted.[121]

c. The general public access to life-saving drugs, such as the patented drug in question, in the case assumes great significance and grant of an injunction would have an adverse impact on such access.[122] Therefore, as stated by the single judge, the injunction might not be granted because the public interest in greater public access to a life saving drug would outweigh the public interest in granting an injunction to the Appellants.[123] The public interest favours denial of injunction in the light of the fact that the patented drug and the drug sold by Cipla are different, and Cipla had challenged the validity of the patent.[124]

As the Appellant failed to show prima facie case and as the grant of injunction regarding a life saving drug was not in favour of public interest, the court denied the temporary injunction to the Appellants.

10.1.3 Injunction Analysis

All three factors, prima facie case, irreparable loss, and balance of convenience, are considered by courts for deciding on grant of a temporary injunction. Temporary injunction will be granted only if the patent holder proves that there is prima facie case, irreparable loss will be caused if such an injunction is not granted, and if balance of convenience is not in his favour. Though courts initially considered existence of a patent for six or more years to give rise to presumption of validity in order to prove prima facie case, the term is not considered by courts as a strict rule. Public interest may be a compelling factor based on which courts may deny a temporary injunction to the patent holder even if prima facie case and irreparable loss is proved.

10.1.4 Permanent Injunction

A permanent injunction is generally granted after the patent holder succeeds in the infringement suit and the defendant is determined as an infringer. On proving infringement of a patent, the patent holder will be eligible for a permanent injunction as a final remedy (*Rohtas Industries Limited and Ors* v. *Indian Hume Pipe Co. Limited*). Infringement of a patent gives rise to a presumption of likelihood of infringement by the infringer in the future and that justifies the grant of a permanent injunction against the infringer.[125] Unless there is a clear cut intention that the infringer does not have the intention to infringe the patent in the future, a permanent injunction will be granted to the patent holder.[126] By granting the permanent injunction, the court will restrain the infringer from carrying out any infringing activities in the future. Any infringing activity of the defendant, after grant of a permanent injunction against such activity is directly enforceable in a court.

10.2 DAMAGES AND ACCOUNT OF PROFITS

The patent holder might choose any one among damages or account of profits after succeeding in an infringement suit. Damage is the loss sustained by the patent holder because of infringer's activities and account of profits includes the money made by the infringer through infringement activities. The patent holder can claim either account of profits or damages.

The principles relating to assessment of damages in case of patent infringement have not been clearly laid down by courts. Courts, generally, adopt a viable method in the light of the circumstances for assessing damages and do not grant damages arbitrarily (*Pillalamarri Lakshmikantham and Ors* v. *Ramakrishna Pictures and Ors*). The damages may be calculated using methods such as money spent by the patent holder on Research and Development, reasonable royalty based on number of patented products sold by the infringer, and so on (*The Himalaya Drug Company* v. *Sumit and P.N. Krishnamurthy* v. *Cooperative for American Relief Everywhere*). The account of profits will generally

be calculated by courts based on the rendition of accounts by the infringer (*Pepsico Inc. and Ors* v. *Sunrise Beverages*). Account of profits will be granted by a court to the patent holder only if the profits of the infringer result from infringing activities.

In addition to damages and account of profits, the court may also grant punitive or exemplary damages to the patent holder. Such damages are granted to ensure that infringers are not allowed to take advantage of the patent owner's rights, thinking that they will be required to pay only compensatory damages (*The Himalaya Drug Company* v. *Sumit*). The court will grant an amount of punitive damages, which it believes are sufficient to deter an infringer from infringing the intellectual property in question (*Time Incorporated* v. *Lokesh Srivastava and Anr.*).

Damages or account of profits will not be granted if infringement of the patent occurs during the period of patent lapse.[127] Furthermore, if a published specification is amended by a disclaimer, correction, or explanation, damages or account of profits will not be granted by the court for infringement before the date of such amendment.[128] However, if the patent holder can prove that the published specification was drafted in good faith and with reasonable skill and knowledge, then the court may grant damages or account of profits for infringement before the date of allowance of the amendment.[129]

10.3 DESTRUCTION, SEIZURE, OR FORFEITURE

On succeeding in an infringement suit, the patent holder may plead for seizure, destruction, or forfeiture of the infringing goods. On receiving such a plea, the court may order for destruction, seizure, or forfeiture of such goods or materials and/or implements used primarily for creating infringing goods without paying any compensation to the infringer.[130]

10.4 INNOCENT INFRINGEMENT

The court will not grant damages or account of profits to an innocent infringer.[131] An innocent infringer is a person who infringes a patent having no knowledge of the existence of the patent, and having no reasonable grounds to believe that a patent existed.[132] Incorporation of a patent notice on the product, indicating the patent number, will be considered to be sufficient notice for proving that the infringement was not innocent.[133] However, if the notice does not have the patent number, the infringer can claim that the infringement was innocent.[134] Though, the court will not grant damages or account of profits to the patent holder, it may grant an injunction against an innocent infringer.[135]

For example, X acquires a patent over a revolving table and starts selling it in India without any patent notice. Y starts manufacturing and selling the revolving tables in Bangalore. X files an infringement suit against Y and the court holds that Y is liable for patent infringement. In such a case, X will not be eligible for damages or account of profits if Y can prove that he was not aware of the patent over the table. In the absence of a patent notice, Y can easily prove his lack of awareness.

10.5 DECLARATION OF PATENT VALIDITY

The Appellate Board or the high court may grant a certificate of patent validity after the patent holder successfully contests a plea for revocation.[136] The specific claim in a patent specification that has been successfully defended by the patent holder will be certified by the Appellate Board or the high court as valid.[137] After the certificate of validity is granted, the patent holder will be eligible for costs, expenses, and charges, if the patent holder gets a favourable decision from the court in an infringement suit or revocation proceeding based on the validity of the claim.[138] To get an order for such costs, expenses, and charges from the court, they must be related to the proceeding concerning the claim directly or indirectly.[139]

The patent holder may not get such compensation, if the court trying the suit or proceeding decides to the contrary.[140] Furthermore, such compensation will not be granted by the court, if the other party was not aware of the certificate when he disputes the validity of the claim or withdraws his plea as soon as he is made aware of the certificate.[141] Moreover, such costs may not be granted in case of an appeal from an infringement suit or revocation proceeding.[142] The declaration of validity of a patent by a court does not preclude a person from challenging the patent's validity or revoking the patent.

For example, if the Court holds, in an infringement suit or revocation proceedings, that a patent held by X is valid and, therefore, cannot be revoked, it will grant a certificate of validity. If X sues Y for infringement and Y in response files a counter-claim for revocation with knowledge of the certificate of validity, on succeeding in the suit, X can claim for costs, charges, and expenses, incurred by him relating to the infringement suit.

10.6 DECLARATION OF NON-INFRINGEMENT

The court may declare that manufacture, use or sale of a product, or use of a process does not infringe a patent claim on application by a person

the fact that the issue relating to validity of Ram Kumar's patent was being decided by the Appellate Board, the court stated that the reversal of the order of the District Court would cause great damage to the Respondent, and dismissed the appeal.[166]

NOTES

1. Section 108(1), The Patents Act, 1970. Section 108(1) reads as follows: 'The reliefs which a court may grant in any suit for infringement include an injunction (subject to such terms, if any, as the court thinks fit) and, at the option of the plaintiff, either damages or an account of profits.'
2. Section 108(2), The Patens Act, 1970. Section 108(2) reads as follows: 'The court may also order that the goods which are found to be infringing and materials and implement, the predominant use of which is in the creation of infringing goods shall be seized, forfeited or destroyed, as the court deems fit under the circumstances of the case without payment of any compensation.'
3. Ibid.
4. Ibid., at Para 7 citing *Smith* v. *Grigg Limited*, 41 R.P.C. 149(1).
5. Ibid., at Para 9.
6. Ibid.
7. Ibid., at Para 12.
8. Ibid., at Para 10.
9. Ibid.
10. Ibid.
11. Ibid.
12. Ibid.
13. Ibid.
14. Ibid.
15. Ibid.
16. Ibid.
17. Ibid.
18. Ibid., at Para 2.
19. Ibid., at Para 5.
20. Ibid.
21. Ibid.
22. Ibid.
23. Ibid., at Para 6.
24. Ibid.
25. Ibid., at Para 4.
26. Ibid., at Para 20.
27. Ibid., at Para 21.
28. Ibid., at Paras 1, 2, and 3.
29. Ibid., at Para 16 and 17.
30. Ibid., at Para 20.

31. Ibid., at Para 19.
32. Ibid., at Para 1.
33. Ibid., at Para 49.
34. Ibid., at Para 50.
35. Ibid., at Para 51.
36. Ibid., at Paras 70, 79, 95, 96, and 107.
37. Ibid., at Para 119.
38. Ibid.
39. Ibid.
40. Ibid.
41. Ibid., at Para 120
42. Ibid., at Para 1.
43. Ibid., at Para 21.
44. Ibid.
45. All England Law Reports 504, (1975).
46. Ibid., at Para 23.
47. Ibid.
48. Ibid., at Para 27.
49. Ibid.
50. Ibid., at Para 10.
51. Ibid.
52. Ibid., at Para 71.
53. Ibid., at Para 50.
54. Ibid., at Para 51.
55. Ibid., at Para 61.
56. Ibid., at Para 62.
57. Ibid., at Para 65.
58. Ibid., at Para 68.
59. Ibid., at Para 1.
60. Ibid., at Para 86.
61. Ibid., at Para 71.
62. Ibid.
63. Ibid.
64. Ibid., at Paras 74, 77 and 78.
65. Ibid., at Para 84.
66. Ibid., at Para 79.
67. Ibid., at Para 85.
68. Ibid., at Para 86.
69. Ibid., at Para 13.
70. Ibid.
71. Ibid., at Para 1.
72. Ibid., at Para 53.
73. Ibid., at Para 55.
74. Ibid., at Para 71.

75. Ibid., at Para 71
76. Ibid.
77. Ibid., at Para 59.
78. Ibid., at Para 66.
79. Ibid., at Para 2.
80. Ibid., at Para 58.
81. Ibid.
82. Ibid., at Paras 2 and 4.
83. Ibid., at Paras 5 and 6.
84. Ibid., at Para 50.
85. Ibid.
86. Ibid., at Para 4.
87. Ibid.
88. Ibid.
89. Ibid., at Para 9.
90. Ibid.
91. Ibid., at Para 13.
92. Ibid.
93. Ibid., at Para 14.
94. Ibid., at Para 26.
95. Ibid.
96. Ibid., at Para 28.
97. Ibid., at Para 2.
98. Ibid., at Para 4.
99. Ibid., at Para 22.
100. Ibid.
101. Ibid., at Para 24.
102. Ibid., at Para 24.
103. Ibid.
104. Ibid., at Para 27.
105. Ibid., at Para 8.
106. Ibid., at Para 47.
107. Ibid.
108. Ibid.
109. Ibid.
110. Ibid., at Para 42.
111. Ibid., at Para 44.
112. Ibid.
113. Ibid., at Para 1.
114. Ibid..
115. Ibid., at Para 85.
116. Ibid.
117. Ibid.
118. Ibid.

119. Ibid.
120. Ibid.
121. Ibid.
122. Ibid.
123. Ibid.
124. Ibid.
125. Ibid., at Para 18.
126. Ibid.
127. Section 111(2), The Patents Act, 1970.
128. Section 111(3), The Patents Act, 1970.
129. Ibid.
130. Section 108(2), The Patents Act, 1970.
131. Section 111(1), The Patents Act, 1970. Section 111(1) reads as follow: 'In a suit for infringement of patent, damages or an account of profits shall not be granted against the defendant who proves that at the date of the infringement he was not aware and had no reasonable grounds for believing that the patent existed.

Explanation: A person shall not be deemed to have been aware or to have had reasonable grounds for believing that a patent exists by reason only of the application to an article of the word 'patent', 'patented' or any word or words expressing or implying that a patent has been obtained for the article, unless the number of the patent accompanies the word or words in question.'

132. Ibid.
133. Explanation to Section 111(1), The Patents Act, 1970.
134. Ibid.
135. Section 111(4), The Patents Act, 1970.
136. Section 113(1), The Patents Act, 1970. Section 113(1) reads as follows: 'If in any proceedings before the Appellate Board or a High Court for the revocation of a patent under Section 64 and Section 104, as the case may be, the validity of any claim of a specification is contested and that claim is found by the Appellate Board or the High Court to be valid, the Appellate Board or the High Court may certify that the validity of that claim was contested in those proceedings and was upheld.'
137. Ibid.
138. Section 113(2), The Patents Act, 1970.
139. Ibid.
140. Ibid.
141. Ibid.
142. Section 113(3), The Patents Act, 1970.
143. Section 105(1), The Patents Act, 1970. Section 105(1) reads as follows: 'Notwithstanding anything contained in Section 34 of the Specific Relief Act, 1963 (47 of 1963), any person may institute a suit for a declaration that the use by him of any process, or the making, use or sale of any article by him does not, or would not, constitute an infringement of a claim of a patent against the patentee

or the holder of an exclusive licence under the patent, notwithstanding that no assertion to the contrary has been made by the patentee or the licensee, if it is shown–

(a) that the plaintiff has applied in writing to the patentee or exclusive licensee for a written acknowledgement to the effect of the declaration claimed and has furnished him with full particulars in writing of the process or article in question; and

(b) that the patentee or licensee has refused or neglected to give such an acknowledgement.'

144. Ibid.
145. Ibid.
146. Section 105(4), The Patents Act, 1970.
147. Section 105(3), The Patents Act, 1970.
148. Ibid.
149. Section 106(1), The Patents Act, 1970. Section 106 (1) reads as follows: 'Where any person (whether entitled to or interested in a patent or an application for a patent or not) threatens any other person by circulars or advertisements or by communications, oral or in writing addressed to that or any other person, with proceedings for infringement of a patent, any person aggrieved thereby may bring a suit against him praying for the following reliefs, that is to say -
(a) a declaration to the effect that the threats are unjustifiable;
(b) an injunction against the continuance of the threats; and
(c) such damages, if any, as he has sustained thereby.'
150. Ibid.
151. Explanation to Section 106, The Patents Act, 1970.
152. Section 106(1)(a), The Patents Act, 1970.
153. Section 106(1)(b), The Patents Act, 1970.
154. Section 106(1)(c), The Patents Act, 1970.
155. Section 106(2), The Patents Act, 1970.
156. Ibid.
157. Ibid.
158. Ibid.
159. Ibid.
160. Ibid.
161. Ibid.
162. Ibid.
163. Ibid.
164. Ibid., at Para 18.
165. Ibid., at Para 17.
166. Ibid., at Para 17.

11

PCT Applications

The Patent Cooperation Treaty (PCT) is a special treaty under the Paris Convention.[1] The primary objective of PCT is to simplify and make economical the filing of patent applications in multiple countries.[2] Towards the said objective, the Treaty provides an international filing, searching, and examination process for applicants seeking to acquire international patent protection.[3] It only provides an alternative to applicants for filing patent applications directly in multiple countries and does not grant patents. The authority to grant a patent rests with the country in which a patent application is filed after the PCT process.

The treaty was adopted in June 1970, by an initial membership of eighteen countries and came into force on 24 January 1978.[4] As of 19 March 2009, PCT had 141 member countries.[5] India became a member of the PCT in the year 1998.[6] The Regulations annexed to the Treaty and the administrative instructions, provide the rules for implementation of the Treaty.[7] Such Regulations may be amended by the assembly constituted under the Treaty from time to time.[8] The PCT is administered by the International Bureau of the World Intellectual Property Organization (WIPO), head quartered at Geneva, Switzerland. WIPO publishes an Applicant's guide for PCT applicants, which provides comprehensive guidelines on the PCT procedure, and may be used by applicants and patent practitioners for learning about the PCT process.[9]

11.1 ADVANTAGES OF THE PCT SYSTEM

The PCT system provides certain benefits to an applicant from the cost, time, and effort, perspective. By filing a PCT application, the applicant can enter into various countries of interest by using such an application, and need not draft and file an application in each country separately. As a single application can be used for filing in multiple countries, the effort and cost involved in drafting and filing an application separately in each country may be saved by the applicant. For example, if X wishes to acquire a patent in USA, UK, India, Japan, and Europe, X will have the option of filing an application in each country separately, or entering into each country by filing a PCT application. In such a situation, if X files a PCT application, the cost, time, and effort, involved in drafting multiple applications for each country, in compliance with the law, may be saved. However, filing a PCT application will involve filing, searching, and examination cost, which must be balanced with the savings from avoidance of multiple drafts.

Furthermore, once an applicant files a PCT application, the applicant gets a period of 30 months or more time from the date of priority in order to enter into various countries. The applicant can use the said time to decide on the business value of patent filing and the countries for such filing. For example, if X files a PCT application, X will get 30 months or more time to file the application in different countries. After filing the PCT application, X can verify if his invention has business value during those 30 months by taking steps for commercialization in his countries of interest and, thereafter, decide on filing for a patent in those countries. By doing so, X can make an informed decision on filing patents in multiple countries and, under certain circumstances, save cost, effort, and time by avoiding filing in countries where the invention may not have any business value.

On filing a PCT application, the applicant gets a search and/or examination report from a qualified patent office, which provides inputs to the applicant on patentability of the invention. The applicant may use such inputs in the reports on making a decision on filing the patent application and countries of such filing. For example, if X files a PCT application, X will get a search report along with a written opinion on patentability based on which X can decide on moving forward with the application. If the report indicates that the invention is not patentable, X can withdraw the application and save the cost and effort for national patent filings.

11.2 PCT PROCEDURE

The process of acquiring a patent through the PCT system involves two phases:

1. International Phase and
2. National Phase.

Every PCT application has to pass through the International Phase before entering the national phase. The International Phase gives the applicant a search report, examination report, and an opinion on patentability. After the International Phase, the applicant has to file applications in each country of interest in order to enter the National Phase. Each country's patent office will examine the patent application during the National Phase and will grant a patent if the invention satisfies the patentability requirements.

11.2.1 International Phase

The International Phase of the PCT procedure includes the following stages:

1. Filing of international application;
2. International search;
3. Publication of the application; and
4. International preliminary examination.

The flow diagram provided hereunder shows the procedure during the International Phase.

11.2.1.1 *Filing of International Application*

An application filed under the PCT is called as International Application.[10] An international application may be filed for acquiring any kind of patent, inventor certificate, utility model, utility certificate, and certificate of addition.[11] Such an application cannot be filed for acquiring design patents, or industrial designs, or semi-conductor protection, or any other type of intellectual property protection (Figure 11.1).

Applicant: A PCT application may be filed by any person who is a national or resident of a country, which is a member of PCT.[12] As India is a member of PCT, a person who is a national or resident of India can file a PCT application. A PCT application having two or more applicants may be filed only if at least one of the applicants is a national or resident of a country which is a member of PCT.[13] For example, if X and Y, nationals of India and Argentina, are applicants in a patent application, a PCT application may be filed even though Argentina is not a PCT member

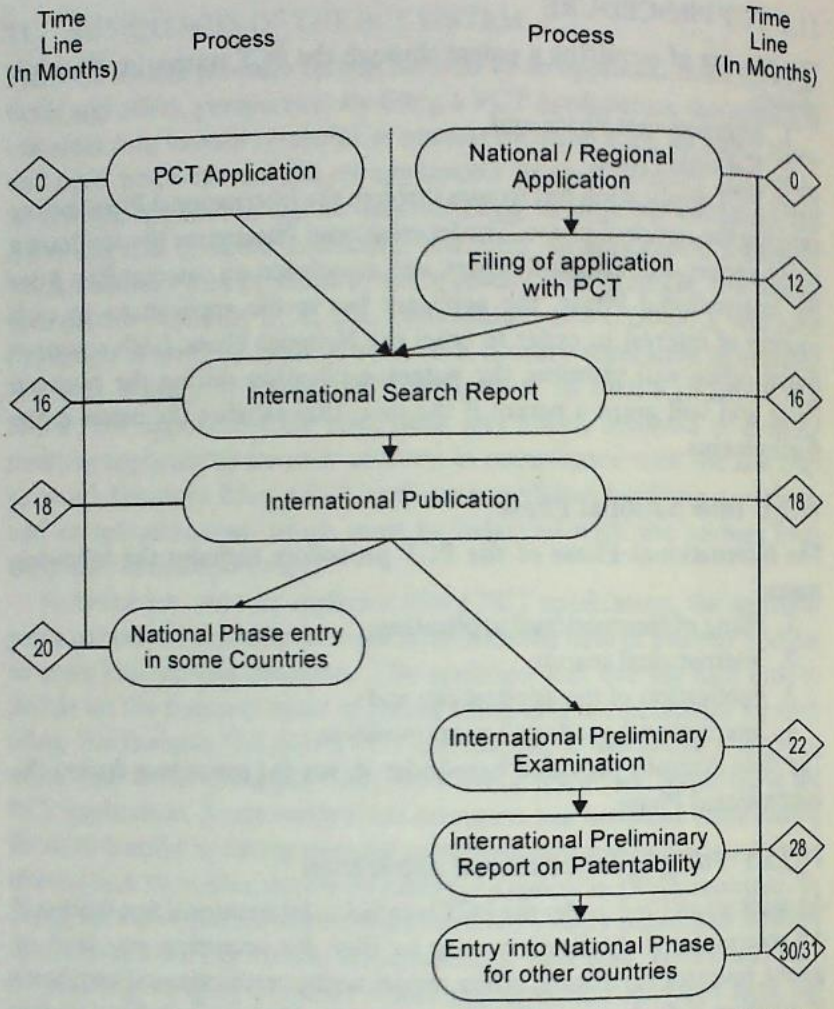

Figure 11.1 Flow Diagram of the PCT Process, The International Phase

Note: The Time period has to counted from the Date of Priority or Filing, whichever is earlier.

because one of the applicants is a national of India, which is a member of PCT.

Any issue relating to nationality or residence shall be determined in accordance with the national law of the specific country.[14] Generally, an established business corporation in a country is considered to be a resident of the country and a legally incorporated entity in a country is considered to be the national of the country.[15] So, if a company has a

business in India or is incorporated under the Indian Companies Act, it can file a PCT application.

A PCT application may be filed by the applicant directly or through a patent agent. Any patent agent, who is eligible to file patent applications before the patent office of the country in which the applicant resides or is a national, may be appointed as a patent agent for filing a PCT application.[16] Such a patent agent may act on behalf of the applicant before the International Bureau, search authority, and/or examination authority.[17] Therefore, any person registered as a patent agent in India can represent a PCT applicant, and can act on behalf of the applicant before the PCT authorities.

Office of Filing: A PCT application may be filed at any office which is a Receiving Office that is eligible to receive applications under the Treaty. The Receiving Office may be the patent office of the member country of PCT in which the applicant is a resident, or is a national, or the International Bureau.[18] As India is a PCT member, the Indian Patent Office can be a Receiving Office for a PCT application. A PCT application, having two or more applicants, may be filed at the patent office of a country which is a member of PCT, and of which at least one of the applicants is a national or is a resident.[19] Such an application may also be directly filed at the International Bureau.[20] For example, if X is a citizen of India and is residing in USA, the PCT application may be filed at the Indian Patent office, or US Patent Office, or at the International Bureau. If X is a national of India and Y' is a national of Taiwan, which is not a PCT member country, the PCT application may be filed at the Indian Patent Office or International Bureau as India is a member of PCT, and one of the applicants, X, is an Indian national.

An applicant, who is a national or resident of a country, which is a member of PCT and also the African Regional Intellectual Property Organisation (ARIPO) Harare Protocol, the Eurasian Patent Convention, the European Patent Convention, or the OAPI (The African Intellectual Property Organisation) Agreement, may file the application at any of the patent offices established under the said regional agreements. In such a case, the said offices will act as Receiving Offices of the PCT application. For example, if X is a national of Germany, which is a member of EPC, he can file a PCT application at the European Patent Office as the Receiving Office.

Form of the Application: An international application must be accompanied by the following documents:

1. Request;
2. Description;
3. Claims;
4. Drawings (where required); and
5. An abstract.[21]

Request: A request must accompany a PCT application. The Request must be filed in form PCT/RO/101, which may be acquired from any of the Receiving Offices or International Bureau.[22] The form is also available online on the PCT website[23] and may also be generated from the PCT-SAFE software.[24]

The Request must contain the following information:

1. A petition for processing the PCT application;
2. The title of the invention;
3. Information of the applicant and the agent, if an agent is involved; and,
4. Inventor details, if at least one country requires such information during national patent filing.[25]

In addition, the Request must also have the following information, whenever applicable:

1. Priority claim;
2. Information relating to an earlier search performed by an international search authority or national patent office;
3. Reference to a parent application or parent patent; and,
4. Information relating to the applicant's choice of competent International Searching Authority.[26]

The Request will also have declarations and other entries that may be filled by the applicant. Filing of a request will automatically designate all member countries of the PCT for acquiring national patent protection.[27] Such designation also includes the regional agreements for acquiring patent protection. The offices that are designated in a PCT application are called Designated Offices.

Description: The PCT application must be filed with a written description of the invention. The Description of the invention must enable a person skilled in the art to carry out the invention on his own.[28] It has to start with the title of the invention and must specify the field to which the invention belongs.[29] The Description should state the background of the invention and cite the prior art relevant to the invention.[30] The technical problem solved by the invention and advantages of the invention must also be provided in the description.[31]

Furthermore, the Description must contain a brief explanation of drawings and best mode of carrying out the invention.[32] The best mode of the invention need not be provided if the country in which the applicant seeks to file the application does not require the explanation of best mode.[33] The industrial applicability of the invention must also be explained in the Description.[34] If an application relates to gene sequences, the requirements relating to description of such listings must be followed.[35]

Claims: A PCT application must have claims relating to the invention. The Claims must define the invention that forms the subject matter of the application.[36] Each claim must be clear and concise.[37] Everything specified in a claim must be supported in the Description.[38] The Claims in an application must relate to a single invention or inventive concept.[39]

Drawings: The Drawings will be required to be included in an application when such drawings are required to understand the invention.[40] Flow sheets and diagrams are considered to be drawings.[41] When an invention may be explained by description alone, the applicant may provide drawings for illustrating the invention.[42] The Drawings may be requested by a Designated Office while filing the patent application in that country after the international phase.[43]

Abstract: An abstract must be filed along with a PCT application. The Abstract is a brief description of the invention, which is provided for only technical purposes.[44] It must provide the technical field to which the invention pertains and has to be drafted in a way which allows the clear understanding of the technical problem solved by the invention, the gist of the solution of that problem through the invention, and the principal use or uses of the invention.[45] The most important chemical formula or drawing of the invention may also be provided in the Abstract.[46]

Language: A PCT application may be filed in any language permitted by the Receiving Office.[47] The Indian Patent Office, as a Receiving Office, accepts applications in English and Hindi.[48] If an application is filed in any language accepted by the Receiving Office, which is not a publication language, language accepted by the international search authority or a language accepted by the international preliminary examination authority, a translation of the application in the accepted language must be provided by the applicant for processing the application.[49] So, if an

application is filed in Hindi with the Indian Patent Office as the Receiving Office, the application must be translated into an acceptable language.

The Request, abstract, and text of drawings in a PCT application must always be filed in one of the publication languages.[50] The publication languages of PCT include Arabic, Chinese, English, French, German, Japanese, Russian or Spanish.[51]

Fee: Three types of Fees must be paid by an applicant while filing a PCT application. They are:

1. Transmittal Fee, which is fixed by and paid to the Receiving Office;[52]
2. Search Fee, which is fixed by and paid to the international search authority selected by the applicant;[53] and
3. International Filing Fee, which is fixed in the Schedule of Fees appended to the PCT Regulations and is paid to the International Bureau.[54]

The fee must be paid by the applicant at the time of filing or within one month from the date of filing of the PCT application.[55] The fee payable to the Indian Patent Office as the Receiving Office is provided in the First Schedule of the Patents Act.[56] Certain fee reductions are available for applicants who are natural persons and nationals, or residents of developing or least developed countries. Natural persons applying from India will be eligible for such fee reduction. Fee reduction is also applicable if the application is filed using the PCT-SAFE software.

Priority Date: A PCT application is considered equivalent to a national application under the provisions of the Paris Convention and priority can be claimed from such application.[57] The date of filing of a patent application in a country from a PCT application will be the date of filing of the PCT application. A PCT application designating India will be considered to be a national application filed in India, and the date of filing of such application, when it is filed at the Indian Patent Office, will be the date of filing of the PCT application.[58] For example, if X files a PCT application on 1 January 2009 and then files a national application in India on 29 June 2011, the priority date of the application will be 1 January 2009.

If a PCT application claims priority of an application filed in India, the priority of such application when it is filed in India after the PCT process will be the date of filing of the first application in India.[59] For example, if X files a provisional application in India on 1 January 2007 and then files

a PCT application on 22 October 2009, claiming the priority of the Indian provisional, the priority date of the national phase application filed by the applicant in India on 1 April 2009 will be 1 January 2007, which is the filing date of the provisional application in India.

A PCT application can also claim priority of a national application filed in a country, which is a member of the Paris Convention.[60] The priority can be claimed even if the country in which the PCT application is filed is not a member of PCT. For example, if X files a patent application in Guyana on 1 January 2009 and files a PCT application over the same invention on 1 March 2009, the priority date of the application will be 1 January 2009, because priority of the application in Guyana, which is a member of Paris Convention can be claimed even if Guyana is not a member of PCT.

11.2.1.2 *International Search*

An international search will be performed on every PCT application.[61] The search will be performed by the International Searching Authority, which is the national or regional patent office, or an inter-governmental organization, that is recognized by the Receiving Office as the competent office to perform an international search. After a PCT application is filed, the Receiving Office will transmit a copy of the application to the International Searching Authority chosen by the applicant in the application for the search.

On receiving the application, the International Searching Authority will perform an international search to identify the prior art relevant to the invention that is the subject of the PCT application and will prepare the international search report.[62] This will be prepared within three months from the date of receipt of the copy of application or within nine months from the priority date, whichever is later.[63] Along with the report, the International Searching Authority will also prepare a written opinion on industrial applicability, novelty, and inventive step, of the invention that forms the subject matter of the application.[64] The international search report and the written opinion will be transmitted by the International Searching Authority to the applicant and the International Bureau.[65] The applicant may respond to the report and opinion by submitting comments.

The international search will be performed based on the claims with due regard to the description in the application.[66] The International Searching Authority will not perform a search if the subject matter of the invention relates to a non-patentable invention such as

principle, mathematical algorithm, animal, or plant variety, presentation of information, and so on.[67] The Authority may also refuse to perform a search if the application does not satisfy the requirements relating to description, drawings, or claims, under the Treaty and as a result a meaningful search cannot be performed.[68] Furthermore, the search may also not be performed if the subject matter of the application claims more than one invention or inventive concept.[69]

Under certain circumstances, the International Searching Authority may perform a search relating to only some of the claims in the application that satisfy the PCT requirements.[70] In case of multiple inventions in a single application, the International Searching Authority may require payment of additional fee to search for all the inventions mentioned in the application.[71]

Search Authorities Recognized by the Indian Patent Office

As a Receiving Office, the Indian Patent Office recognizes the following patent offices as the International Searching Authorities:

- Austrian Patent Office;
- Australian Patent Office;
- European Patent Office;
- China Intellectual Property Office;
- United States Patent & Trademark Office; and
- Swedish Patent Office.[72]

A person filing a PCT application from India can choose any of the aforementioned offices as the International Searching Authority.

11.2.1.3 *Publication of Application*

The PCT application will be published by the International Bureau after the expiry of eighteen months from the priority date of the application.[73] The application may be published earlier than eighteen months on a request made by the applicant.[74] The International Search Report will also be published along with the application.[75] It will not be published if the International Searching Authority is unable to perform the search due to valid reasons under the Treaty. In such a case, the fact that the search was not performed will be specified in the publication.

Any statement filed with the amendments will be published along with the application.[76] The application will not be published if it is withdrawn before the International Bureau completes the technical preparations for publication, which is generally done before fifteen days

of expiry of eighteen months from the priority date.[77] Certain statements, drawings, or portions of the application, may be omitted from publication if they are against morality, or public order, or are disparaging.[78] The publication of the PCT application will have the same effect as the publication of the national application in the Designated Countries.[79] However, certain countries may have translation requirements in order to give effect to the publication.

11.2.1.4 *International Preliminary Examination*

Chapter II of the PCT provides for International Preliminary Examination of the application.[80] An applicant of an application, who is a resident or national of a country, which has membership to Chapter II of the PCT or is permitted by the assembly, may file a demand for International Preliminary Examination.[81] Such a demand must be filed within three months from the date of transmittal of the International Search Report and the written opinion, or within 22 months from the priority date of the application, whichever is later.[82] The applicant must pay the examination and handling fee at the time of filing the demand, or within one month, or before the expiry of 22 months from the priority date, whichever is later.[83]

The demand must indicate the member countries of PCT (Elected States) in which the applicant wishes to use the results of the International Preliminary Examination.[84] The filing of a demand by the applicant will automatically constitute the election of all the countries that are members of Chapter II of the PCT.[85]

The demand for International Preliminary Examination must be submitted to the competent International Preliminary Examining Authority, which is the patent office recognized by the Receiving Office or the assembly, as the office competent to carry out International Preliminary Examination of the application.[86] The International Search Report along with the written opinion, provided by the International Searching Authority and statement regarding any amendments made to the application will be provided by the International Bureau to the International Preliminary Examining Authority.[87]

The International Preliminary Examining Authority will carry out the examination in accordance with the Treaty, Regulations, and any relevant agreements.[88] The International Preliminary Examination will include formulation of preliminary and non-binding opinion on novelty, inventive step, and industrial applicability of the invention that is the subject of

the PCT application.[89] The International Preliminary Examining Authority will consider the International Search Report, written opinion and amendments, if any, while arriving at its opinion.[90] The prior art before the application date or the priority date, will be considered by the International Preliminary Examining Authority for framing its opinion on novelty and inventive step.[91]

On examining the application, the International Preliminary Examining Authority will send a written opinion to the applicant.[92] Such opinion will not be sent if the application meets all the requirements under the Treaty.[93] The applicant can respond to the written opinion by amending the application in response to the written opinion or by arguing against the written opinion.[94] On receiving the applicant's response to its written opinion, the International Preliminary Examining Authority may issue additional opinions and allow the applicant to make amendments to the application, and/or respond to such opinions.[95] During the process of examination, the applicant may communicate orally or in writing with the International Preliminary Examining Authority.[96] The Authority may communicate informally with the applicant orally, or in writing, or may give personal hearings as and when required.[97]

The International Preliminary Examination Report will be established by the International Preliminary Examining Authority within six months from the start date of the examination or within 28 months from the priority date, whichever is later.[98] The Report will contain statements and conclusion on novelty, inventive step, and industrial applicability of the invention in the application.[99] The documents and other materials that form the basis of the conclusion will be cited.[100] It will not have any statements regarding patentability of the invention in the light of any national law.[101] The report is called as the International Preliminary Report on Patentability.[102]

The International Preliminary Examining Authority will not examine the application if the invention relates to scientific principle, mathematical algorithm, plants, animals, and so on.[103] The examination will also not be conducted if the description, drawings, and claims are not clear so that a meaningful examination is not possible.[104] In such a case, the International Preliminary Examining Authority will issue a statement regarding the same.[105] If the PCT application has more than one invention or inventive concept, the International Preliminary Examining Authority may require the applicant to restrict the application to one invention or to pay additional fee.[106] On non-compliance by the applicant, the Authority may examine only the main invention in the application.[107]

Confidentiality of International Examination

The information relating to international examination will be maintained confidential by the International Bureau and the International Preliminary Examining Authority.[108] The International Examination Report will be provided only to the patent offices of the Elected States.[109] The International Preliminary Examination Report will be transmitted by the International Preliminary Examining Authority to the applicant and the International Bureau.[110] The International Bureau will in turn communicate the report to the patent offices of the Elected States.[111]

Withdrawal

The applicant may withdraw the election of any or all of the countries in the demand for international examination during the process of examination.[112] Such a withdrawal of all Elected States will be considered as withdrawal of the demand.[113] Withdrawal of a country from the Elected States will result in withdrawal of the international application for that country, unless its national law provides otherwise.[114]

International Examination Authorities Recognized by the Indian Patent Office: The Indian Patent Office as the Receiving Office recognizes the following patent offices as International Preliminary Examining Authorities:

- Austrian Patent Office;
- Australian Patent Office;
- European Patent Office (only if International Searching Authority was Austrian, European, or Swedish patent office);
- China Intellectual Property Office;
- United States Patent & Trademark Office; and,
- Swedish Patent Office (SE).[115]

An applicant filing a PCT application from Indian patent office may choose any of the aforementioned offices as the International Preliminary Examining Authority.

Amendments to the Application

The applicant may amend the claims in the PCT application after receiving the international search report from the search authority.[116] Such amendments must be filed at the International Bureau within two months from the date of transmittal of the International Search Report or within sixteen months from the priority date, whichever is later.[117] Along with the amendments, the applicant may submit a statement explaining

the amendments and impact of the amendments on the description or drawings.[118] The amendments to the claims must be within the scope of the disclosure in the PCT application.[119]

The applicant can also amend the description, drawing, and claims during the examination process.[120] Such amendment must be within the scope of the disclosure of the PCT application at the time of filing.[121] The application may also be amended before it enters the National Phase.

11.2.2 National Phase

National phase is the phase before the national or regional patent offices where a patent is granted to the applicant. In order to acquire a patent over the invention that is subject of the PCT application, an applicant must enter the national phase in all the countries he desires to acquire the patent. While entry into certain countries can be done by filing the application at the patent offices of the countries, entry into other countries can be done only through the regional patent route. For example, an applicant can enter the Indian national phase by filing an application directly in India. However, he can enter into Cameroon only by filing an application at the OAPI office.

An applicant can file an application only at the Designated Offices, which are patent offices of the countries or regions designated while filing a request, or Elected Offices, which are patent offices of countries or regions elected in the demand for International Preliminary Examination or later.

To enter the national phase in a country, the applicant must file the PCT application at the national patent office and pay the requisite filing fee.[122] A copy of the application and/or translation of the application must be provided if it is required by the national office.[123] The applicant must file the application at the national patent office before the expiry of 30 months from the priority date.[124] Some countries such as India allow extra time for filing the national application.[125] In certain countries, the national application must be filed before the expiry of twenty months from the priority date.[126] The applicable time limits for each country are provided on the website of WIPO.[127] The application will be considered to be withdrawn if it is not filed at the said office before the specified period.[128] Generally, the national patent office will process the application only after the expiry of the aforesaid period.[129] The national patent office may process the application earlier on special request by the applicant.[130]

The fee to be paid to a country's patent office while entering the national phase will be specified by such a patent office. Certain patent offices provide reduction or refund of national fee under certain circumstances. In addition to filing fee and translation, national patent offices may have additional requirements for entering the national phase such as inventor details, representation, priority documents, and so on.[131] Such requirements must be complied with by the applicant on invitation by the patent office. The applicant may amend the application before entering the national phase and file the amended application.[132] On entering the national phase, the national patent office will treat the application like any other patent application directly filed at the office, and will grant a patent if the application satisfies all requirements under the national patent law.

11.2.2.1 *Indian National Phase*

An applicant can enter the National Phase in India by filing the application at the Indian Patent Office after the International Phase. The applicant must file the application in the requisite form by paying the requisite fee before the expiry of 31 months from the priority date.[133] When an application is filed before the Indian Patent Office, the specification filed with the PCT application by the applicant will be processed by the patent office.[134] If the application is not in English, a translation of the application must be filed.[135] The filing date for such application will be the international filing date under the PCT.[136]

Any amendment to the application, made by the applicant during the International Phase, will be considered by the Indian Patent Office as an amendment made before the office.[137] On receiving the application, the Indian Patent Office will process the application just like any other national application and will grant the patent if all requirements under the Patents Act are satisfied.

11.3 PCT STATISTICS

The current trends of patent filing through the PCT route show a steady increase. Applicants filing for a patent in multiple countries prefer the PCT route for its convenient and economic procedure.

Table 11.1 shows the number of patent applications filed every quarter at the International Bureau from the year 2005 to 2008. The increasing preference of the applicants to choose the PCT route for their international filings is evident from the increasing number of filings from the year 2005 to 2008.

Table 11.1 PCT Applications Published by the International Bureau

	2005	*2006*	*2007*	*2008*
I quarter	29,937	34,508	35,968	36,975
II quarter	30,388	34,894	37,602	40,168
III quarter	31,365	33,278	36,239	39,070
IV quarter	33,601	36,060	40,266	44,815
Total	1,25,291	1,38,740	1,50,075	1,61,028

Source: http://www.wipo.int/ipstats/en/statistics/pct/ (last accessed on 26 May 2009).

The PCT route has gained popularity among the Indian applicants also. Table 11.2 shows the increasing trends of PCT applications that have opted for the Indian Patent Office as the receiving office and that the filings have progressively increased from 461 applications in the year 2005 to 766 applications

Table 11.2 PCT Filings: Indian Patent Office as Receiving Office

2005	*2006*	*2007*	*2008*
461	505	621	766

Source: WIPO statistics database, April 2009, cited from http://www.wipo.int/export/sites/www/ipstats/en/statistics/pct/xls/m_filing_ro.xls (last accessed on 26 May 2009).

Table 11.3 below provides the timeline for taking necessary actions for the PCT Applications.

Table 11.3 Time Lines for PCT Process

Particulars	*Timeline*
PCT Application Filing	Within 12 months of first filing or priority in any country
International Search Report	Within 16 months of first filing or priority
International Publication	Within 18 months of first filing or priority
Demand for International Preliminary Examination	Within 22 months of first filing or priority
Withdrawal	Before the preparation for publication (Preparation for publication is generally made in the 15th month)
National Phase Entry into India	Within 31 months of first filing or priority
Amendment before International Examination	Within 2 months from the date of transmittal of International Search Report from priority, whichever time limit expires later.

NOTES

1. Article 1(2), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
2. Preamble, Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979 modified on 3 February 1984, and on 3 October 2001.
3. Article 1(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979 modified on 3 February 1984 and on 3 October 2001.
4. Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
5. Available at http://www.wipo.int/pct/guide/en/gdvol1/annexes/annexa/ax_a.pdf (last accessed on 9 April 2010).
6. Available at http://www.wipo.int/pct/guide/en/gdvol1/annexes/annexa/ax_a.pdf (last accessed on 9 April 2010).
7. Article 58, Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
8. Ibid.
9. www.wipo.int/pct/guide/en/ (last accessed on 27 March 2010).
10. Article 2(vii), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
11. Article 2(i), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
12. Article 9, Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
13. Rule 18.3, Regulations under the Patent Cooperation Treaty (as in force from 1 January 2009).
14. Rule 18.1, Regulations under the Patent Cooperation Treaty.
15. Ibid.
16. Article 49, Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
17. Rule 90.1, Regulations under the Patent Cooperation Treaty.
18. Article 10, Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001, and Rule 19.1(a), Regulations under the Patent Cooperation Treaty.

19. Rule 19.2., Regulations under the Patent Cooperation Treaty.
20. Ibid.
21. Article 3(2), Patent Cooperation Treaty (PCT) done at Washington on 9 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001, and Rule 12.1(a), Regulations under the Patent Cooperation Treaty.
22. Rule 3.1 and 3.2, Regulations under the Patent Cooperation Treaty.
23. www.wipo.int/pct/en/forms/ (last accessed on 27 March 2010).
24. www.wipo.int/pct-safe/en/ (last accessed on 27 March 2010).
25. Article 4(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001, and Rule 4.1(a), Regulations under the Patent Cooperation Treaty.
26. Article 4(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001, and Rule 4.1(b), Regulations under the Patent Cooperation Treaty.
27. Rule 4.9(a), Regulations under the Patent Cooperation Treaty.
28. Article 5, Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
29. Rule 15(a), Regulations under the Patent Cooperation Treaty.
30. Ibid.
31. Ibid.
32. Ibid.
33. Ibid.
34. Ibid.
35. Rule 5.2, Regulations under the Patent Cooperation Treaty.
36. Article 6, Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
37. Ibid.
38. Ibid.
39. Article 3(4)(iii), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001, and Rule 13, Regulations under the Patent Cooperation Treaty.
40. Article 7(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
41. Rule 7.1, Regulations under the Patent Cooperation Treaty.
42. Article 7(2), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

43. Ibid.
44. Article 3(3), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
45. Rule 8 and 8.21, Regulations under the Patent Cooperation Treaty.
46. Ibid.
47. Article 3(4)(i), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
48. Rule 19(1), The Patent Rules, 2003.
49. Rules 12 and 62, Regulations under the Patent Cooperation Treaty.
50. Rule 12.1(c), Regulations under the Patent Cooperation Treaty.
51. Annex C, PCT Applicant's Guide—International Phase Page 11 (17 July 2008).
52. Rule 14.1, Regulations under the Patent Cooperation Treaty.
53. Rule 16, Regulations under the Patent Cooperation Treaty.
54. Rule 15.1, Regulations under the Patent Cooperation Treaty.
55. Rules 14, 15, and 16, Regulations under the Patent Cooperation Treaty.
56. Rule 19(2), The Patent Rules, 2003 as last amended in 2006.
57. Article 11(4), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
58. Section 7(1A) and (1B), The Patents Act, 1970.
59. Section 135(3), The Patents Act, 1970.
60. Article 8(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
61. Article 15(1), Patent Cooperation Treaty (PCT) done at Washington on June 19, 1970, amended on September 28, 1979, modified on 3 February 1984 and on October 3, 2001.
62. Article 15(2) and 18(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
63. Rule 43.1, Regulations under the Patent Cooperation Treaty.
64. Rule 43bis.1, Regulations under the Patent Cooperation Treaty.
65. Article 18(2), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.
66. Article 15(3), Patent Cooperation Treaty (PCT) done at Washington on June 19, 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001, and Rule 39.1, Regulations under the Patent Cooperation Treaty.
67. Article 17(2)(a), Patent Cooperation Treaty (PCT) done at Washington

on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

68. Article 17(2)(a), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

69. Ibid.

70. Article 17(2), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

71. Article 17(3), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

72. http://ipindia.nic.in/ipr/patent/PCTApplication_April2009.pdf (last accessed on 9 April 2010).

73. Article 21(1) and (2), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

74. Article 21(3), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

75. Article 21(4), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

76. Rule 48.1, Regulations under the Patent Cooperation Treaty.

77. Article 21(5), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

78. Article 21(6), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

79. Article 29, Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

80. Chapter II, Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

81. Article 31(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

82. Rule 54bis.1, Regulations under the Patent Cooperation Treaty.

83. Rules 57 and 58, Regulations under the Patent Cooperation Treaty.

84. Article 31(4), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

85. Rule 53.7, Regulations under the Patent Cooperation Treaty.

86. Articles 31(6) and 32(1 and 2), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001 and Rules 59.1 and 59.2, Regulations under the Patent Cooperation Treaty.

87. Rule 62, Regulations under the Patent Cooperation Treaty.

88. Article 34(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

89. Article 33(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

90. Article 33(6), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

91. Rules 64 and 65, Regulations under the Patent Cooperation Treaty.

92. Article 34(2)(c), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

93. Ibid.

94. Article 34(2)(d), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001, and Rule 66.3, Regulations under the Patent Cooperation Treaty.

95. Rule 66.4, Regulations under the Patent Cooperation Treaty.

96. Article 34(2), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

97. Rule 66.6, Regulations under the Patent Cooperation Treaty.

98 Article 35(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001, and Rule 69.2, Regulations under the Patent Cooperation Treaty.

99. Article 35(2), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

100. Ibid.

101. Ibid.

102. Rule 70, Regulations under the Patent Cooperation Treaty.

103. Article 34(4), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001, and Rule 67.1, Regulations under the Patent Cooperation Treaty.

104. Article 34(4), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984, and on 3 October 2001.

105. Article 35(3), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

106. Article 34(3), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

107. Ibid.

108. Article 38(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

109. Ibid.

110. Article 36(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

111. Article 36(3), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

112. Article 37(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

113. Article 37(2), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

114. Article 37(4), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

115. http://ipindia.nic.in/ipr/patent/PCTApplication_April2009.pdf (last accessed on 9 April 2010).

116. Article 19(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

117. Ibid.

118. Ibid.

119. Article 19(2), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

120. Article 34(2)(b), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

121. Ibid.

122. Article 22(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001, and Article 39(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

123. Ibid.

124. Ibid.

125. Article 22(3), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

126. Article 24(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

127. www.wipo.int/pct/en/texts/pdf/time_limits.pdf (last accessed on 27 March 2010).

128. Articles 24(1)(iii) and 39(2), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

129. Article 23(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001 and Article 40(1), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

130. Article 23(2), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001 and Article 40(3), Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

131. Rule 51bis, Regulations under the Patent Cooperation Treaty.

132. Article 28, Patent Cooperation Treaty (PCT) done at Washington on 19 June 1970, amended on 28 September 1979, modified on 3 February 1984 and on 3 October 2001.

133. Rule 20(1), (3), and (4), The Patent Rules, 2003 as last amended in 2006.

134. Section 138(4), The Patents Act, 1970.

135. Rule 20(3), The Patent Rules, 2003 as last amended in 2006.

136. Section 138(5), The Patents Act, 1970.

137. Section 138(6), The Patents Act, 1970. Section 138(6) reads as follows: Amendment, if any, proposed by the applicant for an international application designating India or designating and electing India before international searching authority or preliminary examination authority shall, if the applicant so desires, be taken as an amendment made before the patent office.